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ÅRSREDOVISNING

2021-01-01--2021-12-31

för

Kemira Kemi AB

556085-6287

Årsredovisningen omfattar: **Sida**

Förvaltningsberättelse	3
Resultaträkning	6
Balansräkning	7
Rapport över förändring i eget kapital	10
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FASTSTÄLLELSEINTYG

Undertecknad styrelseledamot intygar härmed, dels att denna kopia av årsredovisningen och revisionsberättelsen stämmer överens med originalet, dels att resultaträkningen och balansräkningen för företaget har fastställts på årsstämma den 30 juni 2022

Arsstämman beslutade att godkänna styrelsens förslag till resultatdisposition.

Helsingborg den 30/6 2022

Kenth Hultin

20221011105869

ÅRSREDOVISNING

2021-01-01--2021-12-31

för

Kemira Kemi AB
556085-6287

Årsredovisningen omfattar:

	Sida
Förvaltningsberättelse	3
Resultaträkning	6
Balansräkning	7
Rapport över förändring i eget kapital	10
Kassaflödesanalys	11
Noter	12

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Kemira Kemi AB
556085-6287

ÅRSREDOVISNING FÖR KEMIRA KEMI AB

Styrelsen och verkställande direktören för Kemira Kemi AB avger härmed årsredovisning för räkenskapsåret 2021-01-01--2021-12-31.

FÖRVALTNINGSBERÄTTELSE

Verksamhetens art och inriktning
Kemira Kemi är i huvudsak verksamt inom området oorganisk kemi. Moderbolaget Kemira Kemi AB har sitt säte i Helsingborg och i gruppen ingår sex dotterbolag, varav fyra är tillverkande. Gruppen tillhör de ledande kemiföretagen inom en rad områden och tillämpningar. Särskilt utmärkande är rollen som den globalt ledande aktören inom kemisk vattenrening genom fällning, men storleken är också betydande som leverantör av kemikalier, applikationsutveckling och tekniskt stöd till pappers- och massaindustrin samt oljeborrning.

Den första januari 2011 genomfördes en ny affärsmodell (NBM) inom Kemirakoncernen. Från den tidpunkten agerar det finska moderbolaget som principal och köper råvaror och säljer färdigvaror i eget namn. Produktionen hos dotterbolagen fortgår som tidigare men i form av lönebearbetning av moderbolagets råvaror och emballage. Färdigvarorna ägs av moderbolaget Kemira Oyj och säljs av dotterbolagen som agenter för moderbolaget, principalen. Produktionsvolymer påverkas inte av den nya affärsmodellen, ej heller den lokala organisationen eller antalet anställda. I och med införandet av den nya affärsmodellen består bolagets intäkter till största delen av ersättning för lönebearbetning samt agentkommission. Valutaexponeringen och därmed valutaeffekterna har efter införandet av NBM legat på en låg nivå.

Ägarförhållanden
Kemira Kemi AB är ett helägt dotterbolag till Kemira Oyj, som är noterat på NASDAQ OMX Helsinki.

Väsentliga händelser under räkenskapsåret
Företaget har under 2021 fortsatt att arbeta efter den affärsmodell som implementerades från början av 2011. Affärsmodellen innebär att dotterbolag i Kemirakoncernen agerar som begränsade riskenheter vilket skyddar bolagen, som Kemira Kemi AB, från negativa ekonomiska effekter.

Under året har en avsättning gjorts på 16 Mkr för nedmontering av en tidigare stängd produktionsanläggning. Utsläppsrätter har i slutet av året sålts för 29 Mkr.

Redovisningsprinciper
Årsredovisningen är upprättad i enlighet med årsredovisningslagen BFNAR 2012:1 Årsredovisning och koncernredovisning. Principerna är oförändrade jämfört med föregående år.

Kemira Kemi AB
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Utveckling av verksamhet, ställning och resultat

(Kkr)	2021	2020	2019	2018	2017
Nettoomsättning	877 774	815 053	818 173	941 373	874 543
Rörelseresultat	41 243	32 269	51 833	38 773	42 148
Resultat e. finansiella poster	108 994	96 441	114 353	106 061	106 836
Balansomslutning	1 533 729	1 426 305	1 418 491	1 349 839	1 362 138
Soliditet [1]	52,7%	56,7%	54,3%	49,2%	51,9%
Avkastning på eget kapital [2]	12,1%	11,4%	14,6%	19,0%	15,7%
Avkastning på totalt kapital [3]	7,9%	6,9%	8,9%	8,7%	8,5%
Medelantal anställda	284	284	284	295	303

[1] Justerat eget kapital / Balansomslutning. Med justerat eget kapital avses eget kapital + obeskattade reserver med avdrag för uppskjuten skatteskuld.

[2] Årets resultat / Genomsnittligt justerat Eget kapital

[3] (Resultat efter finansiella intäkter och kostnader + räntekostnader) / Genomsnittlig balansomslutning

Väsentliga risker och osäkerhetsfaktorer

Införandet av den nya affärsmodellen har förändrat riskbilden i verksamheten. Ett antal olika risker relaterade till råvaruinköp och försäljning till slutkund av färdigvaror med stor exportandel har övertagits av moderbolaget. Den enskilt största kvarstående risken torde vara slutkundernas efterfrågan på de produkter som produceras i Helsingborg åt moderbolaget.

Förväntad framtida utveckling

Företaget fortsätter att framställa produkter och tjänster inom de utvalda marknadsområdena. Fokuseringen på koncept inom industriell och kommunal vattenrening fortsätter och kan komma ge ett ökat sortiment för relaterade produkter och tjänster.

Forskning och utveckling

Forskning och utveckling är en integrerad funktion inom Kemira Oyj, med mål att säkerställa lönsamhet och tillväxtmöjligheter. Koncernens F&U-verksamhet är centraliserad till tre platser utanför Sverige: Finland, Kina och USA. I samband med nedläggningen av laboratoriet i Kungälv år 2016 flyttades företagets F&U-verksamhet till Finland.

Personal

Kemira Kemi AB innehar kollektivavtal med IF Metall, Ledarna, Unionen och Akademikerna. Bolaget har under året haft en personalomsättning på 10,6 %. Bolaget har 281 anställda varav 234 är män och 47 är kvinnor. Av antalet anställda innehar 0,1 % en visstidsanställning.
Företaget har en låg sjukfrånvaro, under 2021 utgjorde sjukersättningarna ca 1,5 % av totala lönesumman med en frisknärvaro på 90%. Under året har ersättning från försäkringskassan erhållits på 144 Kkr för sjuklöner enligt de allmänna pandemireglerna beslutade av riksdag och regering.
Företagets jämställdhetsplan är under omarbetning enligt de nya lagkraven i diskrimineringslagen med allmänna krav på skriftlig dokumentation. Lönekartläggning görs enligt gällande regler.

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Tillstånds- eller anmälningspliktig verksamhet enligt miljöbalken

Bolagets verksamhet omfattar tillverkning av huvudsakligen oorganiska kemiska produkter i ett flertal produktionsanläggningar, samt sidoverksamheter såsom hamn, energiproduktion och avfallsbehandling. Samtliga nämnda anläggningar är tillståndspliktiga enligt Miljöbalken. Två av anläggningarna är s.k. Seveso-anläggningar och en säkerhetsrapport har upprättats. Flera anläggningar utgör s.k. IED-verksamheter. Inom verksamheten finns även flera avslutade deponier. Den tillståndspliktiga produktionen motsvarar huvuddelen av bolagets nettoomsättning. För den totala verksamheten lämnades tillstånd enligt miljöskyddslagen 1979. Därefter har samtliga produktionsanläggningar omprövats och bedrivs idag enligt separata tillstånd beslutade enligt Miljöbalken. Sidoverksamheterna bedrivs huvudsakligen enligt 1979 års tillstånd. En ansökan om omprövning som omfattar alla kvarvarande anläggningar i 1979 års tillstånd lämnades in under år 2020. Den samlade verksamheten påverkar den yttre miljön huvudsakligen genom utsläpp till luft och vatten, generering av avfall samt buller. Verksamheten bedrivs enligt standardiserade ledningssystem för miljö, arbetsmiljö och energi. Verksamheten ingår även i systemet för handel med växthusgaser.

Förslag till vinstdisposition (kronor)

Till årsstämmans förfogande står följande vinstmedel	
Balanserat resultat	223 032 840
Årets resultat	104 033 901
	327 066 741
Styrelsen föreslår att	
till aktieägarna utdelas	100 000 000
i ny räkning balanseras	227 066 741

Styrelsens yttrande över den föreslagna vinstutdelningen
Vid bedömning av utdelningens storlek har styrelsen tagit hänsyn till koncernens investeringsbehov, konsolideringsbehov och ställning i övrigt samt att koncernens framtida utveckling kan ske med bibehållen finansiell styrka och fortsatt god handlingsfrihet. Efter föreslagen utdelning är koncernens soliditet och likviditet betryggande och innebär att koncernens samtliga bolag på kort och på lång sikt kan fullgöra sina åtaganden. Den föreslagna utdelningen kan därmed försvaras med hänsyn tagen till försiktighetsregeln som anförs i aktiebolagslagen (2005:551) 17 kap 3§ 2-3 st.

Kemira Kemi AB
556085-6287

RESULTATRÄKNING
(Kkr)

	Not	2021-01-01 2021-12-31	2020-01-01 2020-12-31
Rörelsens intäkter			
Nettoomsättning	5,6	877 774	815 053
Aktiverat arbete för egen räkning		8 969	20 436
Övriga rörelseintäkter	7	29 517	1 338
		916 260	**836 827**
Rörelsens kostnader			
Råvaror och förnödenheter		-225 626	-142 309
Övriga externa kostnader	8,9	-206 450	-210 155
Personalkostnader	10	-301 162	-304 185
Avskrivningar och nedskrivningar av materiella och immateriella anläggningstillgångar		-139 849	-130 602
Övriga rörelsekostnader / utrangeringar		-1 930	-17 307
Rörelseresultat		**41 243**	**32 269**
Resultat från finansiella investeringar			
Resultat från andelar i koncernföretag	11	75 462	72 465
Övriga ränteintäkter och liknande intäkter	12	109	6
Räntekostnader och liknande kostnader	13	-7 820	-8 299
Resultat efter finansiella poster		**108 994**	**96 441**
Lämnat koncernbidrag		-4 516	-1 137
Förändring överavskrivningar		7 151	0
Resultat före skatt		**111 629**	**95 304**
Skatt på årets resultat	14	-7 595	-5 479
ÅRETS RESULTAT		**104 034**	**89 825**

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Kemira Kemi AB
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BALANSRÄKNING

(Kkr)

	Not	2021-12-31	2020-12-31
TILLGÅNGAR			
Anläggningstillgångar			
Immateriella anläggningstillgångar			
Koncessioner, patent , licenser, varumärken samt liknande rättigheter	15	241	603
Goodwill och övriga immateriella tillgångar	16	1 183	2 096
Förskott avseende immateriella anläggningstillgångar	17	0	225
		1 424	**2 924**
Materiella anläggningstillgångar			
Byggnader och mark	18	134 005	140 120
Maskiner och andra tekniska anläggningar	19	519 905	583 568
Inventarier, verktyg och installationer	20	47 675	50 944
Pågående nyanläggningar och förskott avseende materiella anläggningstillgångar	21	138 161	64 332
		839 746	**838 964**
Finansiella anläggningstillgångar			
Andelar i koncernföretag	22	233 545	233 545
Uppskjuten skattefordran	23	4 079	1 576
Andra långfristiga fordringar	24	833	1 333
		238 457	**236 454**
Summa anläggningstillgångar		**1 079 627**	**1 078 342**
Omsättningstillgångar			
Varulager m m			
Råvaror och förnödenheter		30 097	29 578
		30 097	**29 578**

Kemira Kemi AB
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Kortfristiga fordringar			
Kundfordringar		26 082	20 736
Fordringar hos koncernföretag		358 937	256 830
Aktuella skattefordringar		847	19 289
Övriga fordringar		9 561	6 212
Förutbetalda kostnader och upplupna intäkter	25	28 578	15 318
		424 005	**318 385**
Kassa och bank		**0**	**0**
Summa omsättningstillgångar		**454 102**	**347 963**
SUMMA TILLGÅNGAR		**1 533 729**	**1 426 305**

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Kemira Kemi AB
556085-6287

BALANSRÄKNING

	Not	2021-12-31	2020-12-31
EGET KAPITAL OCH SKULDER			
Eget kapital			
Bundet eget kapital			
Aktiekapital	34	76 000	76 000
Reservfond		191 200	191 200
		267 200	**267 200**
Fritt eget kapital			
Balanserad vinst eller förlust		223 033	233 207
Årets resultat		104 034	89 825
		327 067	**323 032**
Summa eget kapital		**594 267**	**590 232**
Obeskattade reserver	26	**270 012**	**277 163**
Avsättningar			
Avsättningar för pensioner och liknande förpliktelser		328 162	326 565
Övriga avsättningar	27	19 800	7 650
		347 962	**334 215**
Kortfristiga skulder			
Leverantörsskulder		126 320	93 712
Skulder till koncernföretag		4 516	2 646
Övriga kortfristiga skulder		4 242	4 557
Upplupna kostnader och förutbetalda intäkter	28	186 410	123 780
		321 488	**224 695**
SUMMA EGET KAPITAL OCH SKULDER		**1 533 729**	**1 426 305**

Kemira Kemi AB
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RAPPORT ÖVER FÖRÄNDRING I EGET KAPITAL

(Kkr)

		Bundet eget kapital				*Fritt eget kapital*			
	Not	Aktie-kapital	Uppskriv-nings fond	Reserv-fond	Fond för utvecklings-utgifter	Överkurs-fond	Balanserad vinst eller förlust	Årets resultat	Summa eget kapital
Ingående balans per 1 januari 2020		**76 000**	**0**	**191 200**	**0**	**0**	**180 450**	**104 757**	**552 407**
Disposition av föregående års resultat							104 757	-104 757	**0**
Årets resultat								89 825	**89 825**
Förändringar i redovisade värden på tillgångar och skulder:									
Transaktioner med ägare:									
Utdelningar							-52 000		**-52 000**
Summa transaktioner med aktieägare		**0**	**0**	**0**		**0**	**0**	**0**	**0**
Utgående balans per 31 december 2020		**76 000**	**0**	**191 200**	**0**	**0**	**233 207**	**89 825**	**590 232**

Aktiekapital 760.000 aktier à kvotvärde 100 kronor.

	Bundet eget kapital				*Fritt eget kapital*			
	Aktie-kapital	Uppskriv-nings fond	Reserv-fond	Fond för utvecklings-utgifter	Överkurs-fond	Balanserad vinst eller förlust	Årets resultat	Summa eget kapital
Ingående balans per 1 januari 2021	**76 000**	**0**	**191 200**	**0**	**0**	**233 207**	**89 825**	**590 232**
Disposition av föregående års resultat						89 825	-89 825	**0**
Årets resultat							104 034	**104 034**
Förändringar i redovisade värden på tillgångar och skulder:								**0**
Transaktioner med ägare:								**0**
Utdelningar						-100 000		**-100 000**
Summa transaktioner med aktieägare	**0**	**0**	**0**		**0**	**-100 000**	**0**	**0**
Utgående balans per 31 december 2021	**76 000**	**0**	**191 200**	**0**	**0**	**223 033**	**104 034**	**594 267**

Aktiekapital 760.000 aktier à kvotvärde 100 kronor.

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Kemira Kemi AB
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KASSAFLÖDESANALYS
(Kkr)

	Not	2021-01-01 2021-12-31	2020-01-01 2020-12-31
Den löpande verksamheten			
Rörelseresultat		41 243	32 269
Justeringar för poster som inte ingår i kassaflödet:			
Avskrivningar		139 849	130 602
Förändring i avsättningar		13 747	-2 677
Utrangeringar		1 806	17 307
Erhållen utdelning		75 462	72 465
Erhållen ränta		109	6
Erlagd ränta		-7 820	-8 299
Betald skatt		-9 974	-4 499
Kassaflöde från den löpande verksamheten före förändringar av rörelsekapital		**254 422**	**237 174**
Kassaflöde från förändringar i rörelsekapital			
Minskning(+)/ökning(-) av varulager		-519	-1 324
Minskning(+)/ökning(-) av kundfordringar		-5 346	12 687
Minskning(+)/ökning(-) av övriga kortfristiga fordringar		-100 274	-18 922
Minskning(-)/ökning(+) leverantörsskulder		32 608	-9 799
Minskning(-)/ökning(+) av övriga kortfristiga skulder		64 185	-17 535
Kassaflöde från den löpande verksamheten		**245 076**	**202 281**
Investeringsverksamheten			
Förvärv av materiella anläggningstillgångar		-141 060	-149 811
Utbetalt koncernbidrag		-4 516	-1 137
Kassaflöde från investeringsverksamheten		**-145 576**	**-150 948**
Finansieringsverksamheten			
Amortering av långfristig fordran		500	667
Utbetald utdelning		-100 000	-52 000
Kassaflöde från finansieringsverksamheten		**-99 500**	**-51 333**
Årets kassaflöde		**0**	**0**
Likvida medel vid årets början		**0**	**0**
Kursdifferens i likvida medel		**0**	**0**
Likvida medel vid årets slut		**0**	**0**

Kemira Kemi AB
556085-6287

Not 1 Allmän information

Kemira Kemi AB, organisationsnummer 5566085-6287, är ett aktiebolag registrerat i Sverige med säte i Helsingborg. Adressen till huvudkontoret är Industrigatan 68 i Helsingborg. Bolaget är, genom koncernens verksamhet, en globalt ledande aktör inom kemisk vattenrening genom fällning samt en betydande leverantör av kemikalier, applikationsutveckling och tekniskt stöd till pappers- och massaindustrin samt vägbehandling och oljeborrning.

Bolaget är ett helägt dotterföretag till Kemira Europe Oy, finskt org.nr 1740895-0 med säte i Helsingfors. Toppmoderbolaget Kemira Oy, finskt org nr 0109823-0 (73.937), upprättar koncernredovisning för den största koncern som Kemira Kemi AB ingår i. Moderföretagets koncernredovisning finns att tillgå på Kemiras huvudkontor, Energiakatu 4, P.O Box 330, FIN-00101 Helsinki, Finland, eller via hemsidan www.kemira.com.

Ingen koncernredovisning har upprättats med stöd av Årsredovisningslagen 7 kap. 2 § punkt 1.

Not 2 Redovisningsprinciper och värderingsprinciper

Företaget tillämpar Årsredovisningslagen (1995:1554) och Bokföringsnämndens allmänna råd BFNAR 2012:1 *Årsredovisning och koncernredovisning* ("K3"). Redovisningsprinciperna är oförändrade jämfört med föregående år.

Intäkter

Intäkter redovisas till det verkliga värdet av den ersättning som erhållits eller kommer att erhållas, med avdrag för mervärdeskatt, rabatter, returer och liknande avdrag.

Kemira Kemi ABs intäkter består i huvudsak av intäkter från legotillverkning till moderbolaget, dvs tjänsteförsäljning. Dessutom erhålls hyresintäkter och intäkter från viss försäljning av energi.

Försäljning av tjänster

Intäkter från försäljning av tjänster på löpande räkning redovisas som intäkt i den period arbetet utförs och material levereras eller förbrukas. Någon försäljning av tjänster till fast pris förekommer inte.

Hyresintäkter redovisas som operationell leasing enligt nedan.

Utdelning och ränteintäkter

Utdelningsintäkter redovisas när ägarens rätt att erhålla betalning har fastställts.

Ränteintäkter redovisas fördelat över löptiden med tillämpning av effektivräntemetoden. Effektivräntan är den ränta som gör att nuvärdet av alla framtida in- och utbetalningar under räntebindningstiden blir lika med det redovisade värdet av fordran.

Leasingavtal

Bolaget innehar endast operationella leasingavtal.

Leasetagare

Leasingavgifter vid operationella leasingavtal kostnadsförs linjärt över leasingperioden, såvida inte ett annat systematiskt sätt bättre återspeglar användarens ekonomiska nytta över tiden.

Leasegivare

Leasingintäkter vid operationella leasingavtal intäktsförs linjärt över leasingperioden, såvida inte ett annat systematiskt sätt bättre återspeglar hur de ekonomiska fördelar som hänförs till objektet minskar över tiden.

Utländsk valuta

Företagets redovisningsvaluta är svenska kronor (SEK).

Omräkning av poster i utländsk valuta

20221011105875

Vid varje balansdag räknas monetära poster i utländsk valuta om till balansdagens kurs. Icke-monetära poster, som värderas till historiskt anskaffningsvärde i en utländsk valuta, räknas inte om. Valutakursdifferenser redovisas i rörelseresultatet eller som finansiell post utifrån den underliggande affärshändelsen, i den period de uppstår, med undantag för transaktioner som utgör säkring och som uppfyller villkoren för säkringsredovisning av kassaflöden eller av nettoinvesteringar.

Låneutgifter

Låneutgifter redovisas i resultaträkningen i den period de uppkommer.

Ersättningar till anställda

Ersättningar till anställda i form av löner, bonus, betald semester, betald sjukfrånvaro m m samt pensioner redovisas i takt med intjänandet. Beträffande pensioner och andra ersättningar efter avslutad anställning klassificeras dessa som avgiftsbestämda eller förmånsbestämda pensionsplaner. Företaget har både avgiftsbestämda och förmånsbestämda pensionsplaner. Bolaget redovisar de förmånsbestämda planerna som avgiftsbestämda. Det finns inga övriga långfristiga ersättningar till anställda.

Avgiftsbestämda planer

För avgiftsbestämda planer betalar företaget fastställda avgifter till en separat oberoende juridisk enhet och har ingen förpliktelse att betala ytterligare avgifter. Företagets resultat belastas för kostnader i takt med att förmånerna intjänas vilket normalt sammanfaller med tidpunkten för när premier erläggs.

Koncernbidrag

Erhållna och lämnade koncernbidrag redovisas som bokslutsdisposition i resultaträkningen.

Inkomstskatter

Skattekostnaden utgörs av summan av aktuell skatt och uppskjuten skatt.

Aktuell skatt

Aktuell skatt beräknas på det skattepliktiga resultatet för perioden. Skattepliktigt resultat skiljer sig från det redovisade resultatet i resultaträkningen då det har justerats för ej skattepliktiga intäkter och ej avdragsgilla kostnader samt för intäkter och kostnader som är skattepliktiga eller avdragsgilla i andra perioder. Aktuell skatteskuld beräknas enligt de skattesatser som gäller per balansdagen.

Uppskjuten skatt

Uppskjuten skatt redovisas på temporära skillnader mellan det redovisade värdet på tillgångar och skulder i de finansiella rapporterna och det skattemässiga värdet som används vid beräkning av skattepliktigt resultat. Uppskjuten skatt redovisas enligt den s k balansräkningsmetoden. Uppskjutna skatteskulder redovisas för i princip alla skattepliktiga temporära skillnader, och uppskjutna skattefordringar redovisas i princip för alla avdragsgilla temporära skillnader i den omfattning det är sannolikt att beloppen kan utnyttjas mot framtida skattepliktiga överskott. Obeskattade reserver redovisas inklusive uppskjuten skatteskuld.

Det redovisade värdet på uppskjutna skattefordringar omprövas varje balansdag och reduceras till den del det inte längre är sannolikt att tillräckliga skattepliktiga resultat kommer att finnas tillgängliga för att utnyttjas, helt eller delvis, mot den uppskjutna skattefordran.

Värderingen av uppskjuten skatt baseras på hur företaget, per balansdagen, förväntar sig att återvinna det redovisade värdet för motsvarande tillgång eller reglera det redovisade värdet för motsvarande skuld. Uppskjuten skatt beräknas baserat på de skattesatser och skatteregler som har beslutats före balansdagen.

Aktuell och uppskjuten skatt för perioden

Aktuell och uppskjuten skatt redovisas som en kostnad eller intäkt i resultaträkningen, utom när skatten är hänförlig till transaktioner som redovisats direkt mot eget kapital. I sådana fall ska även skatten redovisas direkt mot eget kapital.

Immateriella tillgångar
Anskaffning genom separata förvärv
Immateriella tillgångar som förvärvats separat redovisas till anskaffningsvärde med avdrag för ackumulerade avskrivningar och eventuella ackumulerade nedskrivningar. Avskrivning sker linjärt över tillgångens uppskattade nyttjandeperiod, vilken uppskattas till 5 år. Bedömda nyttjandeperioder och avskrivningsmetoder omprövas om det finns en indikation på att dessa har förändrats jämfört med uppskattningen vid föregående balansdag. Effekten av eventuella ändringar i uppskattningar och bedömningar redovisas framåtriktat. Avskrivning påbörjas när tillgången kan användas.

Goodwill redovisas till anskaffningsvärde efter avdrag för ackumulerade avskrivningar och eventuella nedskrivningar. Avskrivningar kostnadsförs så att tillgångens anskaffningsvärde skrivs av linjärt över dess bedömda nyttjandeperiod om 5 år.

Anskaffning genom intern upparbetning
Bolaget tillämpar kostnadsföringsmodellen vilken innebär att utgifter som avser framtagande av en internt upparbetad immateriell anläggningstillgång redovisas som kostnader när de uppkommer.

Borttagande från balansräkningen
En immateriell anläggningstillgång tas bort från balansräkningen vid utrangering eller avyttring eller när inte några framtida ekonomiska fördelar väntas från användning eller utrangering/avyttring av tillgången. Den vinst eller förlust som uppkommer när en immateriell anläggningstillgång tas bort från balansräkningen är skillnaden mellan vad som eventuellt erhålls, efter avdrag för direkta försäljningskostnader, och tillgångens redovisade värde. Detta redovisas i resultaträkningen som en övrig rörelseintäkt eller övrig rörelsekostnad.

Materiella anläggningstillgångar
Materiella anläggningstillgångar redovisas till anskaffningsvärde efter avdrag för ackumulerade avskrivningar och eventuella nedskrivningar.

Anskaffningsvärdet består av inköpspriset och utgifter som är direkt hänförliga till förvärvet för att bringa den på plats och i skick att användas. Tillkommande utgifter inkluderas endast i tillgången eller redovisas som en separat tillgång, när det är sannolikt att framtida ekonomiska fördelar som är förknippade med posten kommer att tillfalla företaget och att anskaffningsvärdet för densamma kan mätas på ett tillförlitligt sätt. Alla övriga kostnader för reparationer och underhåll samt tillkommande utgifter redovisas i resultaträkningen i den period då de uppkommer.

Då skillnaden i förbrukningen av en materiell anläggningstillgångs betydande komponenter bedöms vara väsentlig, delas tillgången upp på dessa komponenter.

Avskrivningar på materiella anläggningstillgångar kostnadsförs så att tillgångens anskaffningsvärde, eventuellt minskat med beräknat restvärde vid nyttjandeperiodens slut, skrivs av linjärt över dess bedömda nyttjandeperiod. Om en tillgång har delats upp på olika komponenter skrivs respektive komponent av separat över dess nyttjandeperiod. Avskrivning påbörjas när den materiella anläggningstillgången kan tas i bruk. Materiella anläggningstillgångars nyttjandeperioder uppskattas till:

Byggnader:	
Stomme	40 år
Stammar	20 år
Fasad	18 år
Tak	18 år
Maskiner och andra tekniska anläggningar:	10 - 20 år
Inventarier, verktyg och installationer	3 - 12 år

Nyttjandeperioden för mark är obegränsad och därför skrivs mark inte av.

Bedömda nyttjandeperioder och avskrivningsmetoder omprövas om det finns indikationer på att förväntad förbrukning har förändrats väsentligt jämfört med uppskattningen vid föregående balansdag. Då företaget ändrar bedömning av nyttjandeperioder, omprövas även tillgångens eventuella restvärde. Effekten av dessa ändringar redovisas framåtriktat.

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Borttagande från balansräkningen
Det redovisade värdet för en materiell anläggningstillgång tas bort från balansräkningen vid utrangering eller avyttring, eller när inte några framtida ekonomiska fördelar väntas från användning eller utrangering/avyttring av tillgången eller komponenten. Den vinst eller förlust som uppkommer när en materiell anläggningstillgång eller en komponent tas bort från balansräkningen är skillnaden mellan vad som eventuellt erhålls, efter avdrag för direkta försäljningskostnader, och tillgångens redovisade värde. Den realisationsvinst eller realisationsförlust som uppkommer när en materiell anläggningstillgång eller en komponent tas bort från balansräkningen redovisas i resultaträkningen som en övrig rörelseintäkt eller övrig rörelsekostnad.

Nedskrivningar av materiella anläggningstillgångar och immateriella tillgångar
Vid varje balansdag analyserar företaget de redovisade värdena för materiella anläggningstillgångar och immateriella tillgångar för att fastställa om det finns någon indikation på att dessa tillgångar har minskat i värde. Om så är fallet, beräknas tillgångens återvinningsvärde för att kunna fastställa värdet av en eventuell nedskrivning. Där det inte är möjligt att beräkna återvinningsvärdet för en enskild tillgång, beräknas återvinningsvärdet för den kassagenererande enhet till vilken tillgången hör.

Återvinningsvärdet är det högsta av verkligt värde med avdrag för försäljningskostnader och nyttjandevärdet. Verkligt värde med avdrag för försäljningskostnader är det pris som företaget beräknar kunna erhålla vid en försäljning mellan kunniga, av varandra oberoende parter, och som har ett intresse av att transaktionen genomförs, med avdrag för sådana kostnader som är direkt hänförliga till försäljningen. Vid beräkning av nyttjandevärde diskonteras uppskattat framtida kassaflöde till nuvärde med en diskonteringsränta före skatt som återspeglar aktuell marknadsbedömning av pengars tidsvärde och de risker som förknippas med tillgången. För att beräkna de framtida kassaflödena har företaget använt budget och prognoser för de kommande fem åren.

Om återvinningsvärdet för en tillgång (eller kassagenererande enhet) fastställs till ett lägre värde än det redovisade värdet, skrivs det redovisade värdet på tillgången (eller den kassagenererande enheten) ned till återvinningsvärdet. En nedskrivning har omedelbart kostnadsföras i resultaträkningen.

Vid varje balansdag gör företaget en bedömning om den tidigare nedskrivningen inte längre är motiverad. Om så är fallet återförs nedskrivningen delvis eller helt. Då en nedskrivning återförs, ökar tillgångens (den kassagenererande enhetens) redovisade värde. Det redovisade värdet efter återföring av nedskrivning får inte överskrida det redovisade värde som skulle fastställts om ingen nedskrivning gjorts av tillgången (den kassagenererande enheten) under tidigare år. En återföring av en nedskrivning redovisas direkt i resultaträkningen.

Andelar i koncernföretag
Andelar i dotterföretag redovisas till anskaffningsvärde. Utdelning från dotterföretag redovisas som intäkt när rätten att få utdelning bedöms som säker och kan beräknas på ett tillförlitligt sätt.

Finansiella instrument

En finansiell tillgång eller finansiell skuld redovisas i balansräkningen när företaget blir part till instrumentets avtalsenliga villkor. En finansiell tillgång bokas bort från balansräkningen när den avtalsenliga rätten till kassaflödet från tillgången upphör, regleras eller när företaget förlorar kontrollen över den. En finansiell skuld, eller del av finansiell skuld, bokas bort från balansräkningen när den avtalade förpliktelsen fullgörs eller på annat sätt upphör.

Vid det första redovisningstillfället värderas omsättningstillgångar och kortfristiga skulder till anskaffningsvärde. Långfristiga fordringar samt långfristiga skulder värderas vid det första redovisningstillfället till upplupet anskaffningsvärde. Låneutgifter periodiseras som en del i lånets räntekostnad enligt effektivräntemetoden (se nedan).

Vid värdering efter det första redovisningstillfället värderas omsättningstillgångar enligt lägsta värdets princip, dvs. det lägsta av anskaffningsvärdet och nettoförsäljningsvärdet på balansdagen. Kortfristiga skulder värderas till nominellt belopp.

Långfristiga fordringar och långfristiga skulder värderas efter det första redovisningstillfället till upplupet anskaffningsvärde.

Upplupet anskaffningsvärde
Med upplupet anskaffningsvärde avses det belopp till vilket tillgången eller skulden initialt redovisades med avdrag för amorteringar, tillägg eller avdrag för ackumulerad periodisering enligt effektivräntemetoden av den initiala skillnaden mellan erhållet/betalat belopp och belopp att betala/erhålla på förfallodagen samt med avdrag för nedskrivningar.

Effektivräntan är den ränta som vid en diskontering av samtliga framtida förväntade kassaflöden över den förväntade löptiden resulterar i det initialt redovisade värdet för den finansiella tillgången eller den finansiella skulden.

Nedskrivningar av finansiella anläggningstillgångar
Vid varje balansdag utvärderar företaget om det finns indikationer på att en eller flera finansiella anläggningstillgångar minskat i värde. Exempel på sådana indikationer är betydande finansiella svårigheter hos låntagaren, avtalsbrott eller att det är sannolikt att låntagaren kommer att gå i konkurs.

För finansiella anläggningstillgångar som värderas till upplupet anskaffningsvärde beräknas nedskrivningen som skillnaden mellan tillgångens redovisade värde och nuvärdet av företagsledningens bästa uppskattning av framtida kassaflöden. Diskontering sker med en ränta som motsvarar tillgångens ursprungliga effektivränta. För tillgångar med rörlig ränta används den på balansdagen aktuella räntan.

För finansiella anläggningstillgångar som inte värderas till upplupet anskaffningsvärde beräknas nedskrivningen som skillnaden mellan tillgångens redovisade värde och det högsta av verkligt värde med avdrag för försäljningskostnader och nuvärdet av företagsledningens bästa uppskattning av de framtida kassaflödena tillgången förväntas ge.

Varulager
Varulager värderas till det lägsta av anskaffningsvärdet och nettoförsäljningsvärdet på balansdagen. Anskaffningsvärdet beräknas genom tillämpning av först-in-först-ut-metoden (FIFU). Nettoförsäljningsvärde är försäljningsvärdet efter avdrag för beräknade kostnader som direkt kan hänföras till försäljningstransaktionen.

I anskaffningsvärdet ingår utgifter för inköp, tillverkning samt andra utgifter för att bringa varorna till deras aktuella plats och skick. I anskaffningsvärdet för en egentillverkad tillgång ingår, utöver sådana kostnader som direkt kan hänföras till produktionen av tillgången, en skälig andel av indirekta tillverkningskostnader.

Likvida medel
Likvida medel inkluderar kassamedel och disponibla tillgodohavanden hos banker och andra kreditinstitut. Bolaget innehar inga kortfristiga placeringar.

Avsättningar
Avsättningar redovisas när företaget har en befintlig förpliktelse (legal eller informell) som en följd av en inträffad händelse, det är sannolikt att ett utflöde av resurser kommer att krävas för att reglera förpliktelsen och en tillförlitlig uppskattning av beloppet kan göras.

En avsättning omprövas varje balansdag och justeras så att den återspeglar den bästa uppskattningen av det belopp som krävs för att reglera den befintliga förpliktelsen på balansdagen, med hänsyn tagen till risker och osäkerheter förknippade med förpliktelsen. När en avsättning beräknas genom att uppskatta de utbetalningar som förväntas krävas för att reglera förpliktelsen, motsvarar det redovisade värdet nuvärdet av dessa utbetalningar.

Där en del av eller hela det belopp som krävs för att reglera en avsättning förväntas bli ersatt av en tredje part, ska gottgörelsen särredovisas som en tillgång i balansräkningen när det är så gott som säkert att den kommer att erhållas om företaget reglerar förpliktelsen och beloppet kan beräknas tillförlitligt.

Omstruktureringsreserv
En avsättning för omstrukturering av verksamhet redovisas då företaget måste fullfölja omstruktureringen till följd av en legal eller informell förpliktelse. En informell förpliktelse föreligger när företaget har en fastställd och utförlig omstruktureringsplan och de som berörs har en välgrundad uppfattning om att omstruktureringen kommer att genomföras.

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Aktieägartillskott
Aktieägartillskott som en ägare lämnar redovisas som en ökning av andelens redovisade värde. Aktieägartillskott som en ägare erhåller redovisas direkt i eget kapital.

Eventualförpliktelser
En ansvarsförbindelse är en möjlig förpliktelse till följd av inträffade händelser och vars förekomst endast kommer att bekräftas av att en eller flera osäkra framtida händelser, som inte helt ligger inom företagets kontroll, inträffar eller uteblir, eller en befintlig förpliktelse till följd av inträffade händelser, men som inte redovisas som skuld eller avsättning eftersom det inte är sannolikt att ett utflöde av resurser kommer att krävas för att reglera förpliktelsen eller förpliktelsens storlek inte kan beräknas med tillräcklig tillförlitlighet.

Kassaflödesanalys
Kassaflödesanalysen visar företagets förändringar av företagets likvida medel under räkenskapsåret.
Kassaflödesanalysen har upprättats enligt den indirekta metoden. Det redovisade kassaflödet omfattar endast transaktioner som medfört in- och utbetalningar.

Not 3 Viktiga uppskattningar och bedömningar

Viktiga källor till osäkerhet i uppskattningar
Nedan redogörs för de viktigaste antagandena om framtiden, och andra viktiga källor till osäkerhet i uppskattningar per balansdagen, som innebär en betydande risk för väsentliga justeringar i redovisade värden för tillgångar och skulder under kommande räkenskapsår.
Vid bedömning av nyttjandeperioder för materiella anläggningstillgångar görs antaganden om livslängd för tillgången och dess komponenter. Skulle den bedömda livslängden avvika avsevärt mot den faktiska kan det få en väsentlig påverkan på företags resultat och balansräkning.
Företagets innehav i koncernföretag är föremål för värdering. I den mån koncernföretagens bedömda framtida intjäningsförmåga skulle försämras skulle en potentiell nedskrivning av innehaven kunna få en väsentlig påverkan på företagets resultat och balansräkning.

Viktiga bedömningar vid tillämpning av bolagets redovisningsprinciper
I följande avsnitt beskrivs de viktigaste bedömningarna, förutom de som innefattar uppskattningar (se ovan), som företagsledningen har gjort vid tillämpningen av företagets redovisningsprinciper och som har den mest betydande effekten på de redovisade beloppen i de finansiella rapporterna.
Då materiella anläggningstillgångar uppgår till en väsentlig del av bolagets balansomslutning är tillämpningen av redovisningsprinciper avseende dessa kritisk. Det gäller såväl bedömning av uppdelning i väsentliga komponenter som bedömning av nyttjandeperioder samt eventuell nedskrivningsprövning.

Not 4 Derivat och finansiella instrument

Företaget innehar inga derivatkontrakt och har inte några belånade kundfordringar.

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Not 5 Nettoomsättningens fördelning

Nettoomsättning per verksamhetsgren	2021	2020
Legotillverkning	717 043	676 107
Hyresintäkter/energiintäkter	160 731	138 946
Summa	**877 774**	**815 053**

Nettoomsättning per geografisk marknad	2021	2020
Norden	877 774	815 053
Övriga marknader	0	0
Summa	**877 774**	**815 053**

Not 6 Uppgift om inköp och försäljning inom samma koncern

	2021	2020
Inköp	4,7%	3,6%
Försäljning	81,7%	82,9%

Not 7 Övriga rörelseintäkter

	2021	2020
Försäkringskompensation	52	2
Försäljning av utsläppsrätter	29 260	0
Övrigt	205	1 336
Summa	**29 517**	**1 338**

Not 8 Upplysning om ersättning till revisorn

	2021	2020
Revisionsuppdrag Ernst & Young AB	85	128

Med revisionsuppdrag avses revisorns ersättning för den lagstadgade revisionen. Arbetet innefattar granskningen av årsredovisningen och bokföringen, styrelsens och verkställande direktörens förvaltning samt arvode för revisionsrådgivning som lämnats i samband med revisionsuppdraget.

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Not 9 Leasingavtal

Operationella leasingavtal - leasetagare

Företaget är leasetagare genom operationella leasingavtal avseende främst avseende transportutrustning, personbilar, kontorsmaskiner och lokaler. Avtalstiden är i de flesta fall 3 år. Summan av årets kostnadsförda leasingavgifter avseende operationella leasingavtal uppgår till 50.807 Kkr (44.413). Framtida minimileaseavgifter avseende icke uppsägningsbara operationella leasingavtal förfaller enligt följande:

Förfallotidpunkt:	2021	2020
Inom ett år	1 177	5 432
Senare än ett år men inom fem år	176	400
Senare än fem år	0	0
Summa	**1 353**	**5 832**

Not 10 Antal anställda, löner, andra ersättningar och sociala kostnader

	2021		2020	
Medeltalet anställda	**Antal anställda**	**Varav antal män**	**Antal anställda**	**Varav antal män**
	284	235	284	231
Totalt	**284**	**235**	**284**	**231**

	2021-12-31	2020-12-31
Fördelning ledande befattningshavare per balansdagen		
Kvinnor:		
styrelseledamöter	2	2
andra personer i företagets ledning inkl VD	3	3
Män:		
styrelseledamöter	3	3
andra personer i företagets ledning inkl VD	4	4
Totalt	**12**	**12**

	2021		2020	
Löner, andra ersättningar m m	**Löner och andra ersättningar**	**Soc kostn (varav pensions-kostnader)**	**Löner och andra ersättningar**	**Soc kostn (varav pensions-kostnader)**
	182 561	114 818 (50 170)	175 398	116 768 (50 101)
Totalt	**182 561**	**114 818** **(50 170)**	**175 398**	**116 768** **(50 101)**

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Löner och andra ersättningar fördelade mellan styrelse-ledamöter och anställda	2021 Styrelse och VD (varav tantiem och dylikt)	2021 Övriga anställda	2020 Styrelse och VD (varav tantiem och dylikt)	2020 Övriga anställda
	2 787	179 774	2 797	172 601
	(398)	(14 666)	(397)	(14 667)
Totalt	**2 787**	**179 774**	**2 797**	**172 601**
	(398)	**(14 666)**	**(397)**	**(14 667)**

Pensioner
Företagets kostnad för avgiftsbestämda pensionsplaner uppgår till 38.797 Kkr (38.436 Kkr).

Av företagets pensionskostnader avser 819 Kkr (822) gruppen styrelse och VD.

Avtal om avgångsvederlag
Mellan företaget och verkställande direktören gäller kollektivavtal och med en uppsägningstid från företagets sida på 12 månader. Vid uppsägning från företagets sida erhålls inget avgångsvederlag för VD. Vid uppsägning från verkställande direktörens sida utgår inget avgångsvederlag.

Mellan företaget och andra ledande befattningshavare gäller en ömsesidig uppsägningstid enligt gällande kollektivavtal. Vid uppsägning från företagets sida erhålls inget avgångsvederlag. Vid uppsägning från ledande befattningshavarens sida utgår inget avgångsvederlag.

Not 11 Resultat från andelar i koncernföretag

	2021	2020
Utdelning	75462	72465
Realisationsresultat vid försäljning av andelar	0	0
Summa	**75 462**	**72 465**

Not 12 Övriga ränteintäkter och liknande intäkter

	2021	2020
Ränteintäkter	109	6
Summa	**109**	**6**

Not 13 Räntekostnader och liknande kostnader

	2021	2020
Räntekostnader	-5 392	-7 648
Räntekostnader, koncernföretag	-2 428	-651
Summa	**-7 820**	**-8 299**

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Not 14 Skatt på årets resultat

	2021	2020
Aktuell skatt	-9 974	-4 498
Uppskjuten skatt	2 379	-981
Skatt på årets resultat	**-7 595**	**-5 479**

Avstämning årets skattekostnad

	2021	2020
Redovisat resultat före skatt	111 629	95 304
Skatt beräknad med skattesats 20,6 % (21,4)	-22 996	-20 395
Skatteeffekt av ej avdragsgilla kostnader	-144	-592
Skatteeffekt av ej skattepliktiga intäkter avseende utdelningar mm	15 545	15 508
Summa	**-7 595**	**-5 479**
Årets redovisade skattekostnad	**-7 595**	**-5 479**

Not 15 Koncessioner, patent , licenser, varumärken samt liknande rättigheter

	2021-12-31	2020-12-31
Ingående anskaffningsvärde	2 000	8 922
Försäljningar/utrangeringar	0	-6 922
Utgående ackumulerade anskaffningsvärden	**2 000**	**2 000**
Ingående avskrivningar enligt plan	-1 397	-7 553
Försäljningar/utrangeringar	0	6 796
Årets avskrivningar enligt plan	-362	-640
Utgående ackumulerade avskrivningar enligt plan	**-1 759**	**-1 397**
Utgående planenligt restvärde	**241**	**603**

Not 16 Goodwill och övriga immateriella tillgångar

	2021-12-31	2020-12-31
Ingående anskaffningsvärden	28 952	30 680
Förvärv	0	620
Utrangeringar	-26 253	-3 216
Omklassificeringar	427	867
Utgående ackumulerade anskaffningsvärden	**3 126**	**28 952**
Ingående avskrivningar	-23 377	-25 101
Utrangeringar	26 151	2 997
Årets avskrivningar enligt plan	-1 238	-1 273
Utgående ackumulerade avskrivningar	**1 536**	**-23 377**
Ingående nedskrivningar	-3 479	-3 479
Utgående ackumulerade nedskrivningar	**-3 479**	**-3 479**
Utgående planenligt restvärde	**1 183**	**2 096**

Kemira Kemi AB
556085-6287

Not 17 Förskott avseende immateriella anläggningstillgångar

	2021-12-31	2020-12-31
Ingående förskott	225	867
Omklassificeringar	0	-867
Under året utbetalda förskott	-225	225
Utgående förskott	**0**	**225**

Not 18 Byggnader och mark

	2021-12-31	2020-12-31
Ingående anskaffningsvärden	308 676	297 260
Inköp	992	7 751
Försäljningar/utrangeringar	-5 285	-2 858
Omklassificeringar	6 018	6 523
Utgående ackumulerade anskaffningsvärden	**310 401**	**308 676**
Ingående avskrivningar	-168 556	-158 990
Försäljningar/utrangeringar	4 209	1 968
Årets avskrivningar enligt plan	-12 049	-11 534
Utgående ackumulerade avskrivningar	**-176 396**	**-168 556**
Utgående planenligt restvärde	**134 005**	**140 120**
Varav anskaffningsvärde för mark	**0**	**0**

Not 19 Maskiner och andra tekniska anläggningar

	2021-12-31	2020-12-31
Ingående anskaffningsvärde	1 823 653	1 761 174
Inköp	16 717	72 054
Försäljningar/utrangeringar	-152 701	-62 142
Omklassificeringar	38 368	52 567
Utgående ackumulerade anskaffningsvärden	**1 726 037**	**1 823 653**
Ingående avskrivningar enligt plan	-1 240 085	-1 173 344
Försäljningar/utrangeringar	147 344	45 973
Årets avskrivningar enligt plan	-113 391	-112 714
Utgående ackumulerade avskrivningar enligt plan	**-1 206 132**	**-1 240 085**
Utgående planenligt restvärde	**519 905**	**583 568**

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Not 20 Inventarier, verktyg och installationer

	2021-12-31	2020-12-31
Ingående anskaffningsvärde	71 361	25 186
Inköp	3 802	12 734
Försäljningar/utrangeringar	-4 107	-226
Omklassificeringar	1 134	33 667
Utgående ackumulerade anskaffningsvärden	**72 190**	**71 361**
Ingående avskrivningar enligt plan	-20 417	-16 202
Försäljningar/utrangeringar	4 093	226
Årets avskrivningar enligt plan	-8 191	-4 441
Utgående ackumulerade avskrivningar enligt plan	**-24 515**	**-20 417**
Utgående planenligt restvärde	**47 675**	**50 944**

Not 21 Pågående nyanläggningar och förskott avseende materiella anläggningstillgångar

	2021-12-31	2020-12-31
Ingående redovisat värde	64 332	100 565
Omklassificeringar	-45 721	-92 660
Under året utbetalda förskott	119 550	56 427
Utgående redovisat värde	**138 161**	**64 332**

Not 22 Andelar i koncernföretag

	2021-12-31	2020-12-31
Ingående anskaffningsvärde	287 149	287 149
Utgående ackumulerade anskaffningsvärden	**287 149**	**287 149**
Ingående nedskrivningar	-53 604	-53 604
Utgående ackumulerade nedskrivningar	**-53 604**	**-53 604**
Utgående redovisat värde	**233 545**	**233 545**

Företagets innehav av andelar i koncernföretag

Företagets namn	Kapital-andel	Antal andelar	Redovisat värde 2021-12-31	Redovisat värde 2020-12-31
Industry Park i Helsingborg Förvaltnings AB	100%	1 000	1 119	1 119
Kemira Kopparverket KB	99,9%	-	194 329	194 329
Kemifloc AS, Tjeckien	51%	2 499	6 690	6 690
Kemipol Sp.zo.o, Polen	51%	390	4 651	4 651
Kemwater Brasil S.A, Brasilien	100%	16 108 000	-	-
Kemwater ProChemie s.r.o, Tjeckien	90%	-	26 756	26 756
Summa			**233 545**	**233 545**

Angiven kapitalandel överensstämmer med andelen av rösterna för totalt antal aktier.

Företagets namn	Org.nr	Säte
Industry Park i Helsingborg Förvaltnings AB	556640-0791	Helsingborg
Kemira Kopparverket KB	916615-2208	Helsingborg
Kemifloc AS, Tjeckien		Tjeckien
Kemipol Sp.zo.o, Polen		Polen
Kemwater Brasil S.A, Brasilien		Brasilien
Kemwater ProChemie s.r.o, Tjeckien		Tjeckien

Kemira Kemi AB
556085-6287

Not 23 Uppskjuten skattefordran och uppskjuten skatteskuld

	2021-12-31	2020-12-31
Uppskjuten skattefordran		
Avsättningar	4 079	1 576
Summa uppskjuten skattefordran	**4 079**	**1 576**

Uppskjutna skattefordringar värderas till högst det belopp som sannolikt kommer att återvinnas baserat på innevarande och framtida skattepliktiga resultat. Företaget har inga outnyttjade underskottsavdrag.

Skattesatsen för beräkning av uppskjuten skatt uppgår till 20,6 % (21,4).

Not 24 Andra långfristiga fordringar

	2021-12-31	2020-12-31
Ingående anskaffningsvärde	1 333	2 000
Reglerade fordringar	-500	-667
Utgående ackumulerade anskaffningsvärden	**833**	**1 333**
Utgående redovisat värde	**833**	**1 333**

Not 25 Förutbetalda kostnader och upplupna intäkter

	2021-12-31	2020-12-31
Förutbetalda pensioner, PRI	10 270	10 177
Förutbetalda hyror	179	174
Förutbetalda försäkringspremier	1 910	1 495
Skattefordringar	16 219	3 472
Summa	**28 578**	**15 318**

Not 26 Obeskattade reserver

	2021-12-31	2020-12-31
Ackumulerade överavskrivningar	270 012	277 163
Summa	**270 012**	**277 163**

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Kemira Kemi AB
556085-6287

Not 27 Övriga avsättningar

2021-12-31	Omstruktureringsåtgärder	Summa
Vid årets början	7 650	7 650
Belopp som tagits i anspråk	-3 850	-3 850
Tillkommande avsättningar	16 000	16 000
Vid årets slut	**19 800**	**19 800**

2020-12-31	Omstruktureringsåtgärder	Summa
Vid årets början	14 215	14 215
Belopp som tagits i anspråk	-6 565	-6 565
Vid årets slut	**7 650**	**7 650**

Not 28 Upplupna kostnader och förutbetalda intäkter

	2021-12-31	2020-12-31
Upplupna löner	64 472	64 080
Upplupna varukostnader	37 378	18 221
Upplupen löneskatt på pensioner	11 933	12 383
Upplupna arbetsgivaravgifter	4 348	4 558
Upplupna reparationskostnader	7 976	7 142
Upplupen fastighetsskatt	1 392	1 704
Upplupna energikostnader	26 851	10 315
Upplupna servicekostnader	30 560	4 477
Upplupna deponiavgifter	1 500	900
Summa	**186 410**	**123 780**

Not 29 Ställda säkerheter och eventualförpliktelser

Ställda säkerheter	2021-12-31	2020-12-31
Företagsinteckningar	57 000	57 000
Summa	**57 000**	**57 000**
Eventualförpliktelser		
Garantiåtaganden enl nedan.	9 278	9 278
Summa	**9 278**	**9 278**

Företaget har ställt säkerhet i form av företagsinteckningar om totalt 57000 Kkr (57000) avseende egna skulder och avsättningar. Företagsinteckningarna har blivit beviljade att kunna dödas av bolagsverket i april 2021, pga okända innehavare, och är sedan dess i eget förvar.

Ansvarigheten till FPG/PRI uppgår till 2% av pensionsskulden, vilket sammantaget uppgår till 6.563 Kkr (6.531). Bankgarantier som utfärdats till förmån för myndigheter, leverantörer och kunder uppgår till 2.747 Kkr (2.747). Enligt företagsledningens bedömning kommer dessa ansvarsförbindelser under de närmaste åren ej leda till några finansiella utflöden.

Not 30 Upplysningar om närstående

Kemira Kemi AB ingår sedan 1989 som en integrerad del av Kemira-koncernen. Omfattande handel förekommer mellan koncernbolag i alla led. Marknadsmässig prissättning tillämpas.

Not 31 Förslag till vinstdisposition

Till årsstämmans förfogande står följande vinstmedel:
Balanserat resultat 223 Mkr och årets resultat 104 Mkr. Styrelsen föreslår att 100.000.000 SEK delas ut till moderbolaget.

Not 32 Händelser efter balansdagen

Kemiragruppens risker har tidigare ökat på grund av COVID-19 pandemin och nu kriget i Ukraina.
Kriget i Ukraina och de befintliga och möjliga framtida sanktionerna mot Ryssland och Vitryssland kan leda till störningar i energi- och råvarutillgången för Europa. Tills vidare har Kemira säkrat tillgången på de råvaror som de hämtar från regionen. Kemira letar efter alternativa leverantörer och lösningar för att minska beroendet av ryska råvaror framöver. De direkta effekterna från kriget förväntas bli begränsade. Kemira utvärderar också de indirekta effekterna av kriget, vilket kan vara svårt att uppskatta vid denna tidpunkt

Dotterbolag, som Kemira Kemi AB, agerar som begränsade riskenheter i Kemiras EMEA-affärsmodell, vilket skyddar dotterbolaget från ekonomiska effekter.

Not 33 Hållbarhetsredovisning

Bolaget är ett helägt dotterföretag till Kemira Europe Oy, finskt org.nr 1740895-0 med säte i Helsingfors. Toppmoderbolaget Kemira Oy, finskt org nr 0109823-0 (73.937) med säte i Helsingfors, Finland upprättar hållbarhetsrapport för koncernen.

Not 34 Aktiekapital

Aktiekapitalet är fördelat på 760.000 aktier med ett kvotvärde på 100 kr per aktie.

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Kemira Kemi AB
556085-6287

Helsingborg den - 30/6 2022

Ari Pirneskoski
Styrelsens ordförande

Peter Kihlgren
Verkställande direktör

Willem Waelput

Mira Koivula

Jennie Mårtensson
Arbetstagarrepresentant

Kenth Hultin
Arbetstagarrepresentant

Vår revisionsberättelse har avgivits den 30/6 2022

Ernst & Young AB

Daniel Åkeborg
Auktoriserad revisor

20220704094911

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Revisionsberättelse

Till bolagsstämman i Kemira Kemi AB , org.nr 556085-6287

Rapport om årsredovisningen

Uttalanden

Vi har utfört en revision av årsredovisningen för Kemira Kemi AB för räkenskapsåret 2021-01-01 - 2021-12-31.

Enligt vår uppfattning har årsredovisningen upprättats i enlighet med årsredovisningslagen och ger en i alla väsentliga avseenden rättvisande bild av Kemira Kemi AB s finansiella ställning per den 31 december 2021 och av dess finansiella resultat och kassaflöde för året enligt årsredovisningslagen. Förvaltningsberättelsen är förenlig med årsredovisningens övriga delar.

Vi tillstyrker därför att bolagsstämman fastställer resultaträkningen och balansräkningen.

Grund för uttalanden

Vi har utfört revisionen enligt International Standards on Auditing (ISA) och god revisionssed i Sverige. Vårt ansvar enligt dessa standarder beskrivs närmare i avsnittet *Revisorns ansvar*. Vi är oberoende i förhållande till Kemira Kemi AB enligt god revisorssed i Sverige och har i övrigt fullgjort vårt yrkesetiska ansvar enligt dessa krav.

Vi anser att de revisionsbevis vi har inhämtat är tillräckliga och ändamålsenliga som grund för våra uttalanden.

Styrelsens och verkställande direktörens ansvar

Det är styrelsen och verkställande direktören som har ansvaret för att årsredovisningen upprättas och att den ger en rättvisande bild enligt årsredovisningslagen. Styrelsen och verkställande direktören ansvarar även för den interna kontroll som de bedömer är nödvändig för att upprätta en årsredovisning som inte innehåller några väsentliga felaktigheter, vare sig dessa beror på oegentligheter eller misstag.

Vid upprättandet av årsredovisningen ansvarar styrelsen och verkställande direktören för bedömningen av bolagets förmåga att fortsätta verksamheten. De upplyser, när så är tillämpligt, om förhållanden som kan påverka förmågan att fortsätta verksamheten och att använda antagandet om fortsatt drift. Antagandet om fortsatt drift tillämpas dock inte om styrelsen och verkställande direktören avser att likvidera bolaget, upphöra med verksamheten eller inte har något realistiskt alternativ till att göra något av detta.

Revisorns ansvar

Våra mål är att uppnå en rimlig grad av säkerhet om att årsredovisningen som helhet inte innehåller några väsentliga felaktigheter, vare sig dessa beror på oegentligheter eller misstag, och att lämna en revisionsberättelse som innehåller våra uttalanden. Rimlig säkerhet är en hög grad av säkerhet, men är ingen garanti för att en revision som utförs enligt ISA och god revisionssed i Sverige alltid kommer att upptäcka en väsentlig felaktighet om en sådan finns. Felaktigheter kan uppstå på grund av oegentligheter eller misstag och anses vara väsentliga om de enskilt eller tillsammans rimligen kan förväntas påverka de ekonomiska beslut som användare fattar med grund i årsredovisningen.

Som del av en revision enligt ISA använder vi professionellt omdöme och har en professionellt skeptisk inställning under hela revisionen. Dessutom:

- identifierar och bedömer vi riskerna för väsentliga felaktigheter i årsredovisningen, vare sig dessa beror på oegentligheter eller misstag, utformar och utför granskningsåtgärder bland annat utifrån dessa risker och inhämtar revisionsbevis som är tillräckliga och ändamålsenliga för att utgöra en grund för våra uttalanden. Risken för att inte upptäcka en väsentlig felaktighet till följd av oegentligheter är högre än för en väsentlig felaktighet som beror på misstag, eftersom oegentligheter kan innefatta agerande i maskopi, förfalskning, avsiktliga utelämnanden, felaktig information eller åsidosättande av intern kontroll.
- skaffar vi oss en förståelse av den del av bolagets interna kontroll som har betydelse för vår revision för att utforma granskningsåtgärder som är lämpliga med hänsyn till omständigheterna, men inte för att uttala oss om effektiviteten i den interna kontrollen.
- utvärderar vi lämpligheten i de redovisningsprinciper som används och rimligheten i styrelsens och verkställande direktörens uppskattningar i redovisningen och tillhörande upplysningar.
- drar vi en slutsats om lämpligheten i att styrelsen och verkställande direktören använder antagandet om fortsatt drift vid upprättandet av årsredovisningen. Vi drar också en slutsats, med grund i de inhämtade revisionsbevisen, om det finns någon väsentlig osäkerhetsfaktor som avser sådana händelser eller förhållanden som kan leda till betydande tvivel om bolagets förmåga att fortsätta verksamheten. Om vi drar slutsatsen att det finns en väsentlig osäkerhetsfaktor, måste vi i revisionsberättelsen fästa uppmärksamheten på upplysningarna i årsredovisningen om den väsentliga osäkerhetsfaktorn eller, om sådana upplysningar är otillräckliga, modifiera uttalandet om årsredovisningen. Våra slutsatser baseras på de revisionsbevis som inhämtas fram till datumet för revisionsberättelsen. Dock kan framtida händelser eller förhållanden göra att ett bolag inte längre kan fortsätta verksamheten.
- utvärderar vi den övergripande presentationen, strukturen och innehållet i årsredovisningen, däribland upplysningarna, och om årsredovisningen återger de underliggande transaktionerna och händelserna på ett sätt som ger en rättvisande bild.

Vi måste informera styrelsen om bland annat revisionens planerade omfattning och inriktning samt tidpunkten för den. Vi måste också informera om betydelsefulla iakttagelser under revisionen, däribland de eventuella betydande brister i den interna kontrollen som vi identifierat.

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Rapport om andra krav enligt lagar och andra författningar

Uttalanden

Utöver vår revision av årsredovisningen har vi även utfört en revision av styrelsens och verkställande direktörens förvaltning för Kemira Kemi AB för räkenskapsåret 2021-01-01 - 2021-12-31 samt av förslaget till dispositioner beträffande bolagets vinst eller förlust.

Vi tillstyrker att bolagsstämman disponerar vinsten enligt förslaget i förvaltningsberättelsen och beviljar styrelsens ledamöter och verkställande direktören ansvarsfrihet för räkenskapsåret.

Grund för uttalanden

Vi har utfört revisionen enligt god revisionssed i Sverige. Vårt ansvar enligt denna beskrivs närmare i avsnittet *Revisorns ansvar*. Vi är oberoende i förhållande till Kemira Kemi AB enligt god revisorssed i Sverige och har i övrigt fullgjort vårt yrkesetiska ansvar enligt dessa krav.

Vi anser att de revisionsbevis vi har inhämtat är tillräckliga och ändamålsenliga som grund för våra uttalanden.

Styrelsens och verkställande direktörens ansvar

Det är styrelsen som har ansvaret för förslaget till dispositioner beträffande bolagets vinst eller förlust. Vid förslag till utdelning innefattar detta bland annat en bedömning av om utdelningen är försvarlig med hänsyn till de krav som bolagets verksamhetsart, omfattning och risker ställer på storleken av bolagets egna kapital, konsolideringsbehov, likviditet och ställning i övrigt.

Styrelsen ansvarar för bolagets organisation och förvaltningen av bolagets angelägenheter. Detta innefattar bland annat att fortlöpande bedöma bolagets ekonomiska situation och att tillse att bolagets organisation är utformad så att bokföringen, medelsförvaltningen och bolagets ekonomiska angelägenheter i övrigt kontrolleras på ett betryggande sätt. Verkställande direktören ska sköta den löpande förvaltningen enligt styrelsens riktlinjer och anvisningar och bland annat vidta de åtgärder som är nödvändiga för att bolagets bokföring ska fullgöras i överensstämmelse med lag och för att medelsförvaltningen ska skötas på ett betryggande sätt.

Revisorns ansvar

Vårt mål beträffande revisionen av förvaltningen, och därmed vårt uttalande om ansvarsfrihet, är att inhämta revisionsbevis för att med en rimlig grad av säkerhet kunna bedöma om någon styrelseledamot eller verkställande direktören i något väsentligt avseende:

- företagit någon åtgärd eller gjort sig skyldig till någon försummelse som kan föranleda ersättningsskyldighet mot bolaget, eller
- på något annat sätt handlat i strid med aktiebolagslagen, årsredovisningslagen eller bolagsordningen.

Vårt mål beträffande revisionen av förslaget till dispositioner av bolagets vinst eller förlust, och därmed vårt uttalande om detta, är att med rimlig grad av säkerhet bedöma om förslaget är förenligt med aktiebolagslagen.

Rimlig säkerhet är en hög grad av säkerhet, men ingen garanti för att en revision som utförs enligt god revisionssed i Sverige alltid kommer att upptäcka åtgärder eller försummelser som kan föranleda ersättningsskyldighet mot bolaget, eller att ett förslag till dispositioner av bolagets vinst eller förlust inte är förenligt med aktiebolagslagen.

Som en del av en revision enligt god revisionssed i Sverige använder vi professionellt omdöme och har en professionellt skeptisk inställning under hela revisionen. Granskningen av förvaltningen och förslaget till dispositioner av bolagets vinst eller förlust grundar sig främst på revisionen av räkenskaperna. Vilka tillkommande granskningsåtgärder som utförs baseras på vår professionella bedömning med utgångspunkt i risk och väsentlighet. Det innebär att vi fokuserar granskningen på sådana åtgärder, områden och förhållanden som är väsentliga för verksamheten och där avsteg och överträdelser skulle ha särskild betydelse för bolagets situation. Vi går igenom och prövar fattade beslut, beslutsunderlag, vidtagna åtgärder och andra förhållanden som är relevanta för vårt uttalande om ansvarsfrihet. Som underlag för vårt uttalande om styrelsens förslag till dispositioner beträffande bolagets vinst eller förlust har vi granskat styrelsens motiverade yttrande samt ett urval av underlagen för detta för att kunna bedöma om förslaget är förenligt med aktiebolagslagen.

Halmstad den 30 juni 2022

Ernst & Young AB

Daniel Åkeborg
Auktoriserad revisor

kemira



Annual Report 2021

Kemira

The Kemira Annual Report 2021 consists of four modules: **Annual Review 2021**, **Sustainability Report 2021**, **Corporate Governance 2021**, and **Financial Statements 2021**. This interactive PDF version of the Annual Report has been enhanced with linked navigation to help you find the information you want more quickly. The table of contents, page references and URLs link to pages and sections within this document as well as to outside websites.

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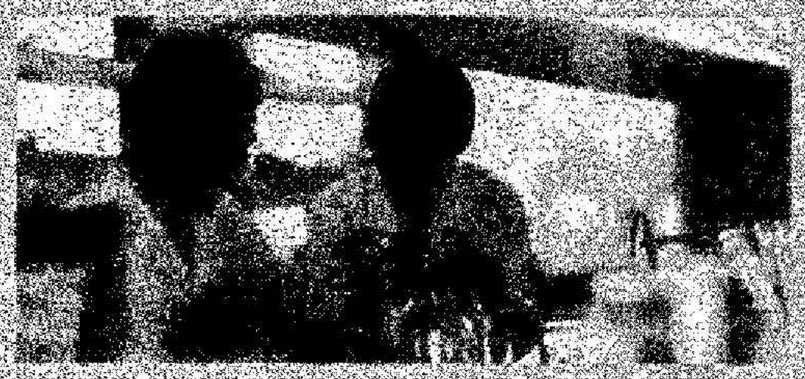





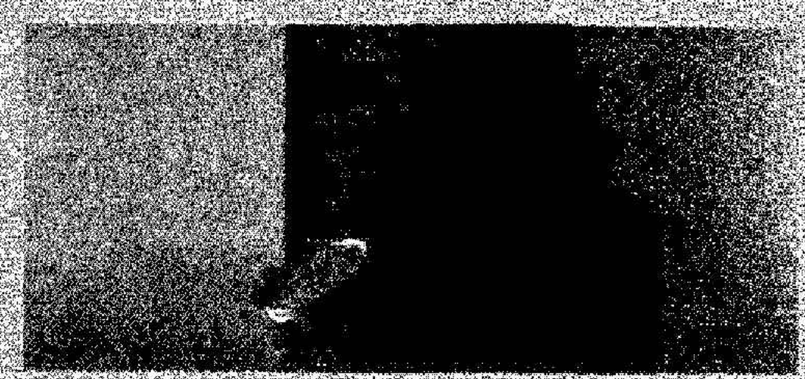

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All forward-looking statements in this report are based on the management's current expectations and beliefs about future events, and actual results may differ materially from the expectations and beliefs such statements contain.

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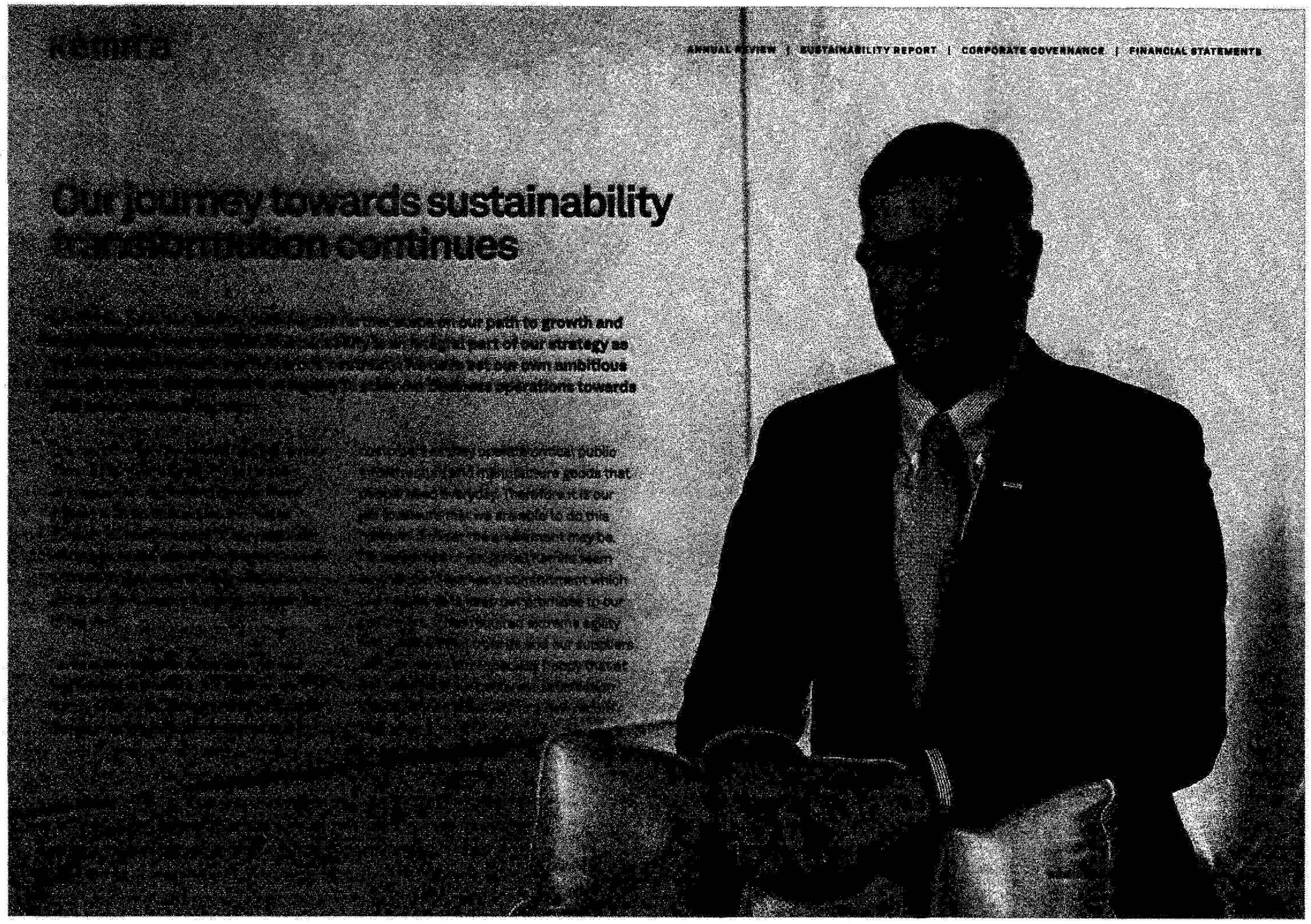
Our journey towards sustainability transformation continues

[illegible] on our path to growth and [illegible] part of our strategy as [illegible] our own ambitious [illegible] operations towards [illegible]

[illegible] public [illegible] goods that [illegible] everyday. Therefore it is our [illegible] to do this [illegible] may be. [illegible] commitment which [illegible] to our [illegible] extreme agility [illegible] and our suppliers [illegible] happy that [illegible]



Kemira

Our new purpose statement "Chemistry with a purpose. Better every day." reflects the impact our work has on people, business, society and the environment.

Our financial performance was good and we achieved a record revenue of EUR 2,674 million in 2021 driven by the strong demand in both of our segments. Our profitability was impacted by the significantly higher raw material and energy prices as well as supply chain issues. Our growth investments started to bring in benefits on several fronts as we completed capacity expansion projects in the USA, South Korea and UK. Our bleaching capacity expansion project in Uruguay is ongoing and we expect it to positively contribute to our EBITDA in 2023. We also announced new investments to Kemira's Nanjing and Yangzhou sites in China which will strenghten our position in the APAC markets. Our biobased strategy has also progressed as planned and first sales were made with biodegradable coating materials based on PHA in Q2 2021. We have also continued our profitablity improvement initiatives and focused on strict cost management.

Our new purpose statement "Chemistry with a purpose. Better every day." reflects the impact our work has on people, business, society and the environment. I am extremely proud of the role we play in society. Our work is part of the clean water cycle, the fiber-based value chain and in the global energy sector. We recognize the immense impact chemistry has made and continues to make and we're experts in applying chemistry in a reliable, responsible and a safe way. Continuous improvement is deep in our DNA and we're committed to that today and going forward be it better ways to use and recycle natural resources, optimizing water management, enabling clean water and sanitation and helping our customers to improve their businesses.

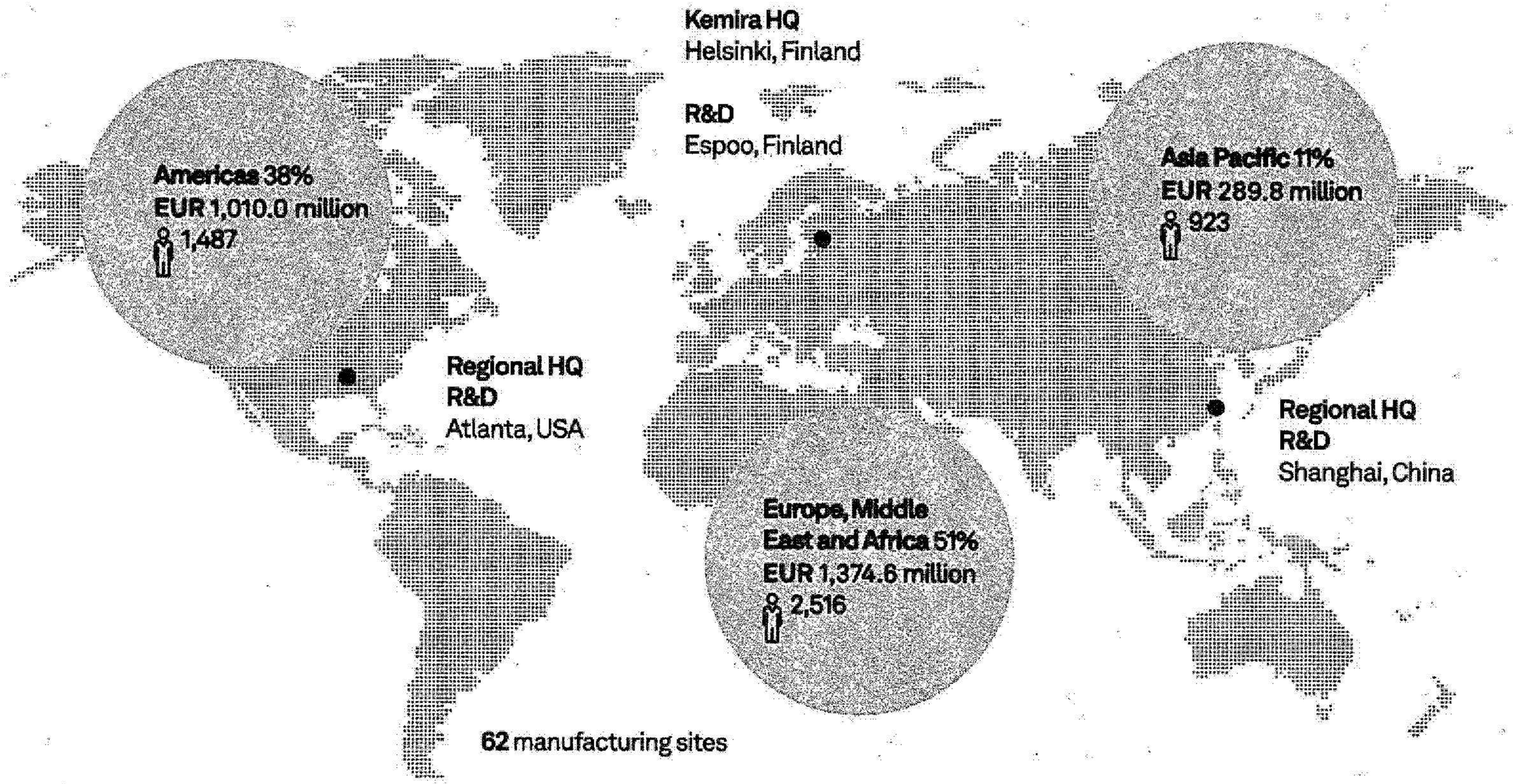
We updated our sustainability targets in safety, people, water, climate and circularity in 2021. These are the five areas where we can make the biggest difference either by reducing our own footprint or maximizing our handprint and positive contribution to the United Nations Sustainable Development Goals. We especially focus on bringing our customers innovative products and applications that help them become more sustainable and improve their end-use resource efficiency. Continuous daily focus on the safety and health of our own employees and everyone we work with is the key on our journey to zero incidents. We are also fully committed to even further develop Kemira as a diverse and inclusive workplace.

Our new leadership principles *Focus on growth*, *Collaborate to succeed* and *Deliver value* support the strategy execution and our transformation journey as we also implement the new way to lead our global team in Kemira. Unlocking the growth mindset will enable us to reach our long term targets and further empower our people to bring all their considerable skills and capabilities for the good of our customers.

I am very proud of our global Kemira team and what we have achieved together this year. I want to also warmly thank our customers and other stakeholders for their continued trust in us. I am convinced that what we have learned in 2021 will help us to build a better and more sustainable future together with our customers, employees, suppliers and shareholders

JARI ROSENDAL
President and CEO

Key figures 2021



Revenue, EUR	Operative EBITDA, EUR	Operative EBITDA margin	Earnings per share, diluted, EUR	Total employees
2.7 billion	**426** million	**15.9%**	**0.70**	**4,926**

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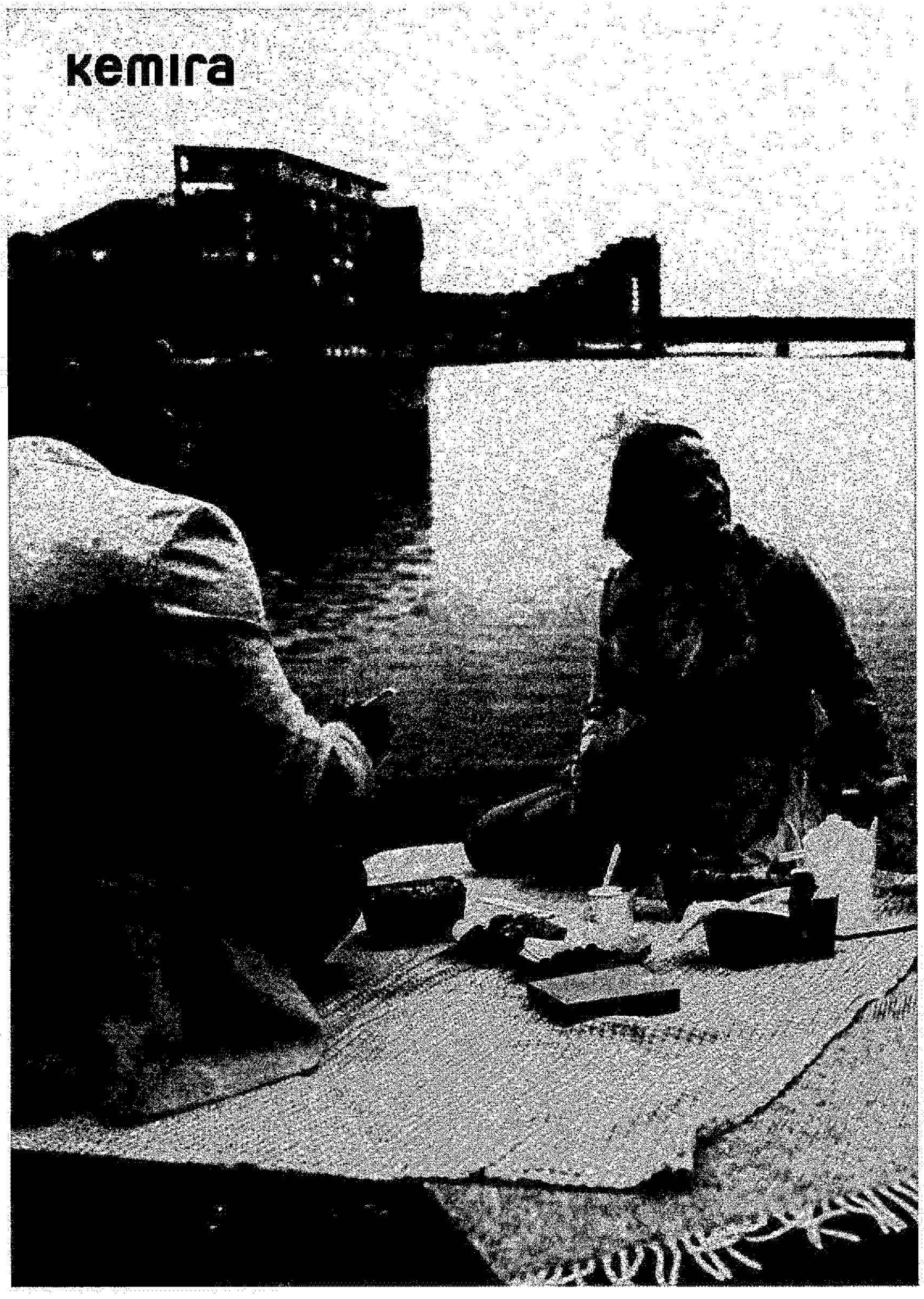


Our purpose shows the difference we make

In 2021, we defined Kemira's new purpose: Chemistry with a purpose. Better every day.

It emphasizes our core focus, the chemistry we work with. It also shows our commitment to continuous improvement and our goal of a better everyday for people, business, society and the environment. We live our purpose for example by developing and applying chemistry to optimize water management and the ways natural resources are used and recycled. We advance people's everyday health and safety and constantly improve our customers' processes – enabling their sustainable business.

We make sure chemistry is applied in a reliable, responsible and a safe way for our employees, our customers and the society. Through chemistry we are creating a better every day for everyone.

PROFITABLE GROWTH THROUGH SUSTAINABILITY TRANSFORMATION

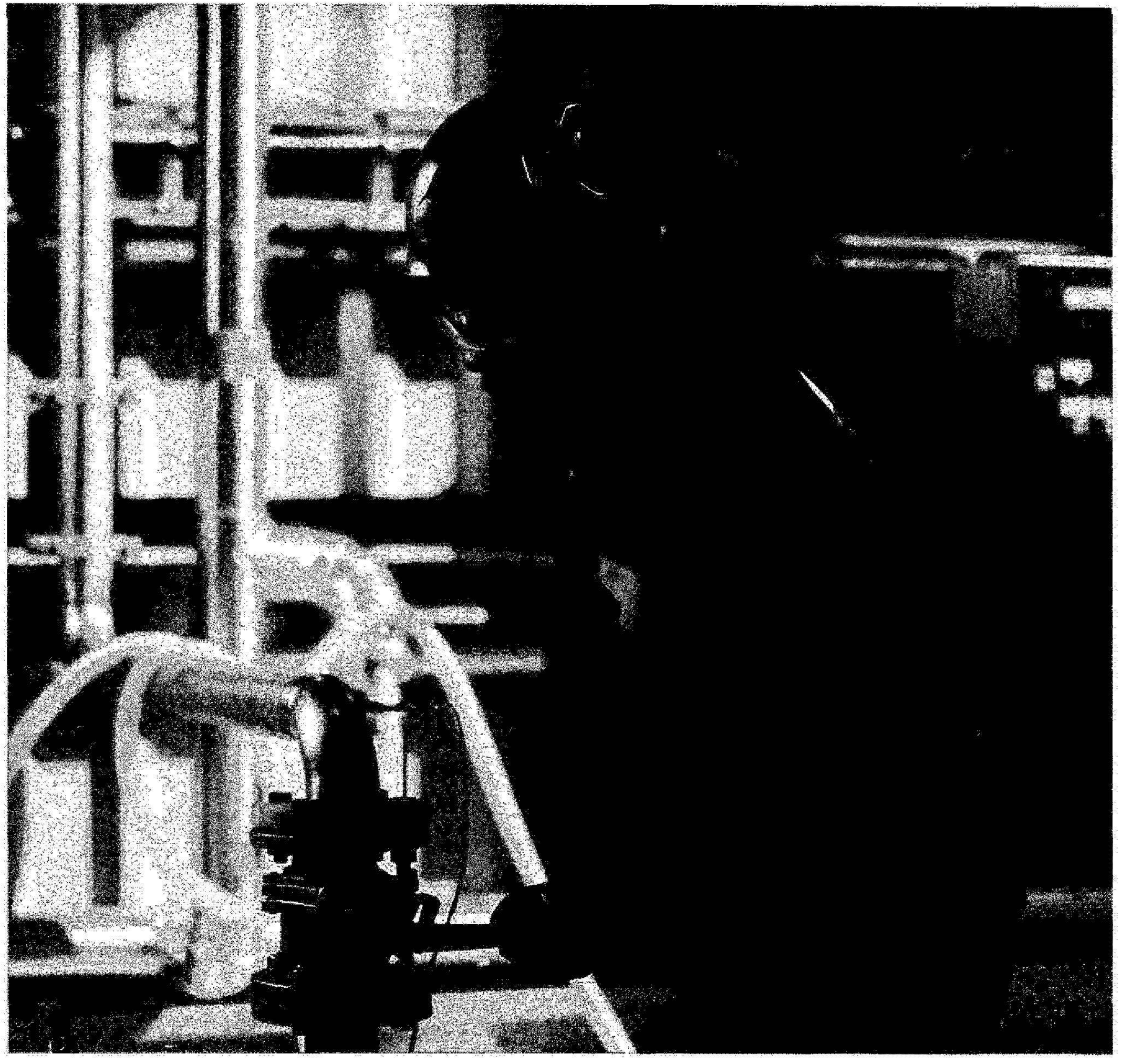
Our strategic focus is based on sustainability transformation as one of the key enablers for profitable growth. We aim to become the leading provider of sustainable chemical solutions for water-intensive industries, supporting our customers in reaching their sustainability and other performance targets. Our success is built on a unique combination of more than 100 years of chemistry expertise, high quality product portfolio and advanced digital technologies for process optimization and transparency.

PULP & PAPER

The Pulp & Paper segment combines best-in-class application expertise, latest technologies for advanced process management and a complete chemistry portfolio to serve our customers in the papermaking industry across different grades from pulp to board, tissue, specialty papers as well as graphical and printing papers. We help customers improve their sustainability, product quality, process and resource efficiency. Our focus is on growth areas in fiber-based applications and biobased materials, such as packaging board and dispersion barrier coatings.

INDUSTRY & WATER

The Industry & Water business segment enables water intensive industries and municipal water treatment operators improve their process and resource efficiency. Our chemistry is used for optimizing all stages of the water cycle – enabling clean water and sanitation as stated in the United Nations Sustainable Development Goals (SDGs). In oil and gas applications we enable reduced water and energy use for more efficient well management and improve oil sands tailings treatment. Our focus on the water intensive industries continues and we are constantly evaluating new opportunities for growth within this sector.



Value creation model

INPUTS

Equity:
EUR 1,342.7million

Interest-bearing liabilities:
EUR 992.2 million

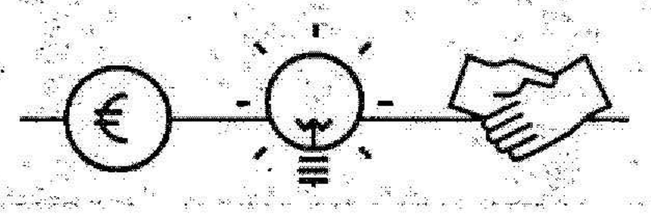
Cash:
EUR 142.4million

Key relationships:
Customers, suppliers, contractors, distributors and agents, industrial partners for secondary raw materials

Skills and capabilities of all Kemira employees

1,972 granted patents

Total materials purchased:
→ 2.51 million tonnes, 37.7% industrial by-products
→ Total energy purchased 4,101 GWh

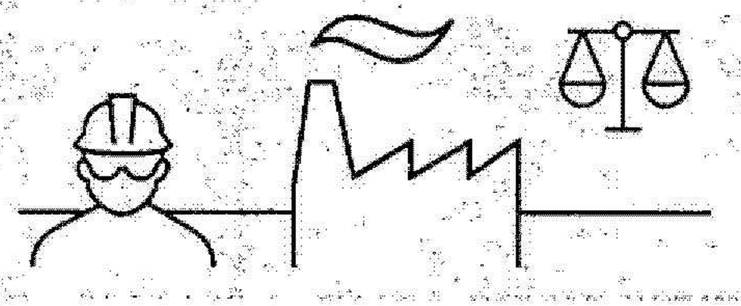


BUSINESS ACTIVITIES

Sustainable products and solutions:
→ Improve our customers' product quality and process efficiency
→ Enabling our customers to improve their water, energy and raw material efficiency
→ That are safe to use

Responsible operations and supply chain
→ Lowering costs and environmental impacts of our operations
→ Workplace safety
→ Sustainability in sourcing and supply chain management

People
→ Compelling employee experience promise
→ Purposeful work, recognition and growth opportunities
→ Leadership Principles guide leaders to Focus on growth, Collaborate to succeed and Delivering value to enable our sustainability transformation and profitable growth
→ Focus on Diversity & Inclusion to cover sense of belonging, authenticity, inclusive leadership, learn and grow for all employees



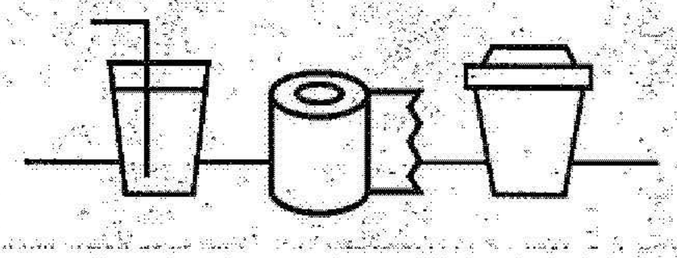
OUTPUTS

Revenue received from customers
→ EUR 2674.4 million

Services
→ Technical expertise, including application support, digital services and total chemistry management
→ Process control and monitoring

Emissions and waste
→ Scope 1 + Scope 2 GHG emissions (CO_2 eq.) = 856,000 tonnes
→ Total waste 117,044 tonnes

People
→ Compliance with Kemira's Code of Conduct
→ Engaged employees and high performing talent
→ Value based inclusive culture



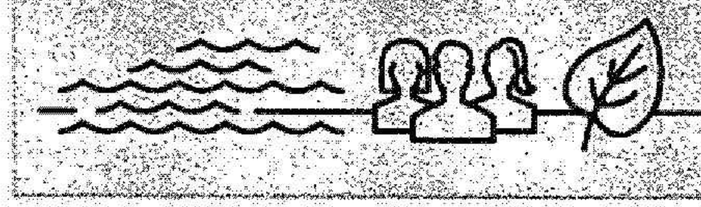
OUTCOMES

Customers
Product quality, yield optimization, and reduced environmental impacts
→ Process and energy efficiency
→ Improved water quality and regulatory compliance
→ Customer satisfaction at an all-time high: NPS 50

Society
→ Clean safe water
→ Renewable biobased economy
→ Water and energy efficient industry
→ Energy availability
→ Income taxes paid: EUR 44 million

Shareholders
→ EUR 95.3 million paid in dividends

Employees
→ Skills and competences and strong leadership for the future of work
→ Reach top 10% cross industry norm for Diversity & Inclusion by 2025



Why our partners choose Kemira

Our deep R&D and application knowhow, secure supply network and complete technology portfolio are some of the reasons why we are a safe, efficient and sustainable partner.

CHEMISTRY EXPERTISE

Our world-class chemistry expertise is supported by R&D centers in Europe, North America and Asia. We work together with customers, suppliers and research organizations to provide cutting-edge solutions that can be applied to solve customers' and societies challenges.

RELIABILITY

We are there when you need us. Our global presence and experience across water-intensive industries allows us to provide unique analysis and insight for our customers. We also provide our customers with peace-of-mind and reliability through dealing with a mature company that can respond to their needs and ensure safe operations.

SUSTAINABLE SOLUTIONS

Our R&D experience and commitment to zero harm to people and the environment mean that we are constantly developing more sustainable solutions, be it through enhancing energy efficiency, using less harmful substances or capturing micropollutants from wastewater streams. We can help partners understand and address the societal challenges of today and tomorrow.

SHARED VISION

Our focus is just as much on saving cost for customers as helping deliver a positive impact in society. As a global company we share a vision of building sustainable societies. Kemira is more than a great product company, we are the partner of choice to deliver our services, capabilities and innovation into global markets.



Kemira

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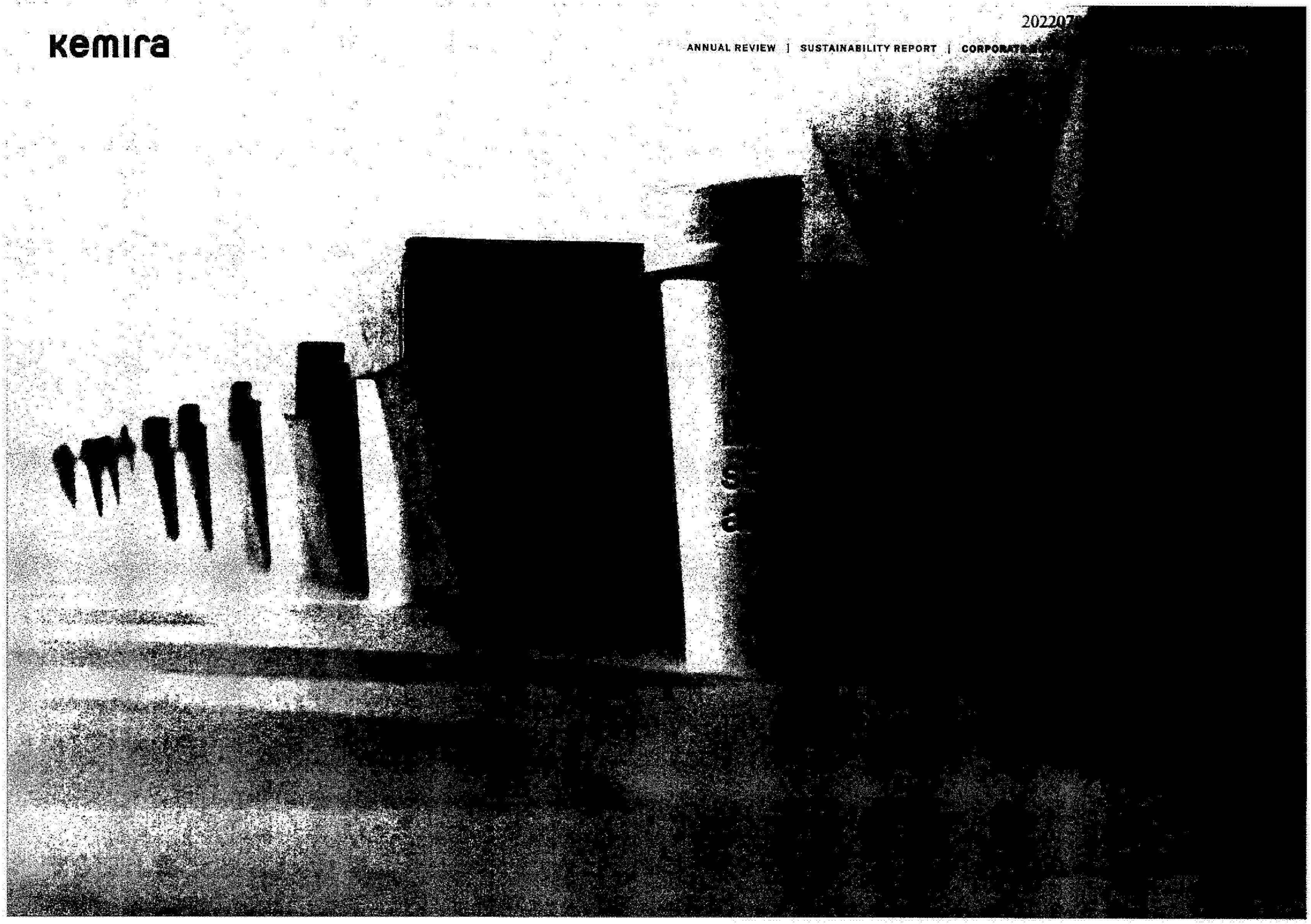
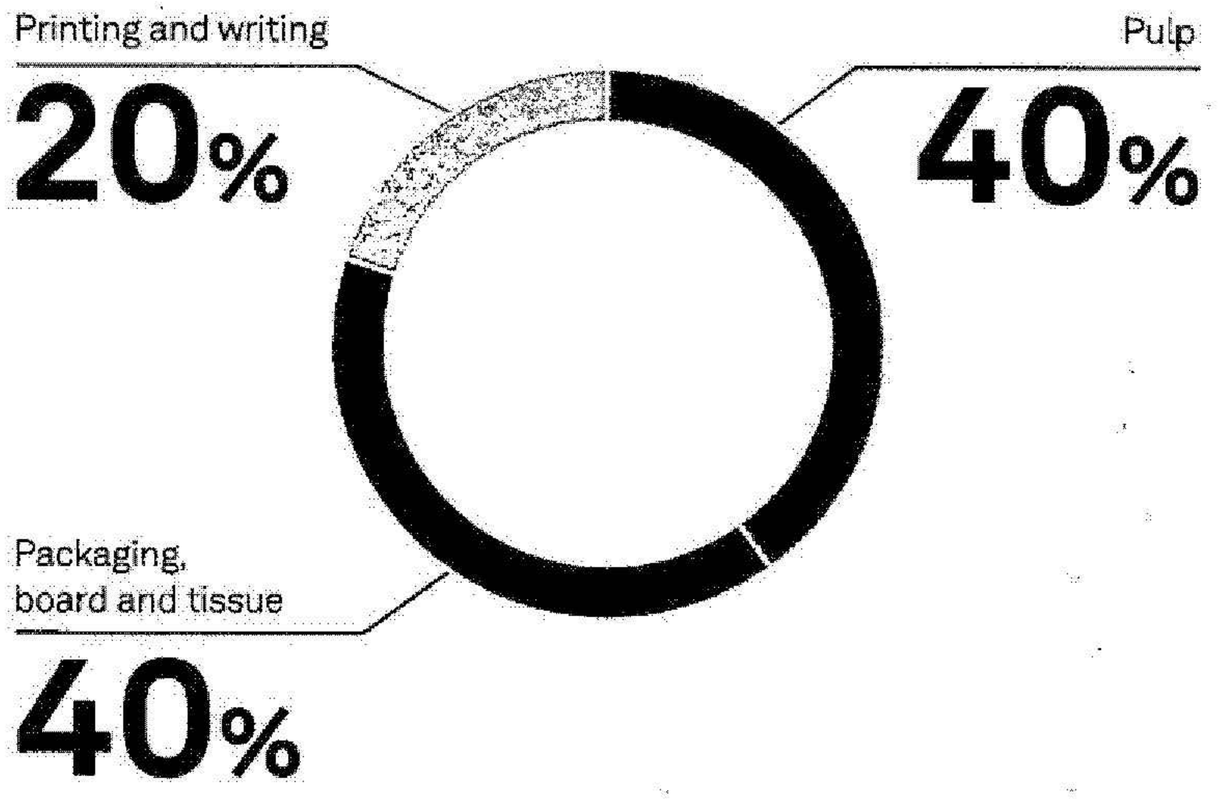
ANNUAL REVIEW | SUSTAINABILITY REPORT | CORPORATE



Paper and board are sustainable natural products based on renewable raw materials, and are utilized in a variety of applications and end uses. Pulp and paper industry is impacted by global megatrends, such as growing environmental awareness and e-commerce. We collaborate with industry-leading companies to address these trends, and the emerging requirements and opportunities. Our application expertise, latest technologies for data-driven process management, digital services and a complete chemistry portfolio help our customers enhance their sustainability, process efficiency, productivity and end-product quality.

KEMIRA PULP & PAPER CUSTOMERS





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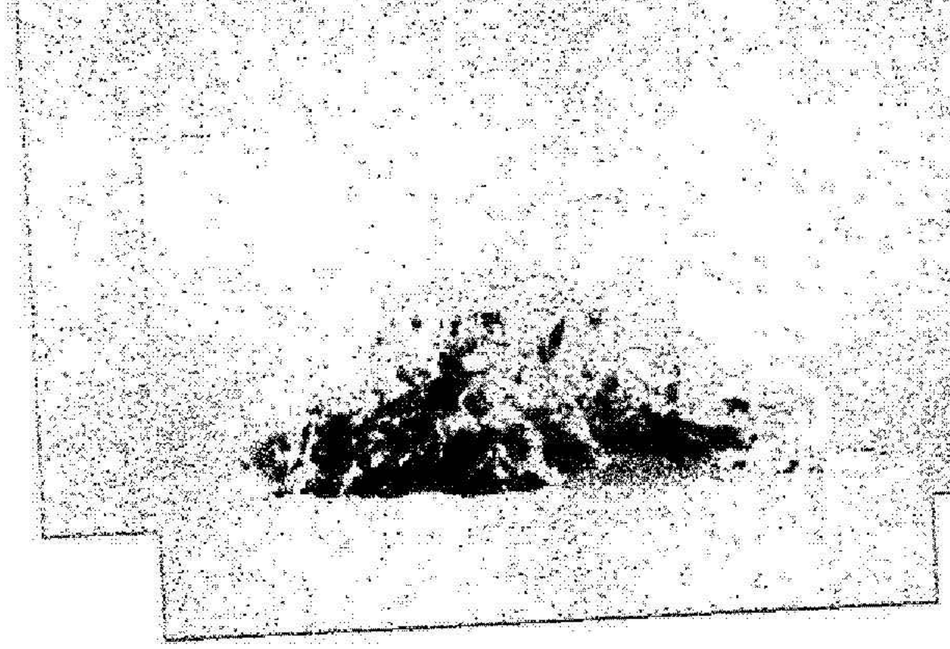
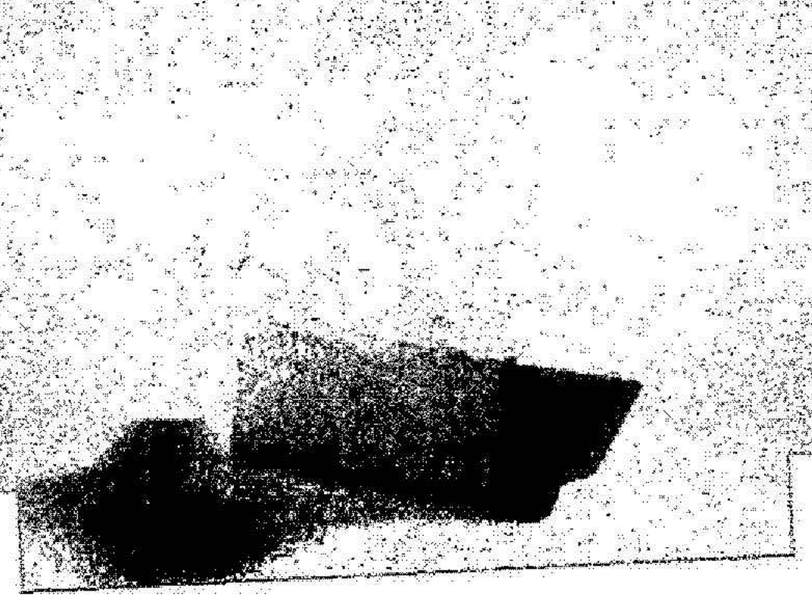
Our knowhow spans across four main customer applications



PULP

There's always room for improvement in any pulp line or bleaching operations. Kemira offers targeted chemistry and application know-how that can help squeeze more efficiency and profitability out of processes. Extensive R&D and application knowledge throughout the entire papermaking process helps customers with pulp quality and environmental performance.



TISSUE

Strength, softness and absorbency are the required properties for many tissue products. We analyze customers' processes to introduce the desired functionality into the sheet with the help of chemistry. We also help reduce costs for raw materials and energy, and help with the hygiene and cleanliness of operations.



BOARD

High quality packaging board both protects a wide variety of products and promotes brands in the best possible way. This requires properties such as strength and stiffness, lightest possible weight as well as superb printing and converting of the package. With liquid packaging and food service grades, strict standards for hygiene and cleanliness must be met. We offer industry-leading chemistry expertise to help board manufacturers achieve all these qualities.



PAPER

Great opportunities exist in the paper business to use chemistry for competitive advantage. On the cost side, this includes fiber substitution where strength aids and binders allow the use of cost effective fibers and fillers. In operations, cleaner machine water systems can increase uptime and sellable tonnes.

CASE

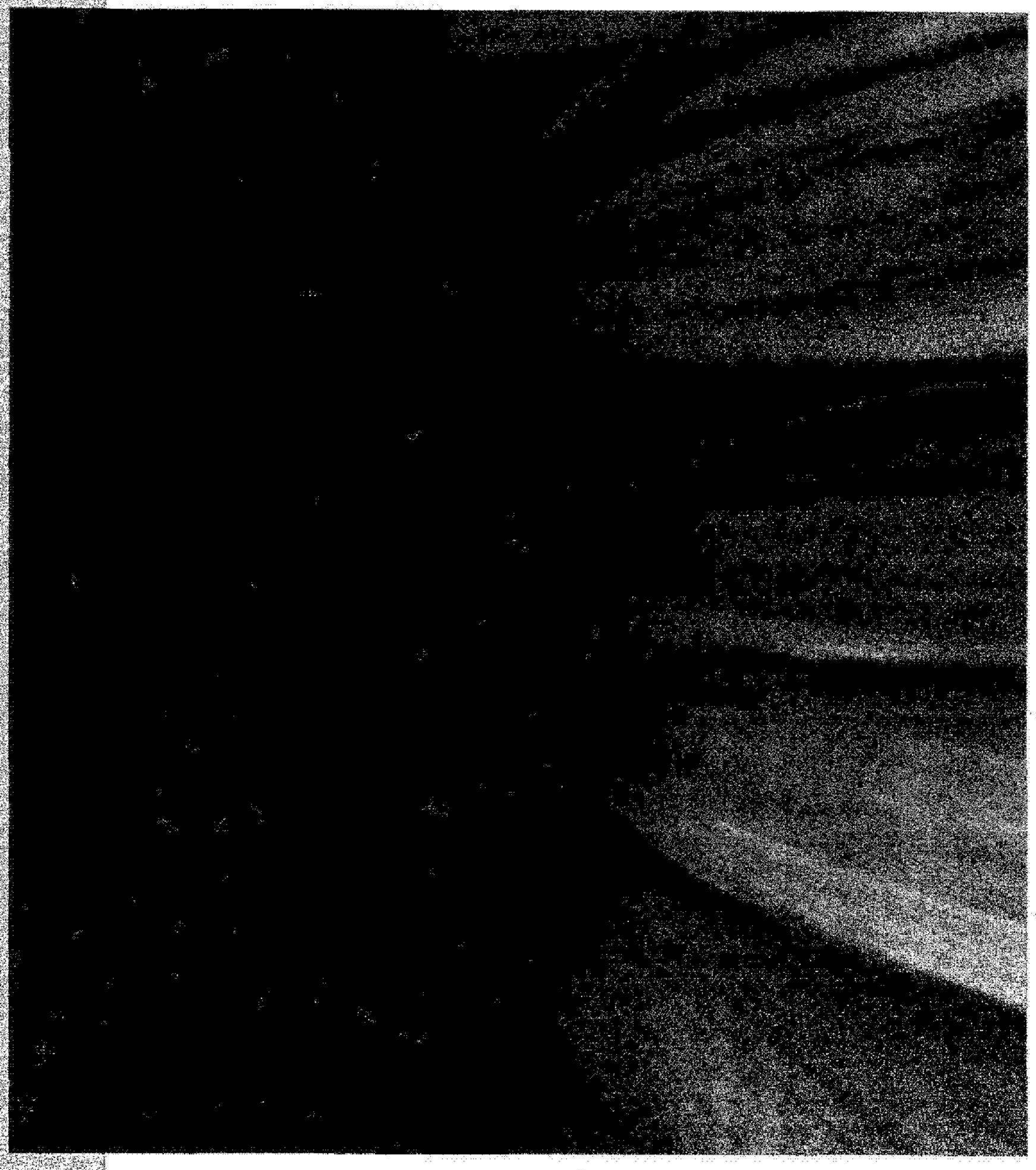
Biobased raw materials

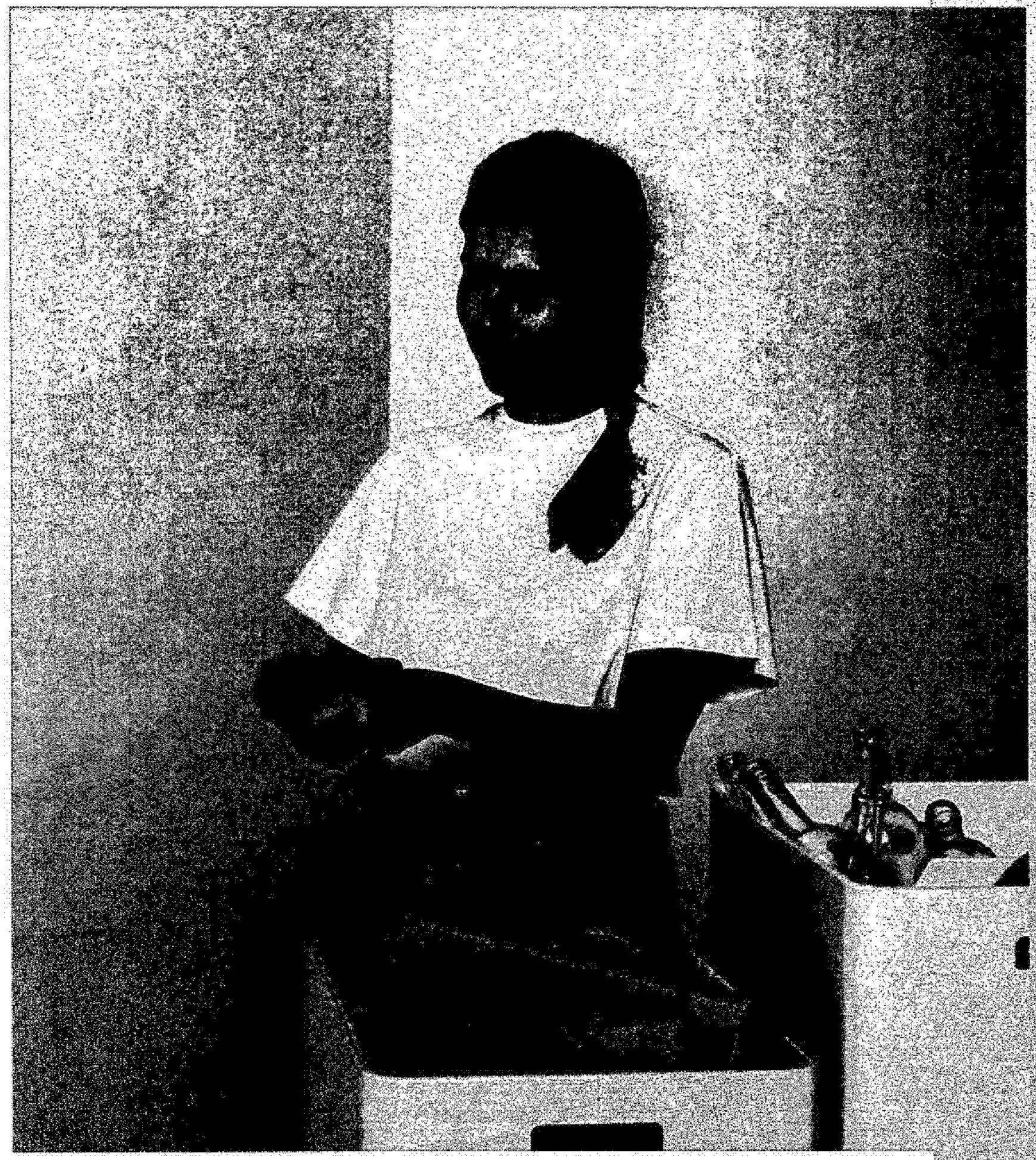
Increasing the share of renewable raw materials is an important goal for suppliers along the entire fiber-based packaging value chain.

As industry moves toward fully fossil-free, renewable products, Kemira is committed to increasing the share of biobased products in its portfolio.

Our recent innovation in internal sizing, FennoSize™ MO or the Sunflower ASA (Alkenyl succinic anhydride), replaces fossil-based sizing chemistries with a solution that is made from renewable sunflower oil.

The Sunflower ASA provides efficient hydrophobation, that is, resistance against moisture and liquid for paper and board while helping to lower the packaging material's environmental footprint.





CASE

Enabling recyclability

Demand from consumers and legislators is driving the packaging value chain to find new sustainable and safe solutions for recyclable food packaging.

Paper and board are renewable packaging materials as such, but barrier properties against grease, oil, liquid, and other substances are often achieved with e.g. extrusion polymers (PE) and fluorochemicals. The PE and fluorochemicals based barrier products are non-recyclable and can cause safety concerns in food packaging.

Kemira FennoGuard™ GO is a novel water-based dispersion barrier coating for food service paper and board. It helps reduce plastic and is a safe alternative to fluorochemicals used in food packaging. FennoGuard GO enables recyclable and repulpable end-products. The product is partially made from renewable raw material to replace fossil-based chemistries, further reducing its environmental footprint.

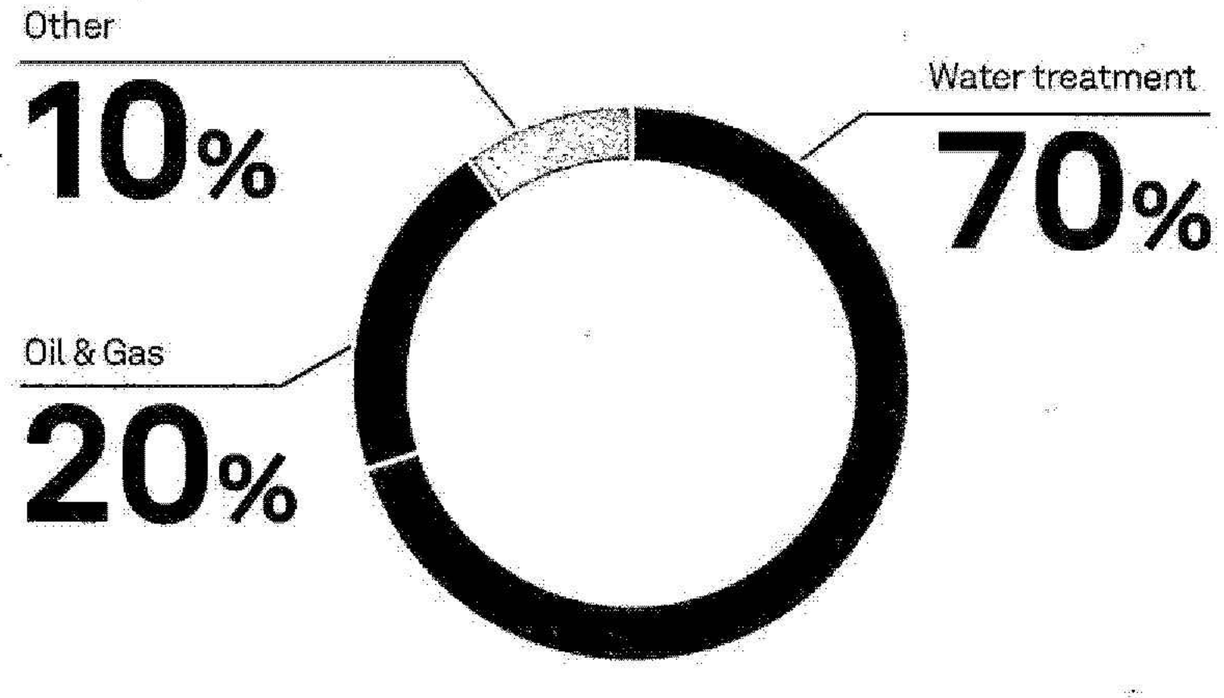


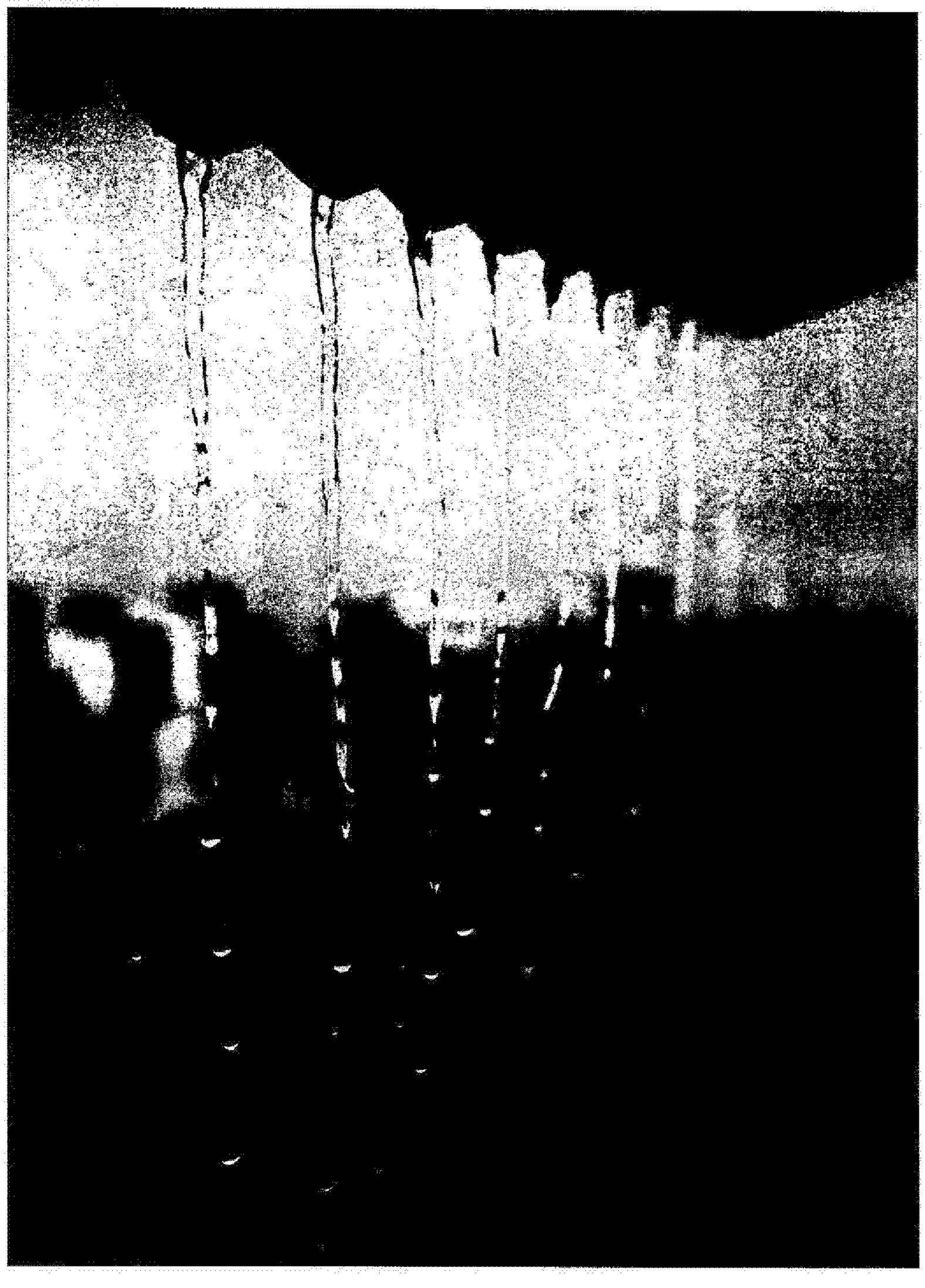
The demands on our water resources are streched all the time. The more we produce, manufacture, consume, and discard, the more water we use. How can we replenish the water cycle and manage our increasing needs?

We help municipalities and water-intensive industries with responsible water use as well as process and resource efficiency. In oil and gas applications, our chemistries enable improved yield from existing reserves and reduced water and energy use. Water treatment is an important part of all our customer industries, as raw water, process water and wastewater need to be appropriately managed, in the most cost-effective way. Sludge treatment offers opportunities for further efficiencies and for creating value from waste.

Our customers are diverse, yet they look for many of the same qualities from our products: safety, resource efficiency and solutions that are future proof for regulatory requirements driven by sustainability. We are going above and beyond to improve renewability, recyclability and biodegradability of waste and end products. Additionally, we are developing safer formulations and constantly looking for opportunities to replace substances of concern.

INDUSTRY & WATER APPLICATION SPLIT





We support municipalities and water intensive industries







WATER TREATMENT

Through our work with cities' and municipalities' water treatment plants, we help ensure citizens have access to the clean, safe, and affordable drinking water they need for a healthy life. Our chemistries also help in treating the discharged wastewater in an efficient and responsible way – ensuring it meets environmental permit standards.

INDUSTRIAL WATER

Each process water system is different and requires customized products, depending on the water quality, branch of industry and process parameters. With the right technologies, water can be reused through several cycles. We help customers optimize the total cost of process, with lower energy and water consumption, and keep equipment running reliably with less maintenance required.

OIL & GAS

Oil and gas producers are searching for ways to produce more with less. Our solutions for stimulation and chemical EOR are designed to help operators produce more with less resources. In oil sands, Kemira's water treatment expertise and know-how from oil and gas customers creates a unique market position. We add value to customers' mandatory tailings treatment process.

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CASE

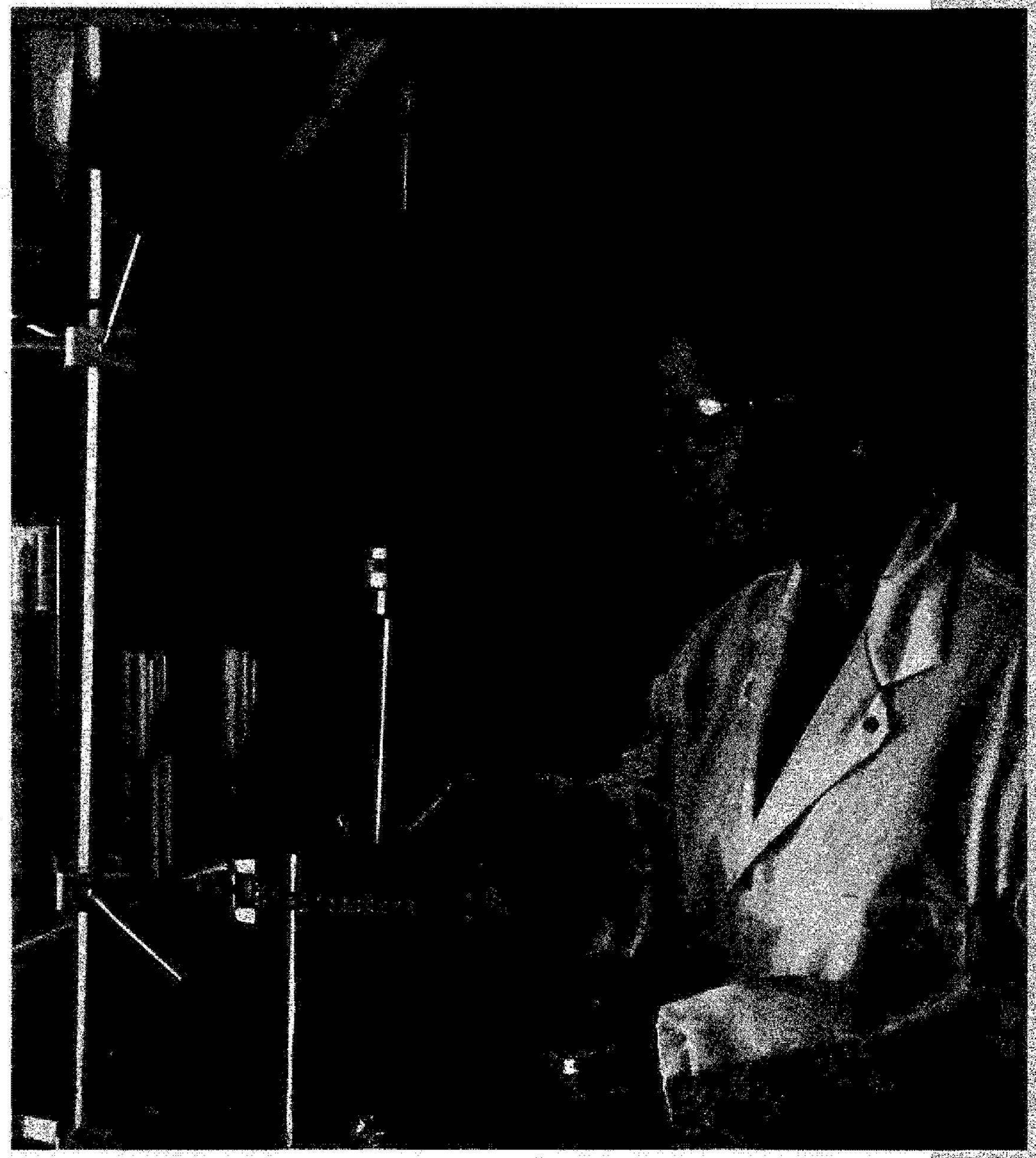
Circular economy in action

Like many other wastewater treatment plants, BIOFOS, the utility that manages wastewater for the city of Copenhagen in Denmark and its neighboring communities, has found that the sludge they generate is an ideal energy source for climate-friendly electricity, biogas, and heating for the grid. Here, Kemira's chemistry and applications expertise has helped BIOFOS tremendously.

Together, Kemira and BIOFOS implemented a configuration that allows BIOFOS to produce more biogas and process smaller sludge loads in the secondary step of the treatment process, helping to reduce the energy demand. "That is making us greener and helping with our climate efforts. It saves energy downstream. As an added benefit, it indirectly reduces costs," says Dines Thornberg, head of R&D at BIOFOS. This is a great example of circular economy in action: BIOFOS has turned a waste stream into valuable energy for their local community.



KEMIRA



CASE

Revolutionary technology

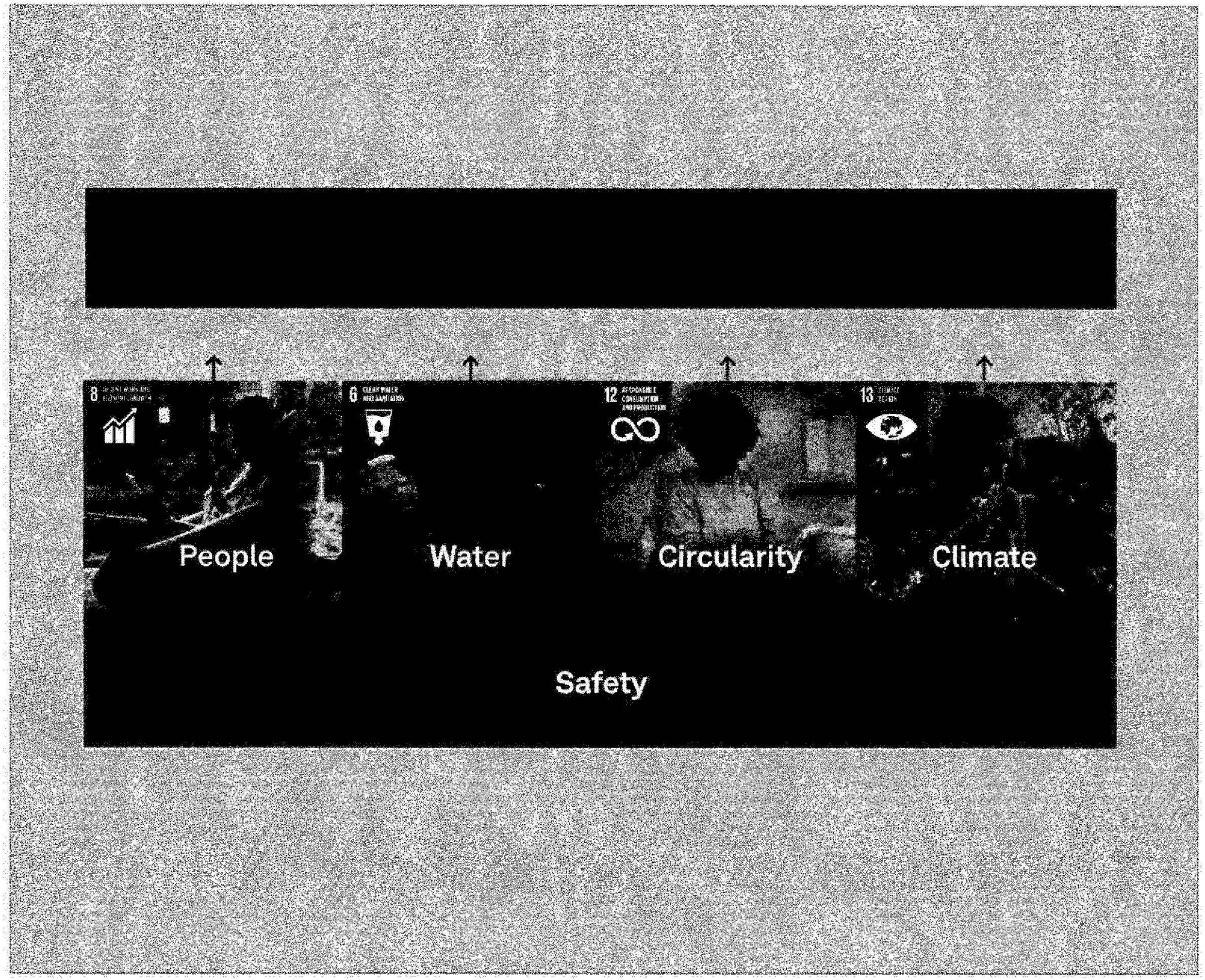
In the Canadian oil sands mining industry, there are over 1.27 billion m^3 of fluid fine tailings that are produced and put into storage. Through a Canadian government directive, oil sands operators must form and execute detailed plans to reclaim the tailings ponds. As operators strive to meet regulatory guidelines, there is a need for innovative solutions to dewater the tailings in preparation for land reclamation.

Oil sands operators in Canada are continuously improving their tailings treatment technologies. This includes the use of polymer flocculants to provide tailings dewatering and coagulants to control contaminants and release clean water. As the only manufacturer of both coagulants and flocculants, Kemira is in a unique position to support tailings remediation.

Through Joint Development Agreements and Innovation partnerships, tailings treatment technology will continue to be enhanced to help our customers and the oil sands industry meet the stringent environmental regulations in Canada. Since 2018, Kemira's water treatment chemicals and technical services have helped our customers treat over 90 million m^3 of fluid tailings.



Sustainability is at the core of our strategy



Our focus

Our sustainability work is guided by the United Nations Sustainable Development Goals (SDGs). We have chosen four SDGs that are the most relevant for Kemira; 6, 8, 12 and 13. We have also prioritized five key sustainability themes as safety, people, water, circularity and climate where we can make the biggest positive contribution, taking all aspects of sustainability; economical, social and environmental into consideration.

We at Kemira contribute to building a better every day together with our employees, our whole value chain and with the societies in which we operate in.

BALANCING OUR SUSTAINABILITY AGENDA

In 2021 Kemira expanded its committment to the UN SDGs with the addition of SDG8; Decent work and economic growth. This complemented the existing environmental commitments to SDG6, SDG12 and SDG13. It brought a bigger emphasis on social and economic sustainability, supporting our focus on safety, people and sustainable profitable growth.

Our targets

We don't want to stop at the pledge. We measure sustainability to make our transformation visible. Our long term targets describe our ambitions and we measure our progress with relevant KPIs.

PEOPLE	WATER	CIRCULARITY	CLIMATE
Our employees drive our sustainability transformation. A diverse and inclusive culture enables us all to bring our best selves to work every day.	**We believe in clean water and sanitation for all. Our actions set the example for world class water management.**	**We set sustainability at the center of every design. Our sustainable chemistry and digital solutions accelerate the circular- and bio-economies.**	**We cut our climate impact throughout our value chain. Clean energy and processes will support our ambition to go carbon neutral by 2045.**
Target: Reach top 10% cross industry norm for Diversity & Inclusion by 2025	**Target*:** Continuously improve freshwater use intensity	**Targets:** Reduce disposed production waste intensity by 15% by 2030 Biobased products >500 million EUR revenue by 2030	**Target:** Scope 1&2 emissions -30% by 2030

SAFETY

We prove that a safe business is a sustainable business. Safety of people, products and processes is the foundation of everything we do.

Target: TRIF 1.5 by 2025 and 1.1 by 2030

*New Water target for 2022, see **Water section** for details

Our Commitment and Ratings

Besides using the UN SDGs as guidance for our sustainability work Kemira is,

- Committed to the United Nations Global Compact 10 principles, to respect and promote human rights, implement decent work practices, reduce our environmental impact, and combat corruption.
- Working by the United Nations Guiding Principles which require companies to conduct due diligence to protect and respect human rights.
- Reporting according to Responsible Care®, a voluntary commitment by the global chemical industry to drive continuous improvement and achieve excellence in environmental, health and safety and security performance.

ECOVADIS PLATINUM LEVEL ACHIEVED

Kemira was awarded with the Platinum level rating by the global sustainability rating platform EcoVadis. A total score of 73 out of 100 puts Kemira among the top 1% of companies in the world. This is the first time Kemira is awarded with the Platinum level, having receiving the Gold-rating already for the previous 5 years. This achievement reflects Kemira's long-standing commitment to sustainability and transparency.

BROADENING OUR CDP REPORTING

Kemira received a C score in CDP Climate 2021 rankings. Despite our reporting developments and decrease in absolute and intensity GHG emissions, our score dropped from B due to new increased and stricter reporting requirements. Kemira has been reporting the CDP Climate since 2010 and has been scored since 2012. We are committed to improving our management systems and increasing measures to mitigate climate change.

Kemira received a B score in the CDP Water 2021 rankings. This is the first year that we are reporting the full CDP Water questionnaire and also the first year that we received a scoring. Kemira has also published a new water target, aiming to improve the CDP Water scoring to leadership level and joined the CEO Water Mandate, to solidify our commitment to world class water management.

KEMIRA RATINGS COMPARED TO THE CHEMICAL INDUSTRY AVERAGE: ▲ ABOVE ● EQUAL TO ▼ BELOW

ecovadis 2021	CDP WATER	CDP CLIMATE	ISS ESG	SUSTAINALYTICS	MSCI
▲	●	▼	▲	▲	▲

kemira

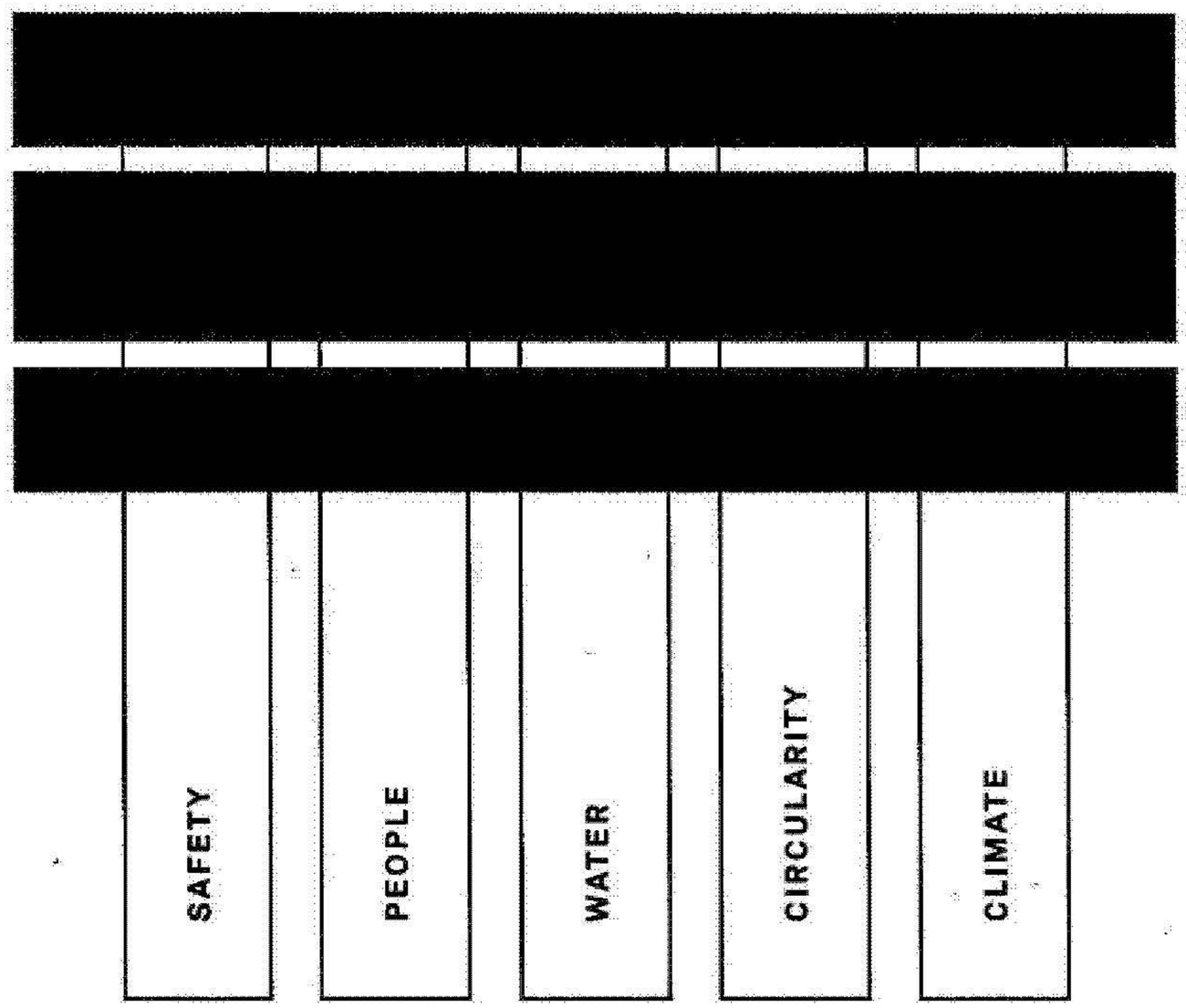
HIGHLIGHTED ACHIEVEMENTS IN 2021

- New sustainability governance model was implemented and key sustainabilty competences strenghtened in business segments and functions.
- EU Taxonomy reporting structure was developed. Kemira has very little eligible revenue, operating expenses and capital expenditures under the first two environmental climate related objectives as Kemira produces specialty chemicals which are not emission-intensive.
- Initiation of an internal biodiversity assessment and revision of all sites for biodiversity-related risks associated with operations. Results reported in accordance with the GRI 304 Standard.
- Materiality study performed together with stakeholders to crystallize our sustainability priorities.
- Human Rights Assessment updated.

THE NEXT BIG THING IN PROGRESS

- EU Taxonomy reporting process development continues with upcoming delegated acts relating to water, pollution, circular economy and biodiversity.
- Human rights best practices development based on the suggestions from our most recent assessment.
- Improve our capabilities in climate mitigation related issues, especially relating to scope 3 emissions.
- Further development of our sustainability governance.

NEW SUSTAINABILITY GOVERNANCE TO GO FROM STRATEGY TO INCREASED ACTION



Safety

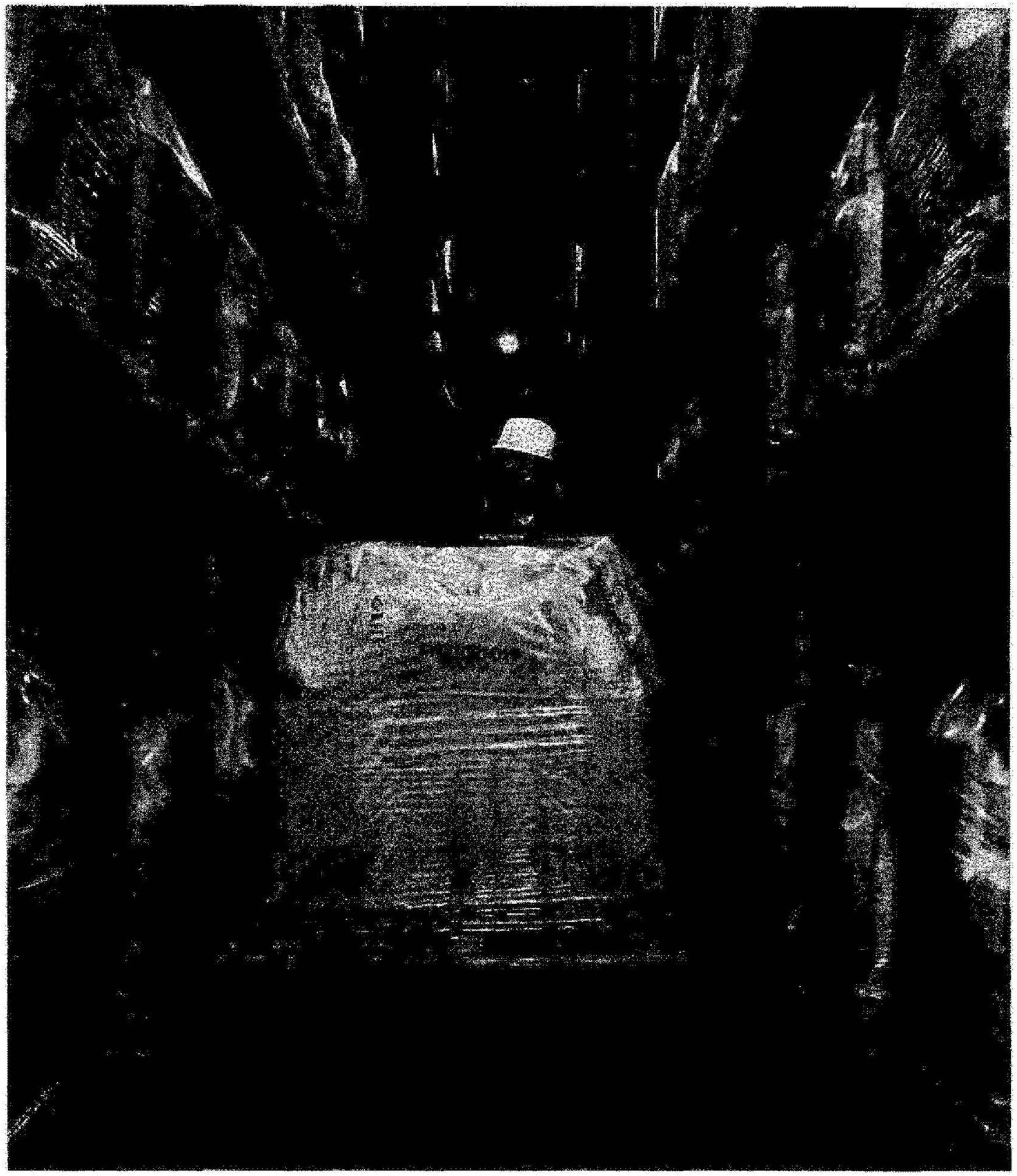
We are committed to safe, responsible operations and the reduction of our environmental impact. We ensure safe production and use of our products throughout their lifecycle.

Safety is central to everything we do. We must operate our manufacturing sites safely, transport high quality products to customers on time and without incidents, ensure our customers understand how to handle our products and finally, that the end consumer product is safe to use.

We want to meet rigorous requirements to avoid potential harm to people and the environment. Therefore, safety has always been fundamental to Kemira and our improved performance over time demonstrates our capabilities and continuous improvement focus.

Target:
TRIF*: 1.5
by 2025 and
1.1 by 2030

*Total recordable injury frequency per million hours, Kemira + contractors, year-to-date



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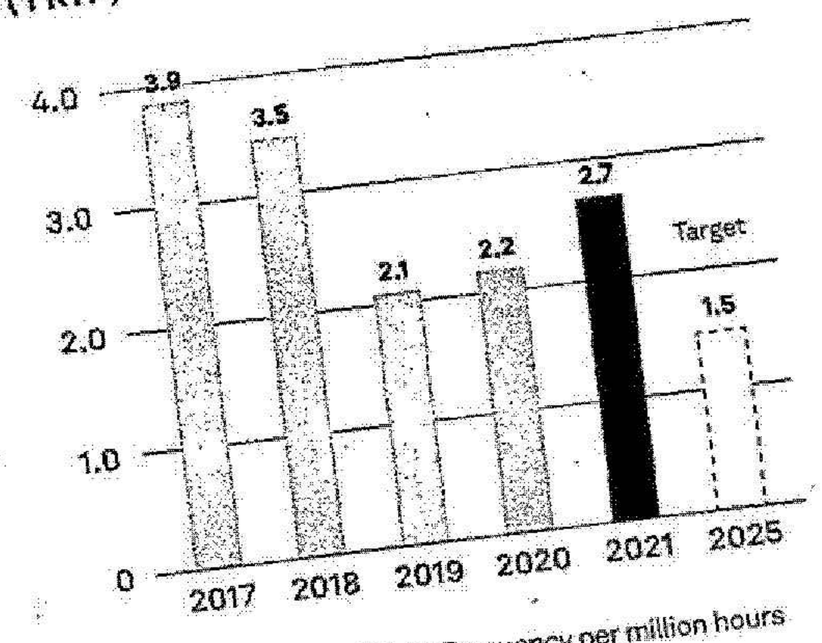
Continuous improvement is in our DNA. We implement and share best practices and innovations across our organization.

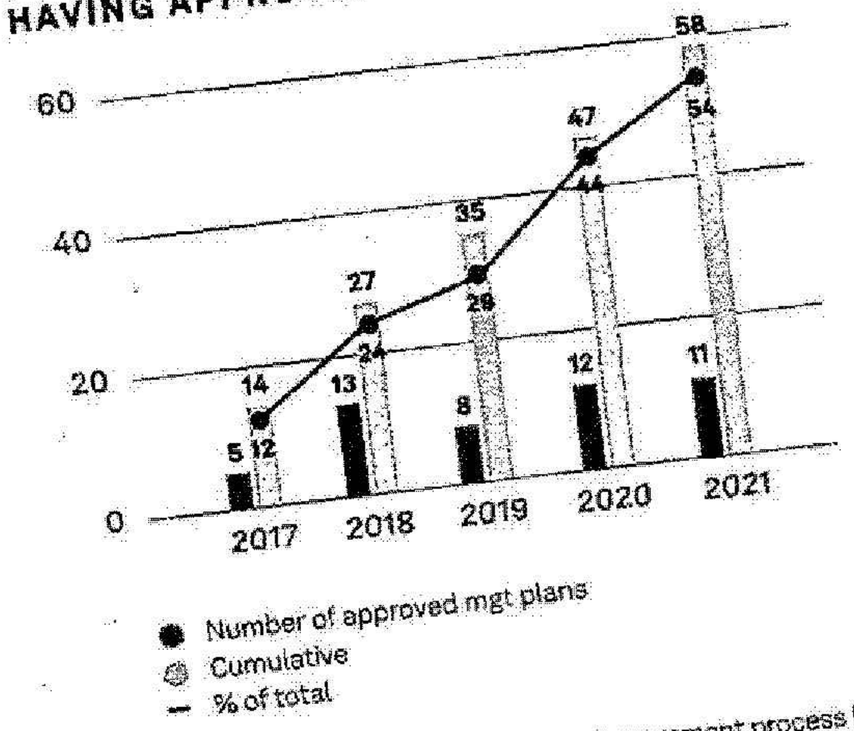
- Total number of TRIs in 2021 was 36 and TRIF was 2.7
- Number of reported hazardous conditions/activities was 20,601. Kemira employees performed over 337,000 individual BBS (Behavioral Based Safety) observations included in 15,118 surveys
- 88 percent of Kemira employees agree that Safety is a top priority (MyVoices employee survey 2021)
- Priority Substance management plans enable us to act proactively to changing requirements and stakeholder expectations. Our priority substance management plan aims to define the risks associated to each substance, examine options for managing these specific risks and formulate action plans for the preferred options. These options to mitigate risks may include (e.g. substitution, phase-out or limiting exposure).

OUR SAFETY PERFORMANCE (TRIF)



TRIF: Total Recordable Injury Frequency per million hours

NUMBER OF PRIORITY SUBSTANCES HAVING APPROVED MANAGEMENT PLAN



As a part of Kemira's priority substance management process Priority Substance List includes substances found in Kemira's portfolio either as raw materials or final products in a concentration >0.1%. It includes listed substances in SVHC, REACH annex XVII, CoRAP, California Proposition 65, SIN, OSPAR, ECHA and EPA Endocrine disruptors, TSCA 2014 work plan and Conflict mineral lists examine options for managing these specific risks, and formulate action plans for the preferred options. These options to mitigate risks may include (e.g. substitution, phase-out or limiting exposure).

HIGHLIGHTED ACHIEVEMENTS IN 2021

- Safety Performance: We did not reach out 2021 TRIF goal of 1.9. To achieve our targets going forward we need to continuously drive behavioral and safety awareness in all our operations.
- Contractor Safety: Due to an increased number of contractor incidents in H1 we initiated a global project to review, upgrade and harmonize our contractor qualification & work execution processes. In October we reached five consecutive months without contractor incidents. We had only one contractor incident in H2.
- Competence Management: We developed an advanced learning program to ensure competencies of critical health and safety standards and practices for manufacturing operations.
- Process Safety: Major changes to further improve our Process Safety Management. Three focus areas covering process safety information, pre-startup safety reviews and process risk assessment, now featuring tighter integration with Engineering & Technology practices.
- UK and South Korean REACH related activities with deadlines during 2021 were achieved.



THE NEXT BIG THING IN PROGRESS

- Sustainability & EHSQ tools digitalization project was started in 2021. We will also refresh our existing Behavioral Based Safety program (BBS). We believe that BBS is the key in improving our ways of working.
- Regulatory initiatives from EU Chemicals Strategy for Sustainability (CLP, REACH)

CASE

Secret of Safety Performance in APAC

Safety first is central to everything we do every day in Kemira APAC, which has maintained Total Recordable Injury rates below a world class level of 2 since 2016. This is not based on sheer luck, but rather driven by top management commitment and engagement of all layers of the work force in continuous safety improvement.

The continuous safety improvement is evident in the improved My Pulse Safety Culture Survey score, which increased from 66 in 2016 to 98 in 2020. Also the safety maturity of employees has clearly increased and employees are looking out for each other's safety. At the end of September 3538 Hazard Activities and Conditions cases were recorded with 3362 cases approved and closed by line managers in discussions with reporting employees, followed up in monthly team discussions.

All of APAC manufacturing sites have fully implemented Behavioral Based Safety since the start of 2019 and observers are meeting the target of three tours per month. There has been no injuries to contractors in APAC since 2015, and this is because contractors are integrated in Kemira's safety process and closely supervised whilst they are on Kemira sites.

We want employees and contractors working for us to go home safe and healthy, every day.

kemira

People

At Kemira, our employees drive our sustainability transformation. A diverse team and inclusive culture enables us all to bring our best selves to work every day. Our global Kemira team builds the future of our company together with our customers and other stakeholders.



Reach top
10%
cross industry norm
for Diversity & Inclusion
by 2025

Kemira is a global company and our people come from diverse backgrounds. Diversity is one of the greatest contributors to Kemira's success and we believe that solving tomorrow's challenges is only possible when we bring together our diverse knowledge, experience and passion for what we do. A truly diverse workforce and an inclusive workplace create a company culture that embraces collaboration and innovation and makes us the preferred choice for our customers.

Our purpose and strategy explain the why and what we do. To enable us to reach our ambitions we also need to focus on how we lead Kemira. Our new leadership principles Focus on growth, Collaborate to succeed and Deliver Value guide how all our leaders bring our purpose alive every day in driving profitable growth and sustainability transformation. The principles cover the elements of the future, our people and strategy execution reflecting employees, external stakeholders and the society at large.

We want every employee to feel they can genuinely be themselves at work and contribute in meaningful ways to the organization. By treating everyone with respect, holding ourselves to the highest standards of ethics and acting with integrity, we have a positive impact in our value chain and in the communities around us. We aspire to build a team and culture that celebrates Kemira employee's unique and diverse characteristics and perspectives and fosters a strong sense of belonging.

Kemira

HIGHLIGHTED ACHIEVEMENTS IN 2021

- Our commitment to diversity and inclusion was crystallized in a long-term target to reach the top 10% cross-industry norm for diversity and inclusion by 2025. This is measured by the perception of diversity and inclusion of our employees.
- We committed to the UN Sustainable Development Goal 8 "decent work and economic growth" and conducted a human rights assessment during Q3 2021. According to the assessment, Kemira meets on group level the EU Taxonomy minimum safeguards of most recognized human rights guidelines and guiding principles.
- We co-created our Leadership Principles Focus on growth, Collaborate to succeed and Deliver Value with a diverse team of employees. These new leadership principles define how we will transform the way of Kemira leaders will lead to enable our sustainability transformation for profitable growth.
- We completed a review of Kemira values which remain valid and unchanged.
- Our future competencies program of our global commercial and manufacturing teams continued successfully. Program includes also customized learning solutions on strategic topics to cover Sustainability, Digital, and EHSQ.

THE NEXT BIG THING IN PROGRESS

- We will continue the implementation of our Leadership principles by building new leadership behaviors into people processes and embed them into everyday leadership habits.
- We will continue the implementation of our hybrid work model. We gather employee feedback through our continuous employee listening tools.
- We will continue to monitor and assess the possible gender pay gap, and create a future remediation plan where and if needed.

CASE

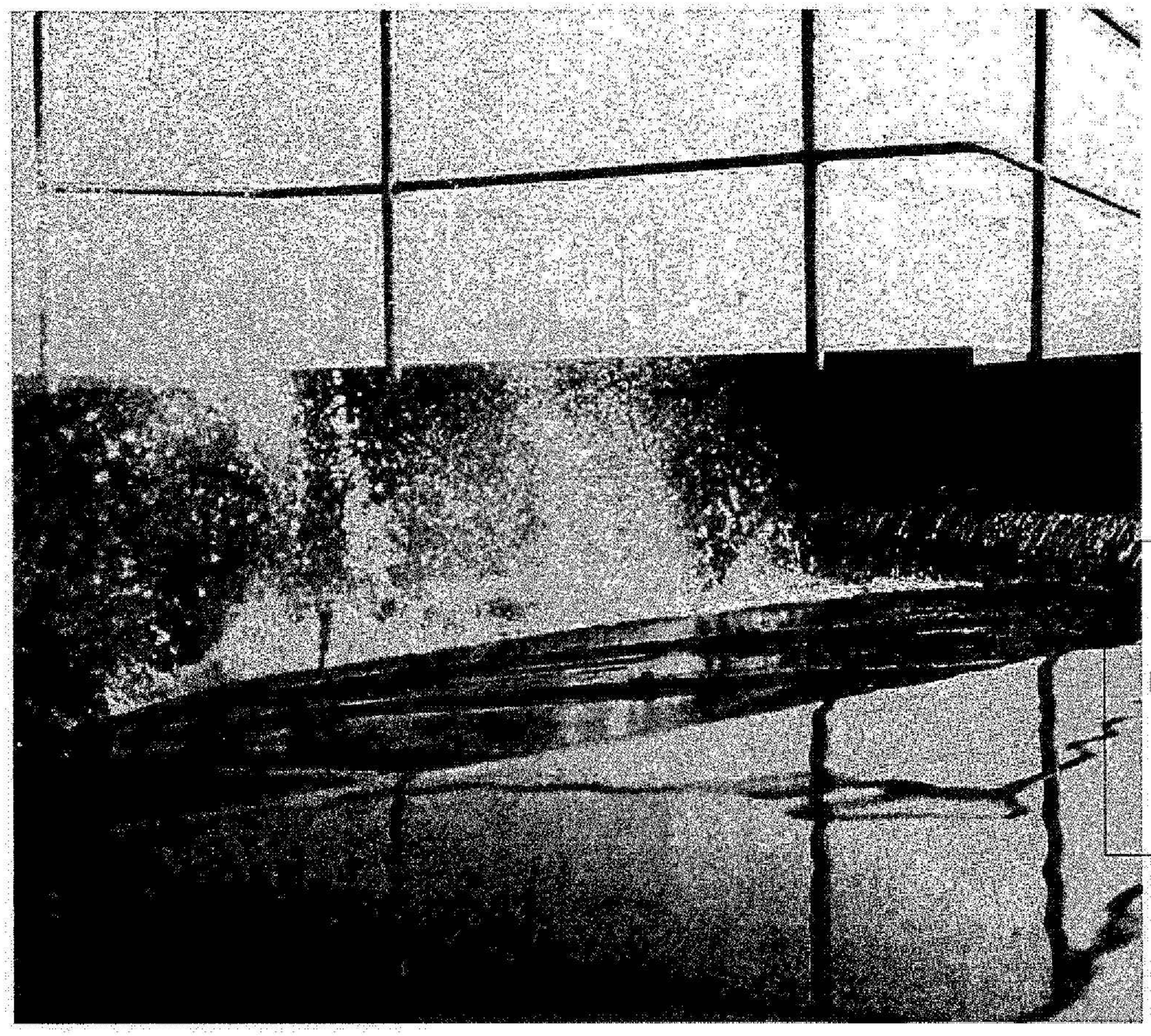
Hybrid work model brings productivity

Integrating both office and remote working into a new hybrid work model is the way forward after the pandemic. This allows eligible employees to work up to half the time from another location, while Kemira sites continue to be the main work environment. A welcome change to employees in China, where working remotely was not in the toolkit before the COVID-19 restrictions. Kemira Asia was awarded Asia's Best Employer Brand Awards 2021 by Employer Branding Institute, in collaboration with World HRD Congress. One of the evaluation criteria for the award was employee engagement strategy and the implementation of hybrid work model has helped to drive employee engagement by offering more flexibility and productivity in the way we work.



Water

Access to clean, safe water is essential for all life on Earth. Water covers 71% of the Earth's surface, which might seem that water is plentiful on our blue planet, but in reality we only have access to a small fraction of this colossal volume. This is because just 2.5% of it is fresh water of which 1.7% is locked up in glaciers and ice caps.



Population growth, urbanization, and the increase in water consumption mean that the natural water cycle can no longer manage water pollution by itself. Currently, more than 80% of the wastewater produced globally is discharged back into rivers and seas without any treatment, causing vast challenges to people and the environment.

Companies that provide water-treatment solutions play a critical role in rebalancing the water cycle. Working across academia, industry, municipalities, and drinking and wastewater treatment plants, we can reduce the strain on life below water, life on land, and societies.

Kemira serves water-intensive industries, and our solutions help make more clean, safe water available to everyone. We call this our water handprint.

OUR WATER FOOTPRINT – OWN OPERATIONS

Kemira's water target for 2021 has been to continuously improve freshwater use intensity. Beginning in 2022, Kemira will continue with a more comprehensive target to improve our water management to Leadership level based on CDP Water Security scoring methodology by 2025. Freshwater use intensity is defined as m^3 freshwater withdrawn minus use of cooling water, rainwater and produced water per ton of production. Baseline is 2019 at 1.5 m^3 per metric tonnes of production. Freshwater use intensity has decreased by approximately 10% from the baseline year 2019 due to process improvements and a decrease in the proportion of water intensive products. Kemira answered to CDP's Water Security full questionnaire for the first time in 2021 and achieved score B (Management level).

Continuously **improve freshwater use** intensity	Improve our water management to **Leadership level** based on CDP Water Security scoring methodology by 2025.

Kemira

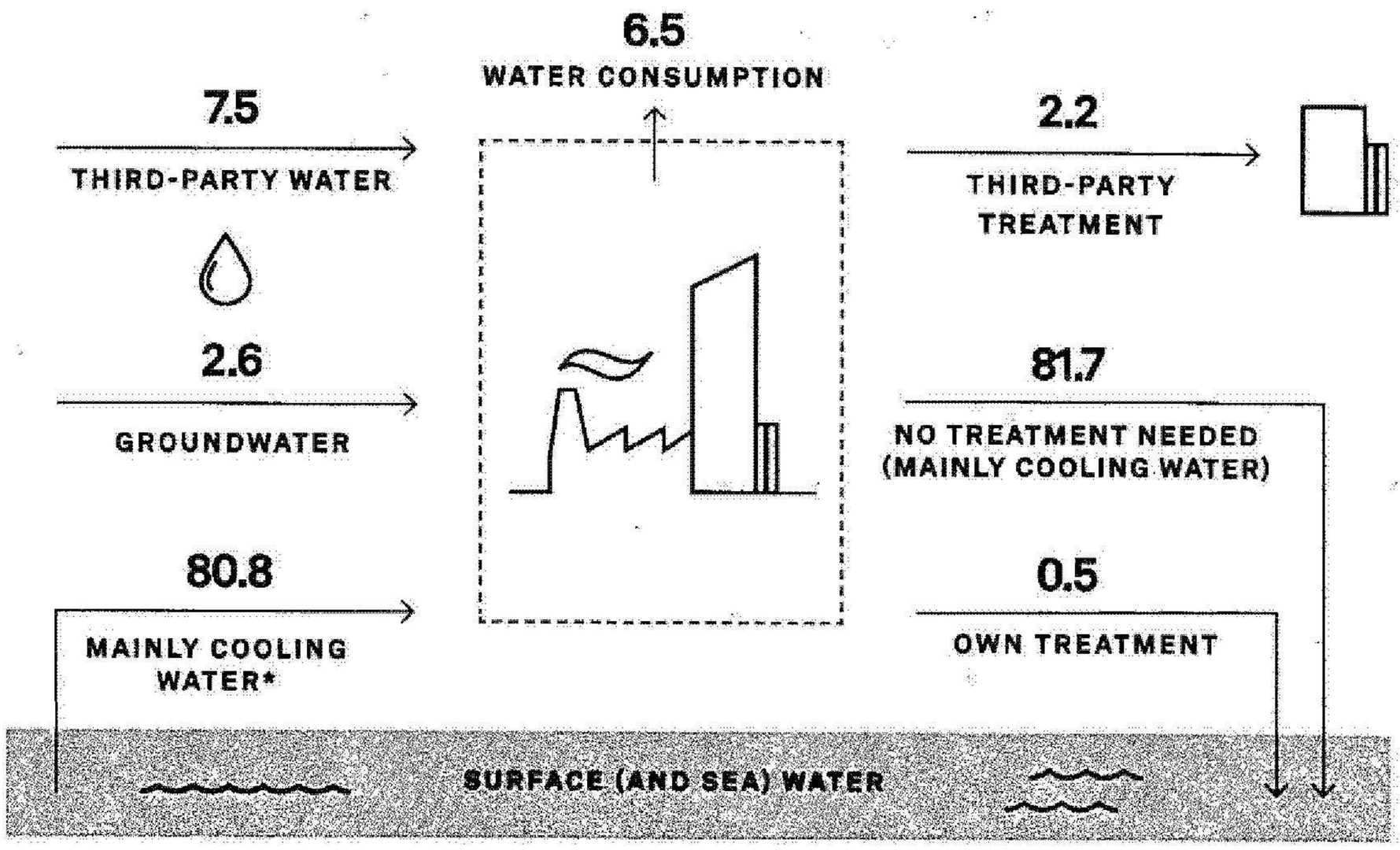
HIGHLIGHTED ACHIEVEMENTS IN 2021

- We answered to CDP's Water Security full questionnaire for the first time in 2021 and achieved score B (Management level).
- We developed a new target to ensure sustainable water management in our manufacturing operations by 2025.
- We updated our water risk assessment, based on our audited EHSQ risk assessment process, WRI's Aqueduct tool and WWF Water Risk Filter for operational risks at manufacturing sites located in areas of water stress. Kemira has 9 sites (14% of the sites) located within water stressed areas, that are areas in which more than 40% of available water is used by industry, household and agriculture. Water-related risks with potential to have significant (>1 M€) financial or strategic impact in site's business (3 to 6 years into the future) have been identified at some manufacturing sites. Site specific water risk assessments including more detailed assessment of the risk potential will be performed in spring 2022 at these sites and results will be reported in Kemira's 2022 CDP Water Security disclosure.
- We signed the CEO Water Mandate. By signing the mandate, Kemira commits to advancing water stewardship and to reporting on progress annually.

THE NEXT BIG THING IN PROGRESS

- Addressing opportunities for improvement identified in our CDP Water Security disclosure. The most significant areas of improvement include water risk identified in indirect operations, elaborated water policy, water goals and guidelines for action at the corporate level.
- Continuous development of our Water Management Program to ensure continuation of progress.
- Extending coverage of Life Cycle Assessments in our product portfolio to better understand water related impacts in our whole value chain.

OVERFLOW OF WATERFLOWS (MILLION m³)



*99% cooling water and 1% process water.

CASE

Partnering with Kemira

Our customer Veolia Česká Republika keeps Prague's water pristine and serves more than 2 million local customers. In addition to contributing to shared goals like the SDGs, Veolia has also had to focus on a very local issue of phosphorous removal from Prague's wastewater due to tightening environmental requirements. Kemira's advanced water treatment solution, KemConnect™ P, has been instrumental in providing Veolia with world-class chemistry together with smart technologies for automated and optimized phosphorous removal. The solution offers specific control over chemistry consumption and gives the team better control of the entire process. The result is better environmental performance at a lower cost: Veolia has been able to reduce the cost of phosphorus removal by almost 34%.

Kemira

Circularity

We are committed to enable a biobased circular economy, adopt circular business practices across our own operations and to improve our customers' energy, water, waste and material efficiency.

Kemira is innovating chemical solutions to solve problems for our customers in water-intensive industries and society. Growing global consumption increases pressure on our planet and resources. To decouple growth from consumption we need to adopt a circular mindset where we design out waste and increase resource productivity.

We can reduce unnecessary costs by reducing the amount of waste we generate. At the same time, sourcing industrial by-products has the potential to both reduce our raw material costs and alleviate pressure on natural resources.

As the fundamental drivers for sustainability shape our market, our products will increasingly be based on renewable (eg. biobased) and circular building blocks. More sustainable product portfolio combined with development of new digital solutions will support our customers' increased recyclability and biodegradability needs and enhance their water and waste management.

Reduce disposed production waste intensity by **15%** to 3.9 by 2030	By 2030, achieve **>EUR 500M** revenue from biobased products



Kemira's targets are to achieve over EUR 500 million revenue from our biobased products by 2030 and and reduce disposed production waste intensity by 15% by 2030. In the target we measure disposed production waste. It includes both hazardous and non-hazardous waste. It excludes waste that is recovered, e.g. via recycling, reuse and incineration with energy recovery. It is expressed as an intensity, metric tons of waste per thousand metric tons of production. Baseline is 2019 at 4.6 and target is 3.9 by 2030.

We are establishing a biobased roadmap and strategy to accelerate sustainability transformation and will gradually move from fossil-based carbon to renewable carbon in our own product portfolio. By 2030 over EUR 500 million revenue will come from our biobased products. We will also continue to improve our own use of recycled raw materials. Currently 38% of the total raw materials used are of recycled origin. In 2021, disposed production waste intensity was at level of 4.3 that is approximately 10% less than the baseline level of 4.6.

HIGHLIGHTED ACHIEVEMENTS IN 2021

- Development work with Kemira's external biobased partnerships progressed and technical proof-of-concept proceeded according to plan in 2021. Technologies are renewably sourced, biodegrable polyhydroxyalkanoate (PHA) which is an alternative for fossil-based barrier materials and an unique engineered polysaccharide technology platform for various applications across our product lines. First sales were made with biodegradable coating materials based on PHA in Q2 2021 with good customer interest in the product.
- For all new R&D projects we carry out sustainability assessment which is re-evaluated at each project gate. New offering is compared against benchmarked or existing solutions both from Kemira's and customer's point of view. In 2021 the average score of the assessments across our portfolio increased to 7.3 from 5.9 (2020).
- In 2021 Kemira selected ISCC PLUS certificationsystem for the mass-balance accreditation. Kemira produces certified biobasedproducts in ISCC accredited manufacturing facilities in Italy and the UK.
- Implementation of new GRI 306 Waste 2020 standard in our sustainability reporting process.
- Significant 45% reduction of total hazardous waste mostly due to cease of operations at the most hazardous waste intensive manufacturing site.
- Launching product line specific waste management groups to develop waste reduction programs.
- We improved our sustainability reporting, assessment and data analytics process by implementing a new state-of-the art sustainability reporting tool.

THE NEXT BIG THING IN PROGRESS

- Implementation of our biobased strategy and establishing supply-chain capabilities in biobased portfolio.
- Co-development and commercialization of new biobased solutions with partners.
- Continue development of sustainable offerings and digital solutions to accelerate circular- and bioeconomy targets.
- Wastewater contains a lot of energy that is captured and converted into biogas. To maximize recovery of the energy into reuse, Kemira has launched a new Kemconnect PT automated chemical dosing system for wastewater treatment plants. KemConnect PT enhances the performance of the pre-treatment process, to gain significantly more energy in form of biogas, while reducing the energy needed for downstream biological processes.
- Extending coverage of Life Cycle Assessments in our product portfolio to understand better waste related impacts in our whole value chain.

CASE

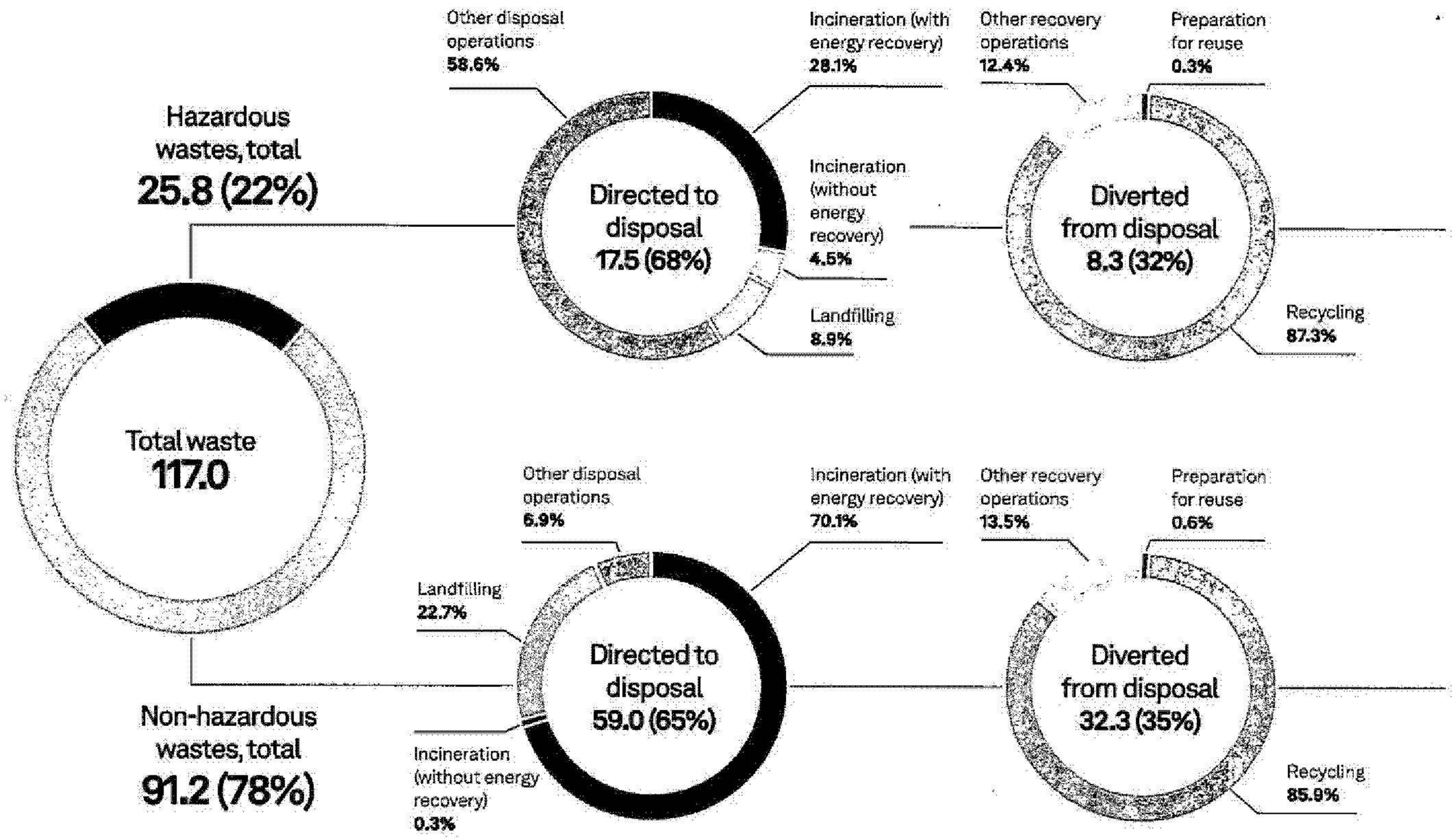
Landfill mining for sustainable raw materials

Kemira plant in Pori, Finland produces products for drinking water and wastewater treatment. The primary raw material in the process (ferrous sulphate) was supplied by a titanium dioxide plant in the same industrial park. However, the supplier's operations were discontinued following a fire in 2017.

In response to the raw material supply interruption, Kemira identified a closed, on-site landfill as an alternate supply of ferrous sulphate. The end-of-waste criteria of the EU Waste Framework Directive was applied in the environmental permitting process to facilitate the reuse of a former waste. Since the landfill mining started, Kemira has utilized approximately 600,000 tonnes of ferric sulphate from the landfill as a raw material and there is additional capacity available for use, putting some 30 years of accumulated industrial by-product back into our circular economy.

While the water treatment industry is adept at using industrial waste streams as raw materials for sourcing metal compounds, this shows that there is much more potential available. As the best waste streams have been harnessed (e.g. scrap iron and spent pickle liquor, for drinking and wastewater treatment chemicals), many other waste streams are literally going to waste. Kemira actively continues exploring potential raw materials available in landfills across industries such as mining in order to reduce pressure on virgin raw materials.

TOTAL WASTE BY TYPE AND DISPOSAL METHOD (OFFSITE)
1,000 TONNES



Kemira

Climate

Climate change is a defining challenge for our time. Successful climate action brings multiple co-benefits beyond simply greenhouse gas (GHG) emission reductions. Kemira fully supports the ambitions of the Paris Agreement.



Ambition to be carbon neutral by 2045

30% reduction
of GHG emissions by 2030 (Scope 1 + Scope 2)*

***Measured as % change in combined Scope 1 and Scope 2 greenhouse gas emissions compared to a 2018 baseline of 930 kt CO_2e.**

We mitigate our climate impacts by preventing or reducing the greenhouse gas emissions (GHG) into the atmosphere. Our customers are sustainability leaders in their respective industrial sectors. Kemira plays a role in their value chains, and we are expected to demonstrate the same strong commitment to climate change issues.

Emerging climate-related regulatory requirements are further driving Kemira's climate ambitions and obligations. We position our business for success by:

- Sourcing zero-emissions energy and implementing energy efficiency projects at our sites
- Accelerating the transition to renewable and circular raw materials
- Transparent and regular reporting and disclosure

EVALUATING OUR PERFORMANCE AND MEASURING OUR PROGRESS

Kemira established short and long term targets for climate. By 2030 we aim to reduce combined Scope 1 and Scope 2 GHG emissions by 30% compared to a 2018 baseline of 930k t CO_2e. By 2045, Kemira's ambition is to be carbon neutral by 2045.

In 2021, Kemira's combined Scope 1 and Scope 2 emissions were 856k tonnes. Based on our linear reduction factor from 2018 to 2030, our 2021 emissions were projected to be 860k tonnes. Kemira's year over year emissions reductions are in line with our progress toward achieving our 2030 target. Kemira's increased use of renewable and zero-carbon energy sources such as nuclear energy facilitated our decrease in emissions while increasing our production by more than 11% compared to 2020.

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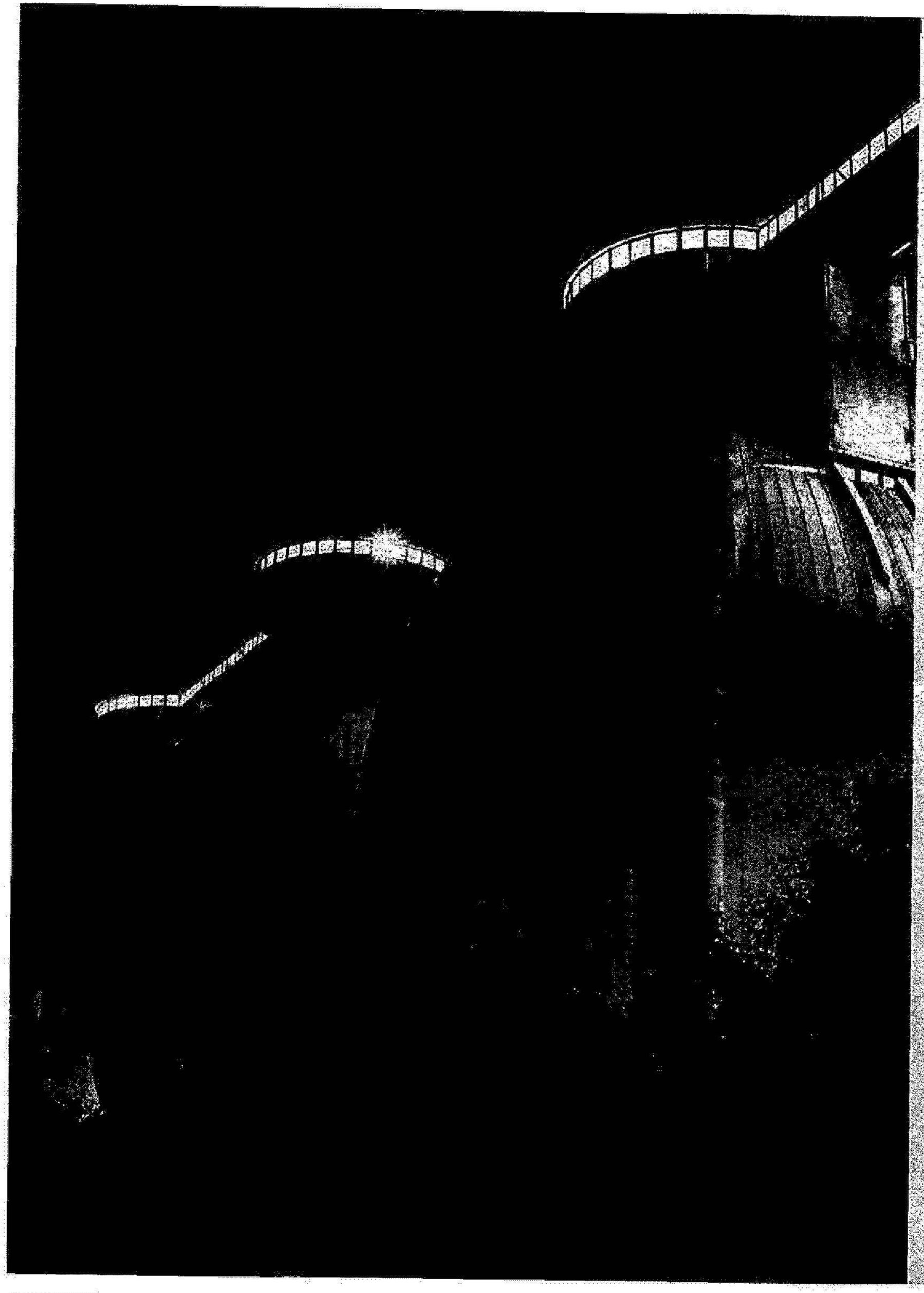


HIGHLIGHTED ACHIEVEMENTS IN 2021

Sourcing zero-carbon energy:

- Kemira and Statkraft have signed a new 10-year power purchase agreement to deliver 43.8 GWh of renewable wind energy per year to Kemira's Finnish sites. The first renewable energy purchase agreement between Kemira and Statkraft was signed in 2020.
- Our Oulu FI and San Giorgio IT sites entered into contracts with their local suppliers to provide 100% zero-carbon energy to the sites.

Energy efficiency:

- During 2021 energy savings were achieved through the implementation of 41 projects across Kemira's operations, saving a total of 28,228 MWh of energy (equivalent to EUR 1.2 million savings).
- Our Prevov CZ site implemented various energy reduction projects in recent years that reduced Scope 2 CO_2e absolute and intensity emissions over 50% compared to 2005. The site achieved the energy and emissions reductions while increasing production by 25% during this period.

THE NEXT BIG THING IN PROGRESS

- Improving our Scope 3 emissions estimates and reducing these emissions through increasing our value chain engagement and updating and expanding the scope of our product life-cycle assessments.
- Using local and EU regulations to identify opportunities to reduce Scope 1 emissions at our Helsingborg site (our largest Scope 1 emissions site).
- Continuing to invest in on-site generation and use of renewable energy at our manufacturing sites. In 2022, our Mojave, California USA manufacturing site will contract to install a 927 kW photovoltaic solar system and purchase the generated electricity to power the site. The project will generate renewable energy credits (RECs) owned by Kemira.
- The OL3 nuclear plant unit's regular electricity production starts in Finland during the summer of 2022. Kemira will through its ownership receive emission free energy from OL3. This will increase the share of emission free electricity in Kemira's electricity consumption in Finland from 43% to 76%.

CASE

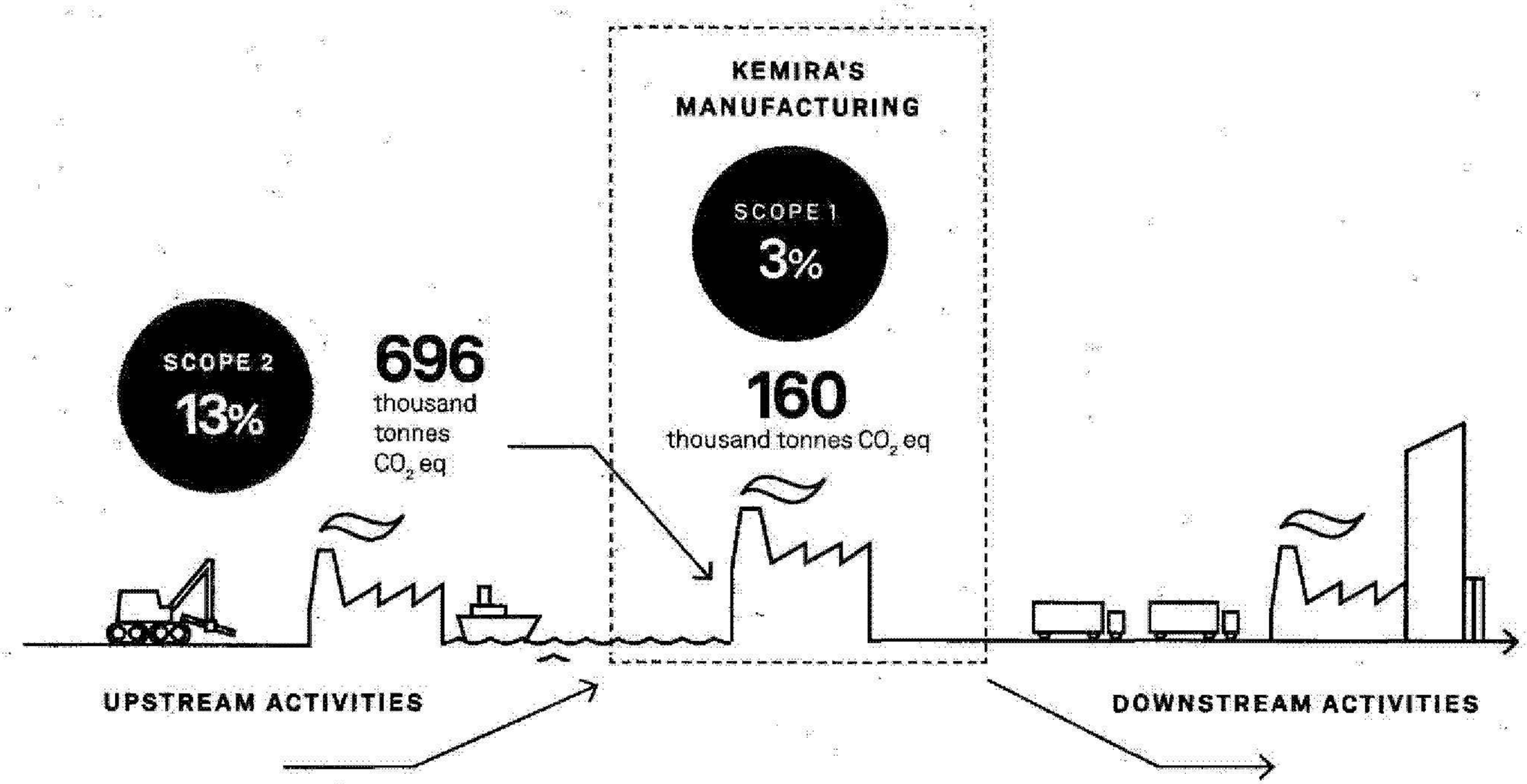
Household waste turns to fuel

Biogas is a renewable energy source that can help minimize human impact on the environment. By using organic waste and convert it to bio-methane and then use it as fuel, it supports the circular economy and reduces carbon emissions.

Sweden has long been a frontrunner when it comes to sustainability, so perhaps it's no surprise that Tekniska verken of the city of Linköping was early to the biogas game back in the 1990s. Their compressed biogas (CBG) has fueled Linköping's public buses for decades. Recently, they expanded their offering to include liquefied biogas (LBG) so that even more sectors can tap into this powerful renewable resource. Biogas not only makes excellent use of a waste product, it helps reduce CO_2 emissions. Those are two good reasons Kemira is proud to have partnered with Tekniska verken over the past 20 years, optimizing their production with our chemistry.

We also believe biogas has a big role to play going forward, especially when it comes to achieving the United Nations Sustainable Development Goals (SDGs) by 2030. It's well aligned with SDG 13 on climate action. It's also a great example of SDG 12, which is about responsible consumption and production.

GREENHOUSE GAS EMISSIONS



SCOPE 3 Purchased goods and services
69%

3,550
thousand tonnes CO_2 eq

SCOPE 3 Upstream transportation and distribution
6%

310
thousand tonnes CO_2 eq

SCOPE 3 Downstream transportation and distribution
3%

160
thousand tonnes CO_2 eq

SCOPE 3 Other
6%

321
thousand tonnes CO_2 eq

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Future of water management

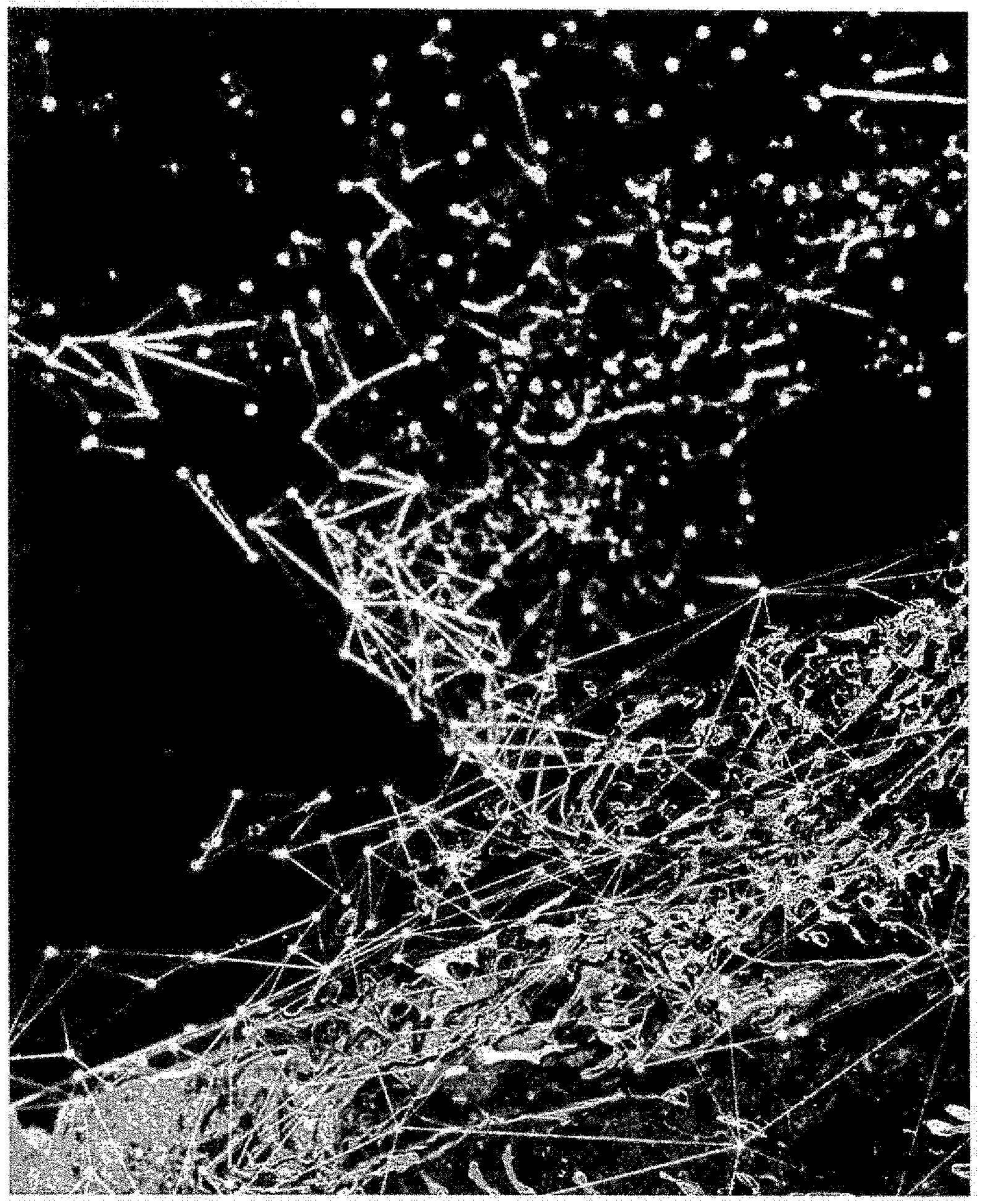
We need water to survive. Yet there are significant challenges to our world's water supply. How can we rise to the occasion and make sure that no one goes without? To understand what the future of water management might hold, we invited an influential panel of experts to discuss different challenges, opportunities and possible paths ahead. As an outcome of these discussions, four very different scenarios for the year 2040 were drafted and published in a report titled "Water management 2040 – future scenarios".

VISIONARY THINKING FOR SUSTAINABLE WATER MANAGEMENT

The scenarios in the report look forward into 2040. International institutions, governments, local authorities, water utilities and water-intensive industries all have important roles to play in ensuring a safe, sufficient water supply. So do water treatment solutions providers like Kemira. The decisions we make today about water access, quality, technologies for water treatment and water reuse impact the future living conditions of communities around the world.

Seventeen water experts from around the world, including representatives from industry, academia and finance shared their insights, which were processed in phases using a systematic inductive scenario development method. As part of the process, in addition to the scenario development some key uncertainties were discussed: what is the availability of water and who controls it? How will consumer behaviour impact water management? How about the effects of digitalization? What will the status of climate action and sustainability development be? How will regulation change? The scenarios are a way of exploring these kinds of questions and the possible outcomes of developments that are already recognizable today.

Explore the scenarios **in detail**.



KEMIRA



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Our Management Approach

Introduction

GRI 103-2: The management approach and its components
GRI 103-3: Evaluation of the management approach

Sustainability is now a strategic choice at Kemira. Our sustainability work takes into consideration all aspects of sustainability; environmental, social and economical. Our work is guided by the United Nations Sustainable Development Goals (SDGs) and thus contribute to the global sustainability agenda. Our commitments to the Code of Conduct, internationally defined sustainability principles, and stakeholder expectations, as seen in our strategy, corporate policies and integrated management system, shows that sustainability is at the center of our business.

INTERNATIONAL SUSTAINABILITY PRINCIPLES, COMMITMENTS AND RATINGS

The United Nations Global Compact has been signed by Kemira Oyj as our commitment to its 10 principles, to respect and promote human rights, implement decent work practices, reduce our environmental impact and combat corruption. Furthermore Kemira works by the **United Nations Guiding Principles** which require companies to conduct due diligence to protect and respect human rights.

Responsible Care® is a voluntary commitment by the global chemical industry to drive continuous improvement and achieve excellence in environmental, health and safety and security performance. Through Responsible Care®, global chemical manufacturers commit to pursue an ethic of safe chemicals management and performance excellence worldwide. This helps to enhance public confidence and trust in the industry's dedication to safely manage chemicals throughout their lifecycle while ensuring that chemistry can continue to contribute to a healthier environment, improved living standards and a better quality of life for all. Kemira is committed to operate according to the principles of Responsible Care®.

External rating surveys. Our stakeholders are interested in our sustainability performance and thus Kemira is actively reporting to external rating offices. The most important reporting platforms in 2021 have been CDP Climate Change and CDP Water Security and EcoVadis and from investor platforms ISS ESG, Sustainalytics and MSCI. In the majority of the surveys, Kemira is an average or above average performer compared to chemical industry peers.

Materiality

STAKEHOLDER EXPECTATIONS

Our key stakeholders include our customers, shareholders, lenders, employees and suppliers. Other relevant stakeholder groups include the local communities where Kemira operates, regulatory bodies, trade associations, decision makers and opinion leaders.

- A significant share of our investors practice ESG Investing (Environmental, Social, and Governance). These ESG investor signatories represent 33% of the ownership of Kemira shares.
- Many of our customers are sustainability leaders in their respective industrial sectors. Kemira plays a role in their value chains, and we are expected to demonstrate the same strong commitment to sustainable business as our customers.
- Our employees see sustainable business conduct as an important factor behind their engagement with Kemira, according to our employee surveys.

Our approach to stakeholder engagement includes activities ranging from information sharing to active dialogue and collaboration on issues of mutual interest. We regularly review our stakeholders expectations and potential concerns. The latest materiality assessment was performed in 2021.

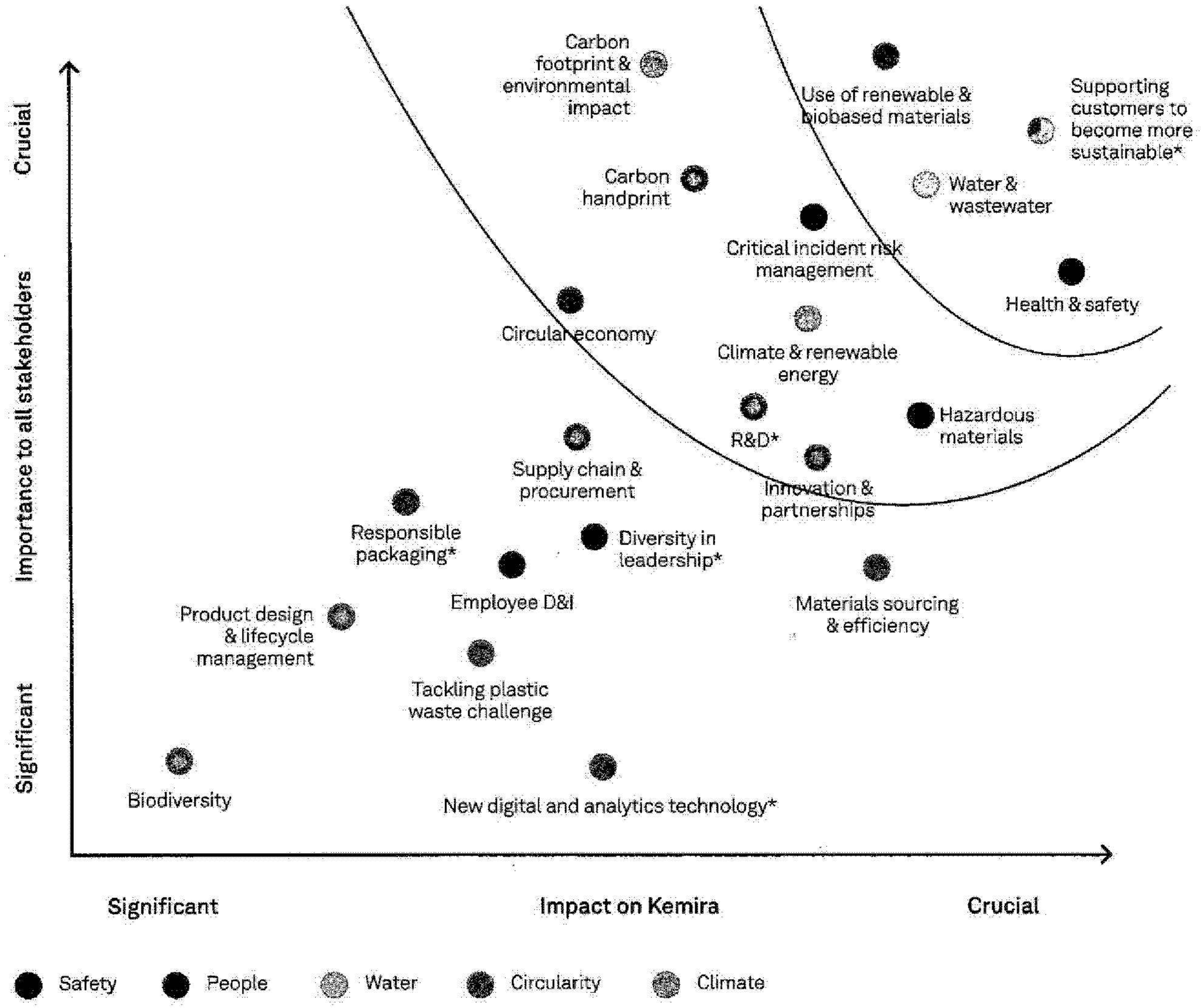
STAKEHOLDER ENGAGEMENT

GRI 102-40 List of stakeholder groups
GRI 102-42 Identifying and selecting stakeholders
GRI 102-43 Approach to stakeholder engagement
GRI 102-44 Key topics and concerns raised

List of stakeholder groups	Identifying and selecting stakeholders	Approach to stakeholder engagement	Key topics and concerns raised	Kemira's response
	(Why is this stakeholder important to us as a company?)	(How do we normally engage with this stakeholder?)	(What are their key concerns? 3 year horizon)	(What are our key mechanisms that help us address these concerns?)
Customers	• Our customers are Kemira's main source of value creation • Our customers' expectations and needs drive our product portfolio and offerings	• Direct customer contacts • Customer webinars, events and newsletters • Customer satisfaction measure • Key drivers in customer satisfaction are the technical service, speed and proactivity, as well as our ability to offer new and sustainable solutions	• Communication to customers about sustainability of products and Kemira's supply chain • Transparency and reporting of sustainability efforts: performance and targets (incl. data collection and management), traceability of products • Offer support to customers to become more sustainable, innovative products and services, partnerships • Reliable production flow • Value beyond the tangible products eg. services	• R&D project portfolio management • Sustainability development in Product Development (e.g. circularity, which means an increase in recycled and renewable solutions in product portfolio) • Product lifecycle management for all aspects of product safety • Improve understanding of customer needs beyond current offerings • Sustainability performance data submitted on request
Shareholders and lenders	• Share of our value creation through dividends and interest payments • Expectations for return on investment, good corporate governance practices and sustainability performance	• Regulatory financial communications: financial reporting and stock exchange communication • Regular events like roadshows, conference calls and one-to-one meetings	• Overall management approach to sustainability issues - sustainability strategy and concrete measures and efforts supporting the agenda (such as science-based targets, transparency, transforming business portfolio) • Sustainable profitability and long-term returns • Governance (diversity & inclusion) • Controversy management	• Transparent and regular reporting and disclosure according to the GRI standard • Participation in CDP Climate Change and CDP Water Security programs • Responding to rating company and investor questionnaires

List of stakeholder groups	Identifying and selecting stakeholders	Approach to stakeholder engagement	Key topics and concerns raised	Kemira's responses
Employees	• Our employees' engagement, safety and well-being, integrity and competencies impact our value creation, operational and sustainability performance	• Performance management and development process • Regular Town hall meetings globally • Co-operation with employee representatives • Continuous listening and employee feedback • Ethics and Compliance hotline and trainings • Local wellbeing programs in all regions	• Understanding Kemira's sustainability strategy and future direction • Clearer and concrete proof of actions in the sustainability agenda, especially in mitigating climate change and carbon dioxide (CO2) reductions (targets, progress, KPIs) • Ways of developing and maintaining competences for the future and mitigating cost increases (inflation, energy scarcity) • Product innovations • Company and management diversity • Health & safety (incl. well-being; mental health)	• Strategy and purpose communication and action planning • Performance and development discussions • Future leadership principles implementation • Systematic competence development • Team engagements on sustainability • Rewarding and recognition
Suppliers	• Share of our value creation through payments for goods and services • Suppliers' sustainability performance may impact our operational efficiency and business risks	• Working closely with key suppliers to help them meet our sustainability performance expectations, and take corrective actions if needed	• Safety remains important • Environmental impacts needs to be managed properly • Labor & human rights issues • Ethics in value chain • Sustainable products and services	• Suppliers are asked to commit to Kemira Code of Conduct for Business Partners • Supplier sustainability assessments and audits • Sourcing sustainable raw materials
Local communities	• Share of our value creation in the form of tax payments and employment • Safety and environmental performance may impact the acceptance of our local presence	• Dialogue and collaboration with local communities at major sites to ensure we understand and address their concerns • Collaboration with schools and universities	• Exposure to safety and environmental risks • Employment opportunities	• Environmental aspects and impacts and EHSQ risk assessments • Regular and open dialogue with local communities (e.g. open-door days)
Regulatory bodies, trade associations, decision makers and opinion leaders	• These stakeholders have the capability to influence or make political decisions on legislation with an impact on our operations and business	• Memberships in industrial trade associations • Subject-specific dialogue with regulatory bodies on national and EU level	• Resource efficiency • Chemicals safety • Climate change mitigation	• Actively participating in dialogue on EU directive proposals on sustainability and the chemical industry • Participation in CEFIC • Participation in the Chemical Industry Federation of Finland

MATERIALITY MATRIX BASED ON KEMIRA'S 5 SUSTAINABILITY PILLARS



* Emerging topics in the assessment are defined as topics that are considered emerging in industry reports, but peers and customers had not yet taken those into consideration

MATERIALITY MATRIX

In 2021 Kemira performed a materiality assessment to verify and update most important material sustainability topics. The previous update to the assessment was done in 2019. The assessment process was built on identification, evaluation, prioritization and eventually integration of most material sustainability topics. The process started with identification of most relevant environmental, social and economical topics that were compiled to a list. Utilizing the list, stakeholder feedback was collected through questionnaires and in-depth interviews with pre-identified key internal and external stakeholders, involving investors, customers and Kemira employees and top management. Based on the results from the assessment process, 21 most important sustainability topics were identified.

The result of the analysis is visualized in a materiality matrix. The topics have been evaluated on a scale from significant to crucial, which highlights that only important topics have been taken into consideration. The topics were then linked to the Kemira sustainability pillars (safety, people, circularity, water, climate), to showcase how the topics link to the existing focus areas.

The results of the analysis reflect well Kemira's business operations as well as strategic ambitions in advancing sustainability. Water, renewable raw materials, health and safety, climate and circular economy are all subjects, that are identified as having importance by external stakeholders as well as by Kemira. These are also subjects where Kemira can have an impact and towards which Kemira has already developed long term targets. The results from this assessment will be further analyzed in 2022 and used to further develop Kemira's sustainability focus areas.

Sustainability governance

SUSTAINABILITY PRIORITIES

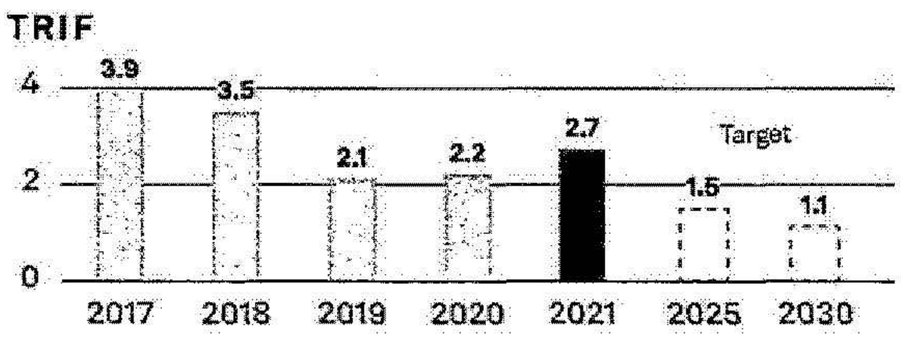
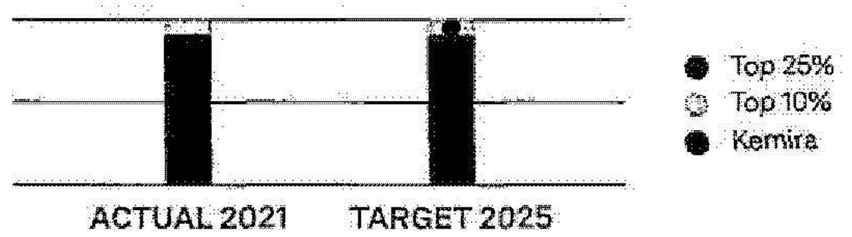
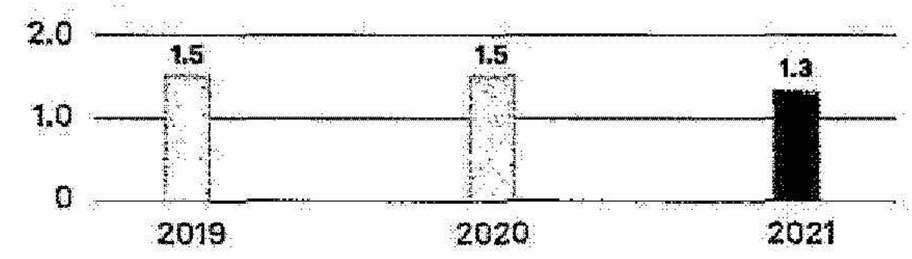
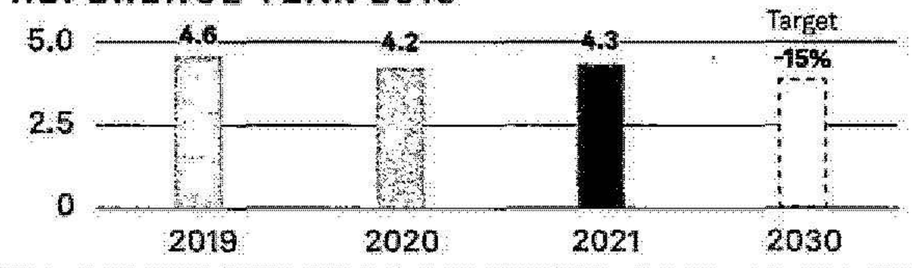
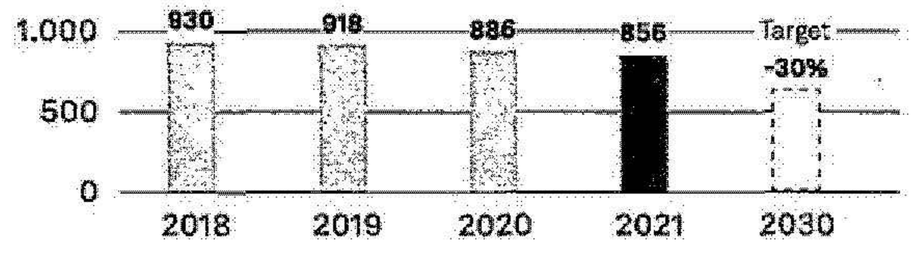
Sustainability is an integral part of our strategy and how we manage our own operations and create value for our customers. We also expect our partners to commit to sustainable operations. We want to use our chemistry expertise to find solutions and contribute to a sustainable and prosperous society. Our sustainability priorities are based on the most material impact of our business model, on the increasing expectations of our customers, investors and other stakeholders, and on our commitment to the Kemira Code of Conduct and internationally defined sustainability principles.

The global shared ambition to build a sustainable world is articulated in the UN Sustainable Development Goals (SDGs). These offer us a common framework through which to evaluate how Kemira currently contributes to these goals and how we can further develop to make even bigger impact in the future. We have chosen four SDGs to focus on. SDG number 8; Decent Work and Economic Growth, represents our focus on social and economical sustainability. Three of the SDGs describe our focus on important environmental sustainability topics, these are SDG number 6; Clean Water and Sanitation, SDG number 12; Responsible Consumption and Production and SDG number 13; Climate Action.

We have chosen to prioritize five themes to best match our businesses and customer segments. These are also the five themes where we can make the biggest difference: either by reducing our impacts or maximizing our contributions to achieving the UN SDGs. These five themes are: Safety, People, Circularity, Water and Climate.

Our priorities	Top material topics identified in the materiality assessment	Management Board champion
SAFETY	• Critical incident risk management • Hazardous materials • Health & safety	• EVP, Operational Excellence & Sustainability
PEOPLE	• Health & safety • Diversity in leadership • Employee D&I	• EVP, Human Resources • Group General Cousel
WATER	• Supporting customers in sustainability • Water & wastewater • R&D • Innovation and partnerships	• Segment Presidents • EVP, Operational Excellence & Sustainability • Chief Technology Officer
CIRCULARITY	• Supporting customers in sustainability • Circular economy • Use of renewable & bio-based raw materials • Carbon handprint • R&D • Innovation & partnerships	• Segment Presidents • EVP, Operational Excellence & Sustainability • Chief Technology Officer
CLIMATE	• Supporting customers in sustainability • Carbon footprint & environmental impact • Climate and renewable energy • Carbon handprint • R&D • Innovation & partnerships	• Segment Presidents • EVP, Operational Excellence & Sustainability • Chief Technology Officer

FOCUS AREAS AND PERFORMANCE INDICATORS

SDG	Focus area	KPIs and targets	Performance
8 DECENT WORK AND ECONOMIC GROWTH	**SAFETY** We prove that a safe business is a sustainable business. Safety of people, products and processes is the foundation of everything we do.	**KPI:** TRIF = total recordable injury frequency per million hours, Kemira + contractors. **Target:** TRIF* 1.5 by 2025 and 1.1 by 2030.	TRIF 
8 DECENT WORK AND ECONOMIC GROWTH	**PEOPLE** Our employees drive our sustainability transformation. A diverse and inclusive culture enables us all to bring our best selves to work every day.	**KPI:** Diversity & Inclusion index compared to top 10% cross-industry norm. **Target:** Reach top 10% cross-industry norm for diversity & inclusion by 2025.	DIVERSITY AND INCLUSION 
6 CLEAN WATER AND SANITATION	**WATER** We believe in clean water and sanitation for all. Our actions set the example for world class water management.	**KPI:** Freshwater use intensity. **Target:** Continuously improve freshwater use intensity. We have developed a new improved target for upcoming years. More information in Water chapter.	WATER USE INTENSITY 
12 RESPONSIBLE CONSUMPTION AND PRODUCTION	**CIRCULARITY** We set sustainability at the center of every design. Our sustainable chemistry and digital solutions accelerate the circular- and bio-economies.	**KPI:** Disposed production waste intensity. **Target:** Reduce disposed production waste intensity by 15% by 2030. Baseline is 2019 at 4.6 metric tonnes of waste per thousand metric tonnes of production and target is 3.9 by 2030. **KPI:** Biobased products revenue **Target:** Revenue from biobased products >500 million EUR by 2030.	WASTE INTENSITY REFERENCE YEAR 2019 
13 CLIMATE ACTION	**CLIMATE** We reduce our climate impact throughout our value chain. Clean energy and processes will support our ambition to be carbon neutral by 2045.	**KPI:** Scopes 1 & 2 emissions. **Target:** -30% from 2018 Scope 1 and Scope 2 emissions by 2030. 2018 baseline 930 kt CO2 equivalents (CO_2e) **Ambition:** to become carbon neutral in scope 1 & 2 emissions by 2045.	GHG EMISSIONS* REFERENCE YEAR 2018  * Figures in thousand of tonnes

SUSTAINABILITY GOVERNANCE

Kemira measures progress in the sustainability priority areas through group-level key performance indicators (KPI) and targets that are approved by the Board of Directors. Responsibility for individual corporate sustainability targets is shared between the members of the Management Board.

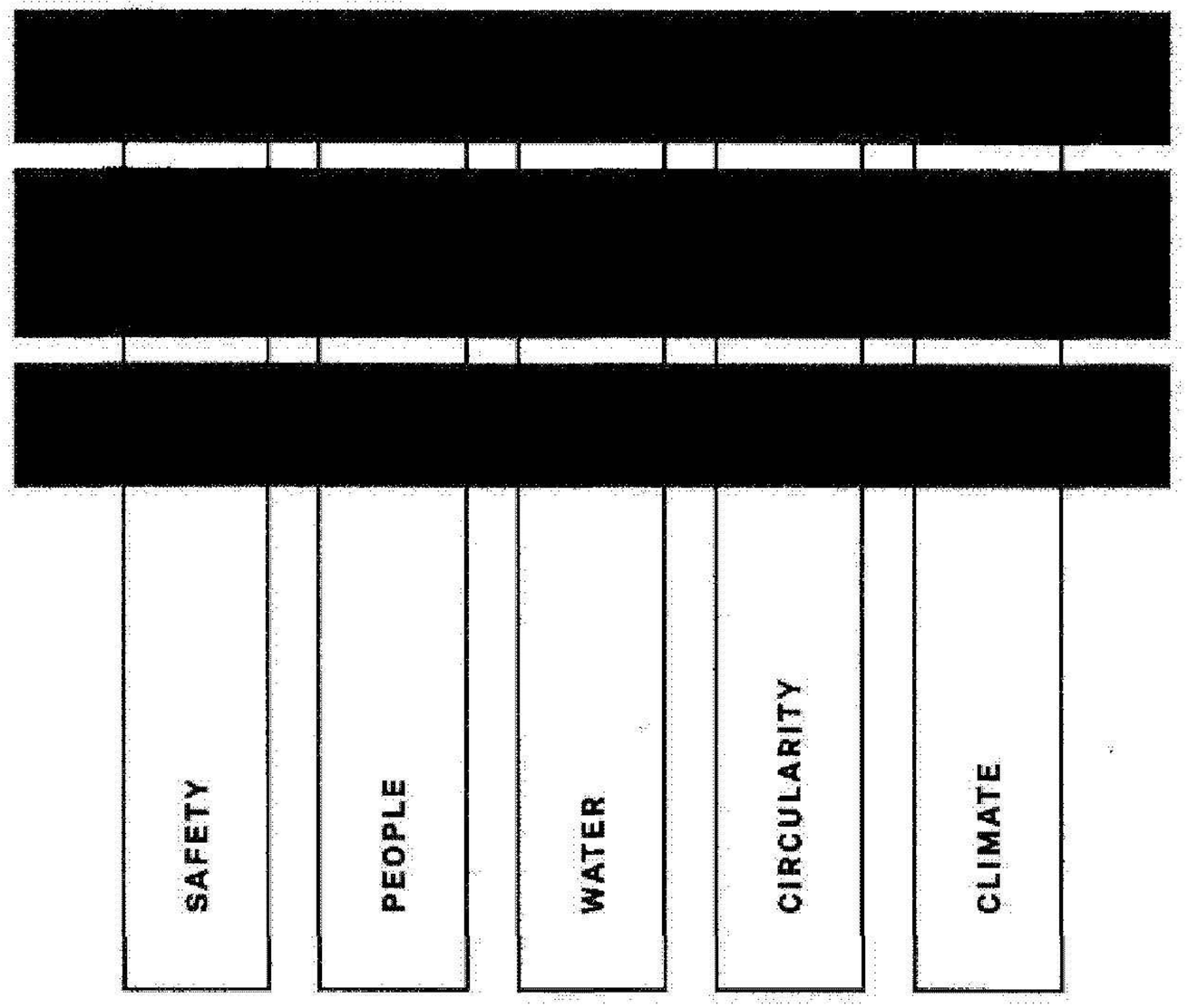
The Director of Sustainability is responsible for ensuring that relevant management processes relating to material corporate sustainability topics are being developed and implemented as part of our strategy and integrated management system. The Sustainability Steering Team has members from all relevant functions and business segments. It acts as a collaboration forum to drive sustainability from the strategic level to increased action. It ensures the development, implementation and follow-up of sustainability as part of daily business operations.

POLICIES

Key policies	Policy owner	Link to priorities
Code of Conduct	Group General Counsel	People, Safety
Product stewardship policy	Head of Product Stewardship and Regulatory Affairs	Safety
Trade compliance policy	Head of Product Stewardship and Regulatory Affairs	Safety
Intellectual Property Rights policy	Chief Technology Officer	Water, Circularity and Climate
Sustainability and EHSQ policy (including Energy policy)*	EVP, Operational Excellence & Sustainability	Safety, People, Water, Circularity and Climate
Sourcing and procurement policy	EVP, Operational Excellence & Sustainability	Safety, Water, Circularity and Climate
Logistics and transportation policy	Head of Global Supply Chain Management	Safety and Climate
Recruitment policy Compensation policy	EVP, Human Resources	People
Global competition law compliance policy	Group General Counsel	People
Gifts, entertainment and anti-bribery policy	Group General Counsel	People

*EHSQ policy has been upgraded and combined more comprehensively with Sustainability subjects in 2021.

NEW SUSTAINABILITY GOVERNANCE TO GO FROM STRATEGY TO INCREASED ACTION



Integrated management system

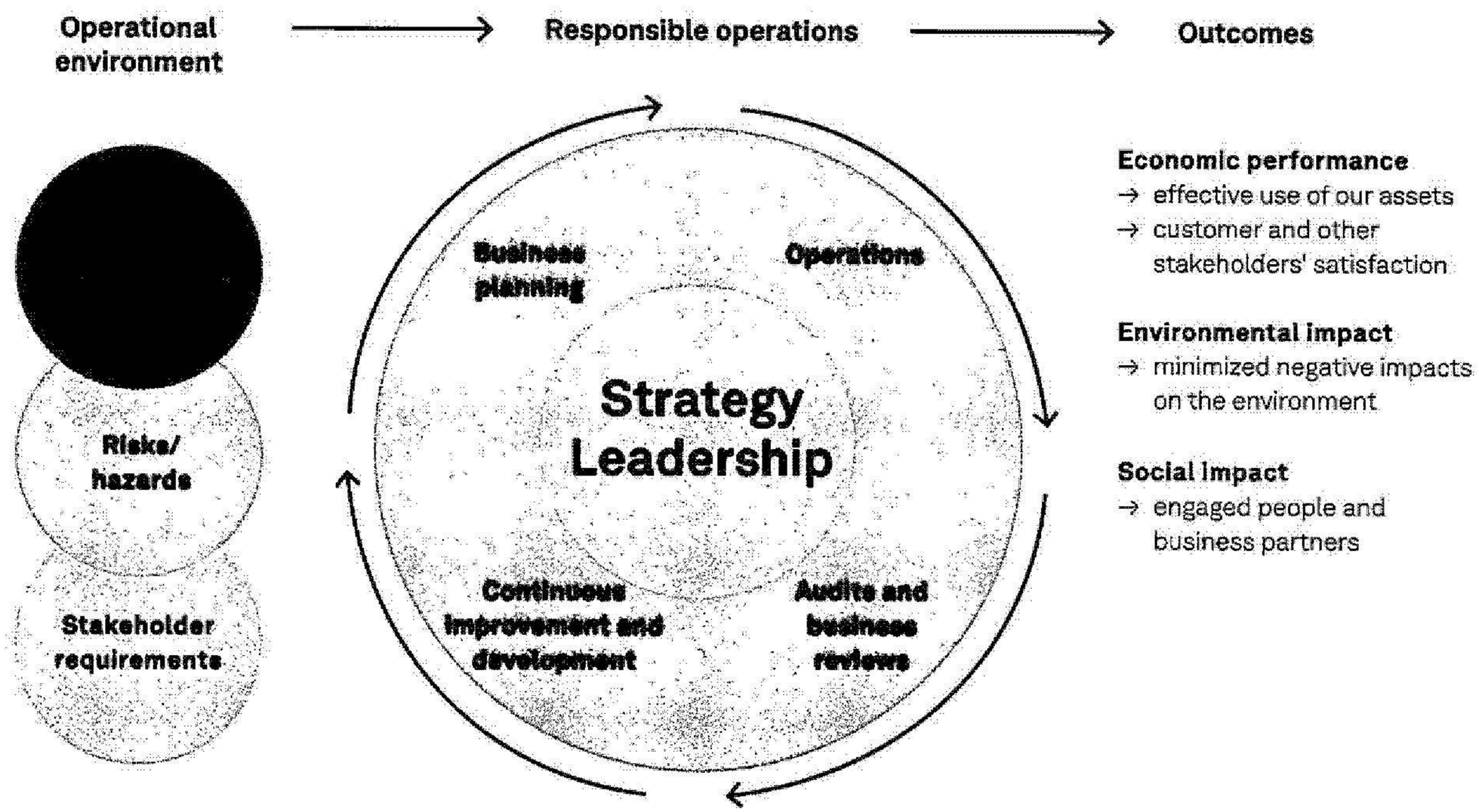
Globally, we aim to bring together all of our operations under the Kemira Integrated Management System. The Kemira Integrated Management System defines the way our organization is working through the set of policies, standards, procedures and processes. It also defines the requirements and accountabilities at each level of the organization.

Conformance to Integrated Management System and compliance to regulatory requirements are ensured by regularly monitoring the performance indicators and by conducting internal and external audits and management reviews. In 2021 all internal and external audits were completed fully and in timely manner.

The management reviews are performed at all levels of the organization from manufacturing to regional management and the Management Board.

Kemira has a principle that all operations under our Integrated Management System meet the international standards ISO 9001:2015 for Quality, ISO 14001:2015 for Environment, and ISO 45001:2018 for Occupational Health and Safety. All 3 R&D sites (Atlanta, Espoo and Shanghai) are ISO 9001:2015, ISO 14001:2015, and ISO 45001:2018 certified. Kemira's Energy Management System is certified according to ISO 50001:2018 for selected EMEA sites. Our Integrated Management System is externally audited through a three-year audit cycle. In 2021, we had sixty-nine (69) internal and external audits (Management Systems, Process Safety, Energy, Transportation, EHS Legal Compliance, Sustainability), including manufacturing sites, major office locations and R&D centers. Despite Covid-19 challenges, all planned audits were conducted, mainly using virtual tools.

INTEGRATED MANAGEMENT SYSTEM



NUMBER OF LOCATIONS (MANUFACTURING SITES, MAIN OFFICES AND R&D) CERTIFIED IN 2021:

	EMEA	AMERICAS	APAC	Total*
ISO 9001:2015	37	18	9	64 (86%)
ISO 14001:2015	37	17	9	63 (85%)
ISO 45001:2018	37	18	9	64 (86%)
ISO 50001:2018**	6			

*Kemira has 63 manufacturing sites in total, 3 main offices and 3 R&D centers.
**ISO 50 001 certification is only for selected EMEA sites.

KEMIRA'S MANAGEMENT APPROACH TO NON-FINANCIAL MATTERS

	Environmental and climate-related matters	Social and employment-related matters	Respect for human rights	Anti-corruption and bribery
International frameworks covering all topics	United Nations Sustainable Development Goals (SDGs) United Nations Global Compact United Nations Guiding Principles on Business and Human Rights Responsible Care ®			
Code of conduct	Code of Conduct Code of Conduct for Business Partners			
Policies and standards	Sustainability and EHSQ policy EHSQ standards and processes Logistics and transportation policy and processes Sourcing and procurement policy			
	• Product stewardship policy	• Product stewardship policy • Trade compliance policy • Recruitment and compensation policy • People and HR processes	• Recruitment and compensation policy • Statement for slavery and human trafficking • Statement on conflict minerals • Investigation procedure • Audit Committee charter	• Global competition law compliance policy • Gifts, entertainment and anti-bribery policy • Trade compliance policy • Investigation procedure • Audit Committee Charter
Hazards and Risks	• Indirect GHG emissions (scope 2&3), water withdrawal, disposed waste and spills and chemical releases. • Non-compliance with legislation and regulations may result in fines, creating reputational and business risks. • Reputational or financial risk if products are not proven to be safe or guidance for safe use is not communicated or if employment and engagement poorly managed. • Ability to meet new environmental expectations with products and services. • People related health and safety hazards and work related incidents, illnesses and well-being. • Competences related to chemical risks (physical and chemical), own work processes.		• Potential violations of human and labor rights and unethical business practices can impact Kemira's reputation and thus financial position. • Main human rights risks relate to production and raw material sourcing of suppliers and supply chain partners, health and safety at own sites and the impacts of utilizing fossil fuels.	• Risk that Kemira internal organization engages in bribery or other forms of corruption. • Risk that third parties acting on behalf of Kemira engage in bribery or other forms of corruption. A third party is anyone with whom Kemira interacts and who sells, resells or assists Kemira in selling Kemira's products to customers.
Risk / hazard management	• Risk are effectively managed through existing integrated management system and continuous risk identification and mitigation processes. Environmental, health and safety and quality activities are documented and managed in line with ISO 9001, 14 001 and 45001 standards including certification of majority of the activities. Incident and crises management –systems. • Compliance with the chemical regulations is ensured by complying with PSRA processes incl. priority substance management. • Performance and development process (PDD) conducted and documented for all employees. • Continuous listening and employee feedback with MyVoices Pulse surveys in place. • Kemira's New Product Development NPD) and product lifecycle management processes are followed. • Ethics and compliance Hotline for raising a concern or reporting potential misconduct. • Supplier sustainability assessment and audits globally. Mandatory Code of Conduct and Human Rights for Business trainings and anti-corruption training. Supplier segmentation & prioritization by value/criticality/risk. • Behavior based safety program. • Reporting system in place for violations of Code of Conduct. • Human Rights impact assessment carried out, latest in 2021.			• Continuous communication and training of Kemira's policies. • Due diligence in reviewing and selecting third parties who act on behalf Kemira. • Requirement that third parties commit to Kemira's Business Partner Code of Conduct. • Screening of all business partners to identify denied and blocked persons • Ethics & Compliance Hotline and email for reporting suspected breaches of law or Kemira's Code of Conduct internally or externally. Reported allegations are subject to confidential and impartial internal investigation.

	Environmental and climate-related matters	Social and employment-related matters	Respect for human rights	Anti-corruption and bribery
Due diligence processes	• Compliance verification against existing Kemira, legal and other EHSQ requirements and talent development are managed through Global internal and external auditing and annual Global reporting processes. Audits and identified nonconformities are registered, assessed and managed in a global system ensuring also the Global visibility and compliance assurance. • Compliance with the chemical regulations followed / audited by external authorities. • Kemira's New Product Development (NPD) process and individual NPD projects as well as short-term technical assistance request (TAR) process are managed by global internal and external auditing. Audits and identified non-conformities are registered and managed in a global system. • In human rights issues, reporting to Audit Committee of Board of Directors. • Suppliers are required to accept Kemira's Code of Conduct to business partners. Kemira also constantly monitors, assesses and audits its supplier base by performing periodic checks either through routine processes or annual internal audits by competent sourcing members. Based on conducted assessments prioritized supplier are invited to take more detailed assessment or audit.			• We review and vet all new agents and distributors who will act as third parties for Kemira. The review and vetting are based on a risk level assessment which determines which diligence activities are required when selecting and onboarding a new third party. After the due diligence activities, new third parties are subject to approval according to a risk level-based approval matrix. • Kemira's Ethics & Compliance Committee coordinates investigations of internally or externally reported alleged violations of antibribery and anticorruption laws. The Committee may escalate a matter to the President & CEO, and the Committee reports to the Audit Committee of the Board of Directors.
Outcomes of policies and due diligence processes	• Operations meet legal requirements. Company is ready to meet global existing and foreseen challenges. • New products with smaller environmental footprint, better safety profile and providing customers with resource efficiency improving properties. • Sustainability long term targets to 2025–2030 relating to water, waste, emissions, energy, diversity and inclusion and growing the renewable raw materials based products portfolio. • Health and safety program to reach zero harm to people. Reduced risks on human health and environment. • Competences Development Program for key target groups and statutory and role-based on-the-job learning for employees on professional and leadership development. • Human Rights issues identified and mitigated in own operations and value chain. Meeting on group level the EU Taxonomy minimum safeguards of most recognized human rights guidelines and guiding principles. • Sourcing & Procurement policy, processes and procedures mitigate and prevent supplier's violations related to any type of non-legal practices, they also ensure that suppliers are operating at or above the levels required by Kemira from the economical, environmental, social and human rights point of view.			• There have been no confirmed cases of bribery or corruption involving Kemira or its third parties. • Kemira is compliant with anti-bribery and anti-corruption laws applicable to it.

Product design for sustainability

Kemira's New Product Development (NPD) process follows a stage-gate model. Successful projects must demonstrate both improved sustainability and business benefits at each decision gate to justify the project's continuation, and ultimately the product launch. Our sustainability evaluations examine the economic, environmental and social impact of any new product and solution developed, both in Kemira's and in our customers' operations.

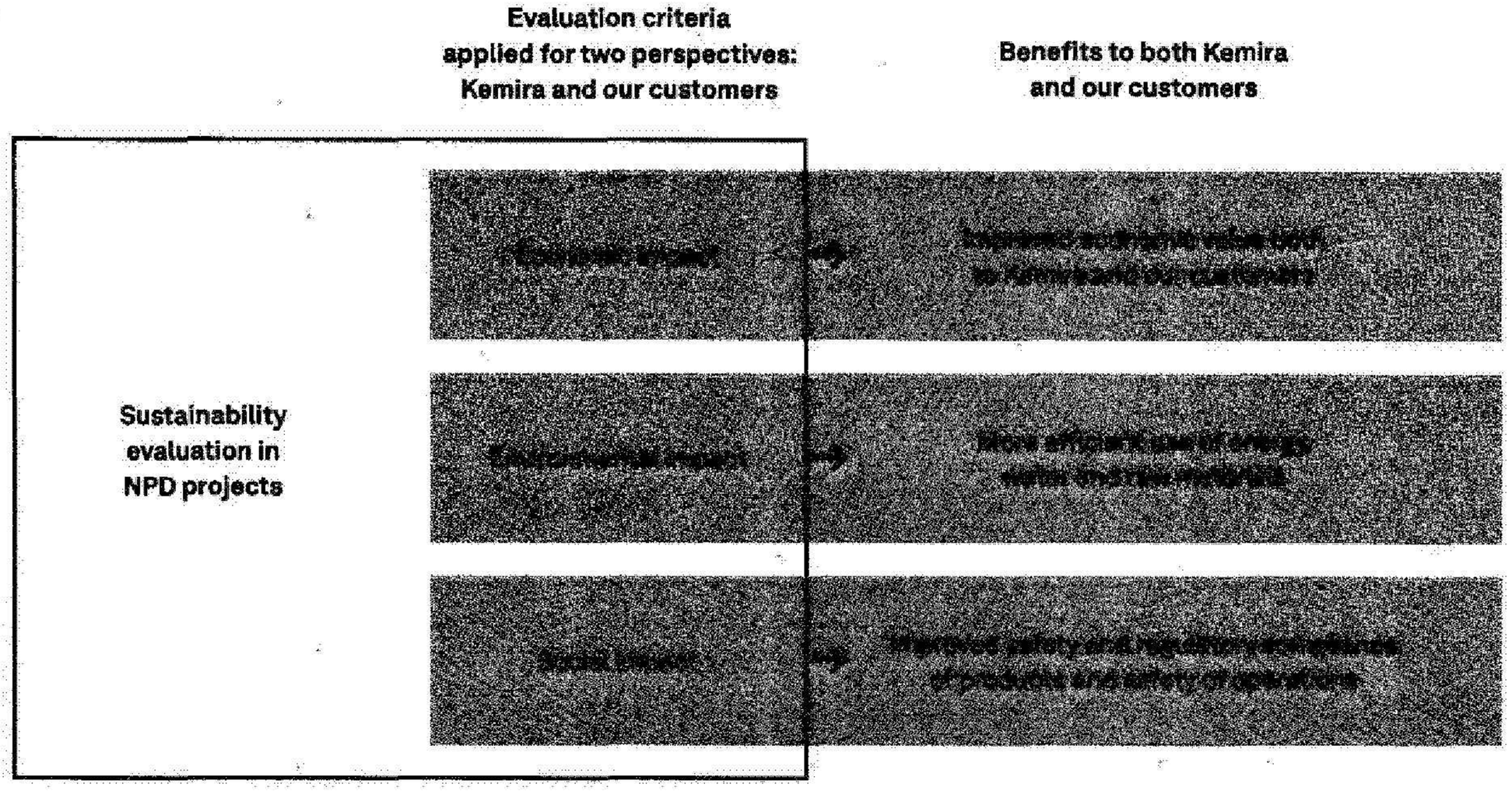
In R&D we consider and avoid the use of hazardous substances when selecting raw materials for product development. In cooperation with PSRA, R&D also makes plans to replace raw materials with concerns or risks in product recipes. These actions improve the safety in transportation, storing and usage and in disposal of materials from our manufacturing processes.

NPD projects also aim to identify and evaluate more sustainable and renewable alternatives for raw materials, in terms of sources, and use in the whole product life cycle.

Product stewardship

Kemira's Product Stewardship Policy defines the minimum requirements for our operations to ensure that our products can be safely used by our stakeholders and that chemical risks and their impact are incorporated in decision-making relating to our business. Our customers have their own health, safety and environmental requirements for their input materials and they typically follow several voluntary certification schemes, including eco-labeling schemes, which

SUSTAINABILITY EVALUATION THROUGHOUT THE NEW PRODUCT DEVELOPMENT PROJECTS



set further expectations on our product offerings. Chemical hazard assessments are not only prepared for products but also for raw materials, process aids and intermediates; and are incorporated in change management process during their full lifecycle. Product stewardship is the key pillar in the Responsible Care® program and involves the proactive management of the health, safety and environmental aspects of a product throughout its lifecycle. Product stewardship provides a platform that helps us to identify concerns relating to specific chemicals and their hazards at an early stage and manage those risks along the value chain to fulfill the expectations of different stakeholders.

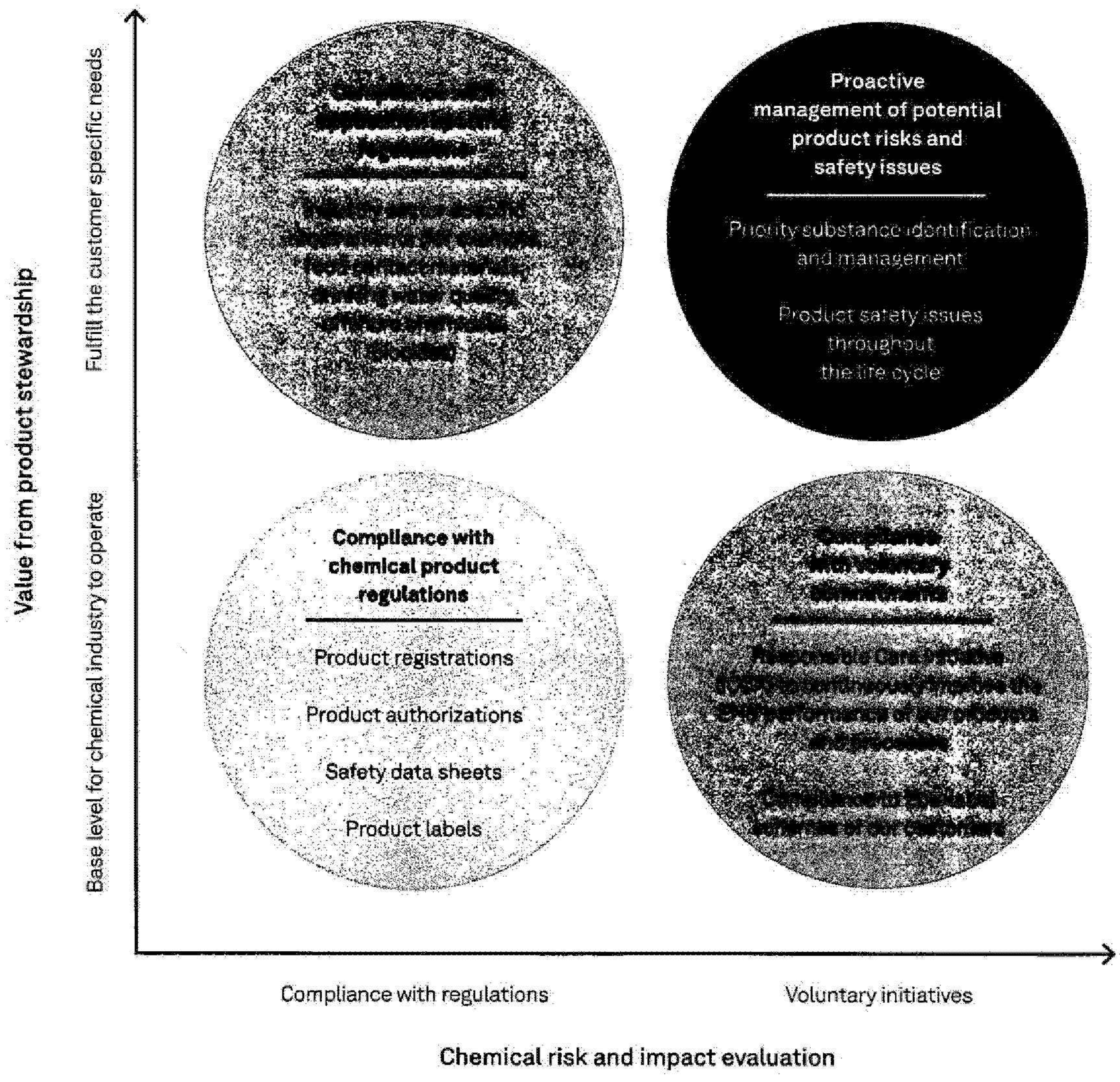
PRODUCT REGULATORY COMPLIANCE

The manufacturing and sale of chemicals are widely regulated around the world. Continuous follow-up of the regulatory development activities is the prerequisite for business compliance and plays a key role in ensuring product safety for customers, value chain and stakeholders.

PRODUCT LIFECYCLE MANAGEMENT

All of our products, handled raw materials and intermediates need to comply with all applicable chemical regulatory requirements in the countries where we manufacture and/or sell chemicals. Assessments examining regulatory compliance, human health impact, safety issues and environmental protection aspects all form part of our Product Lifecycle Management process from conception and development to manufacturing and sales, and finally to product elimination. All data related to chemical products and substances including raw materials is managed in Enterprise Resource Planning system and is linked to Product Lifecycle Management tool/process.

PRODUCT STEWARDSHIP MANAGEMENT APPROACH



PRIORITY SUBSTANCE MANAGEMENT

We actively track our portfolio for priority substances that are subject to future regulatory restrictions or associated with particular concerns and prepare management plans for these substances. Our priority substance management plan aims to define the specific risks associated with each substance, examine options for managing these specific risks, and formulate action plans for the preferred options. These options to mitigate risks may include, for example, substitution, phase-out or limiting exposure.

COMMITMENT TO ANIMAL WELFARE AND SUSTAINABLE PALM OIL SUPPLY

Kemira is committed to reducing, refining and replacing animal testing wherever possible. Kemira does not itself perform any animal experimentation in-house. All animal testing commissioned by Kemira is done to the highest of animal welfare standards following national and international legislation on the protection of animals and only if specifically required by legislation or for product safety purposes.

Kemira is a member of the Roundtable on Sustainable Palm Oil (RSPO) supply chain standard for sustainable palm oil. However, RSPO certified palm oil currently has limited availability and Kemira is also forced to use palm oil derivatives without certification.

Workplace safety

High-performing Environmental, Health, Safety and Quality (EHSQ) management is crucial to our business. We are committed to ensuring safe and responsible working conditions for everyone working for and with Kemira. Our approach is to manufacture and deliver our products and services safely, and to protect communities nearby. We are building an interdependent safety culture which is heading us towards zero harm in all of our activities. Our goal is to continuously improve our ways of working and to ensure safety improvements in our working environments. All this work is guided by regulations and external requirements, our updated Sustainability and EHSQ policy, respective standards and operating practices.

Safety is the foundation for all of our operations, and includes all aspects; people safety, environmental safety, process safety, chemical safety, transportation safety and asset integrity. With competent employees and contractors we take effective measures to eliminate hazards, reduce risks and prevent incidents. We communicate openly and honestly, and promote participation and involvement of employees and key stakeholders.

We are well aware that incidents in our operations may have negative consequences for our people, environment and third parties working for us at Kemira sites, or locations where Kemira is present if we fail to manage risks linked to our operations.

Supplier management

Our Sourcing function is globally responsible for strategic spend management, while our Supply Chain Management function provides supply chain related services on a regional level to our business segments.

Our Sourcing activities cover the identification and selection of suppliers, the consequent negotiations and contract management, and the management of supplier relationships. Our supplier selection criteria are based on cost competitiveness, short-term operational excellence, long-term business stability as well as sustainability performance.

Our Supply Chain Management activities cover all supply chain related services to our business segments once the supplier relationship has been established by our Sourcing function. Supply Chain Management services include Customer Service, Logistics, Supply Chain Planning, and Procurement. The Supply Chain Management function has regional units that each provide all the services needed within their respective regions.

The total spend of the Sourcing categories "direct materials" and "indirect goods and services", amounted to about EUR 2.127 billion in 2021. The direct materials cover all raw materials, packaging and energy while indirect goods and services include all non-raw material related spending, for example, on equipment, services, and logistics.

Supplier management and supplier risk and compliance management are cornerstones of our sustainable sourcing roadmap that ensure responsibility in our supply chain. Our Supplier Management focus is on improving economic performance, anticipating risk and initiating approaches with suppliers that are responsible and innovative. It is described in three main processes: Supplier Segmentation, Supplier Performance Evaluations (SPE) and Vendor Value Program.

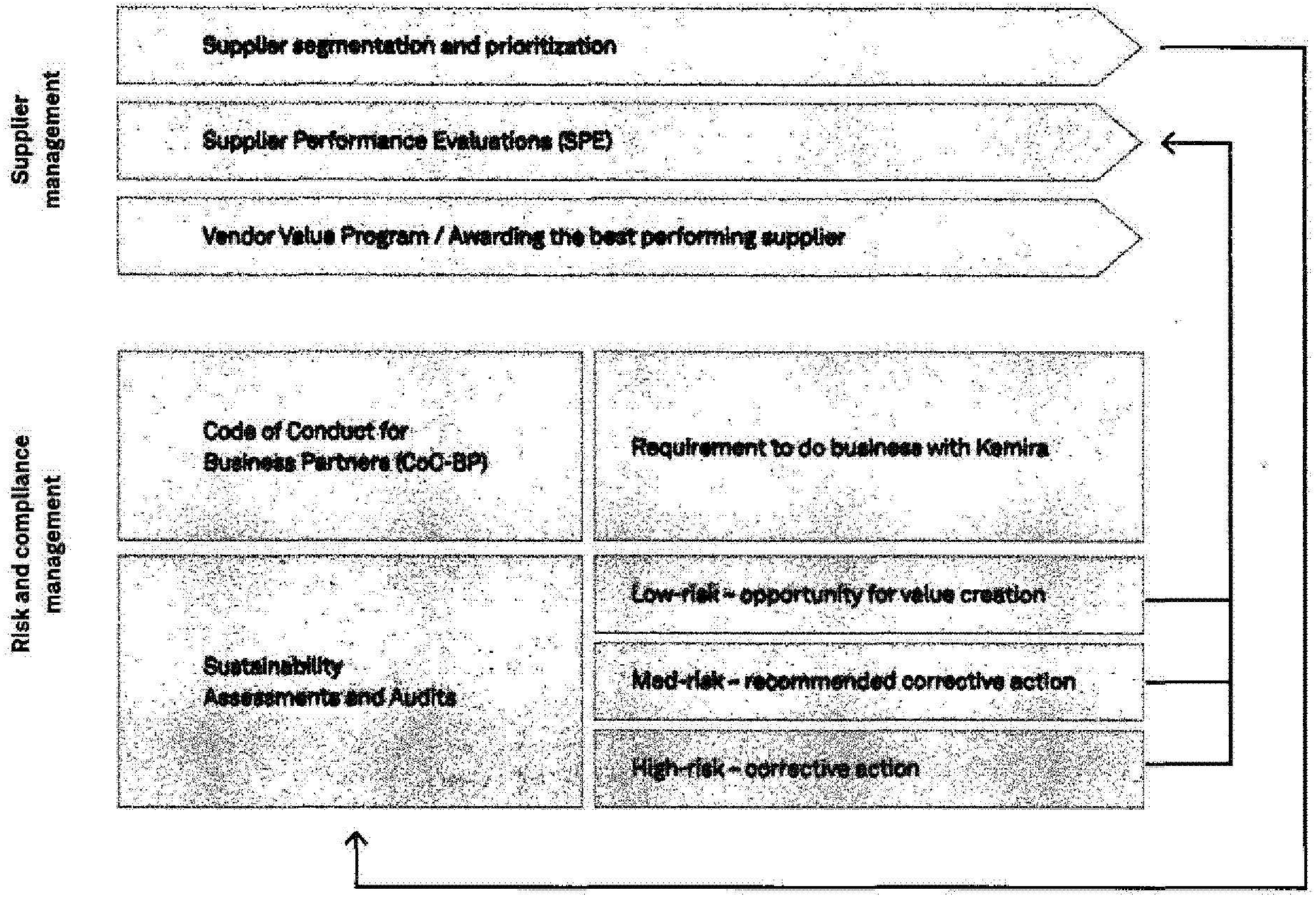
Our suppliers are segmented into four categories: strategic, critical, volume and base suppliers, and prioritized based on multi-factor risk criteria to help us better manage our suppliers and plan actions for necessary risk mitigation.

The SPE program collects and provides regular feedback to our suppliers both on their operational and sustainability performance. The majority of our strategic, critical and volume suppliers are part of regular supplier reviews.

Our Vendor Value Program is aimed at developing capabilities that will enable us to identify, partner with, and manage those suppliers, along the various value chains associated with Kemira's product lines.

Our supplier risk and compliance management define the requirements for suppliers to do business with Kemira, as well as provides tools and processes for mitigating the sustainability risk with our suppliers (sustainability assessments and audits).

SUPPLIER RISK AND COMPLIANCE MANAGEMENT



CODE OF CONDUCT FOR BUSINESS PARTNERS (COC-BP)

All of our suppliers must follow our Code of Conduct for Business Partners (CoC-BP) in relation to all of their dealings with Kemira. Our CoC-BP is communicated to all suppliers through the ordering process as part of Kemira terms and conditions.

Supplier adherence to these principles is controlled in different stages of our Sourcing processes starting from the new supplier screening/new vendor creation process, to contracting where the commitment to our CoC-BP is integrated in the contract templates. Finally, we have continuous monitoring in place for those contracts exceeding certain spend thresholds to make sure we are reasonably covered (GRI 308-1: Supplier Environmental assessment; GRI 414-1: Supplier social assessment).

SUSTAINABILITY ASSESSMENTS AND AUDITS OF SUPPLIERS

We continued enrolling new suppliers into our Sustainability program by assessing them through EcoVadis , conducting Corporate Social Responsibility audits and Quality audits. EcoVadis assessment: In 2021, 57 new suppliers were assessed and a total of 348 suppliers have now gone through the assessment and have recorded an average score of 55, which is higher than industry average on assessed average on the platform. Results with low scores were reviewed together with suppliers and improvement plans were made accordingly. In most cases, low scores were due to lack of supporting documentation provided by the vendor to the assessment company. Around 61% of the 271 reassessed suppliers were able to improve their score.

Corporate Social Responsibility audits of direct material suppliers: In 2021, we conducted one Corporate Social Responsibility audit with no business stopping results. Audit results are being reviewed together with supplier and improvement plans created and followed up accordingly as part of our supplier management practices.

Quality audits of suppliers: Direct material large spend suppliers also undergo quality audits, which include management systems, workplace health and safety standards, production quality and supply security. In 2021, 14 quality audits were conducted.

Supplier assessments and audits are part of sourcing processes and Sourcing function target setting and are monitored on monthly basis. In 2021, we were not able to conduct targeted number of audits mainly due to Covid-19 and related restrictions.

SUPPLIER SUSTAINABILITY ASSESSMENTS AND AUDITS

	2021	2020
EcoVadis assessment	348	291
Corporate Social Responsibility audit	1	1
Quality audit	14	12

STRUCTURE OF KEMIRA'S SUPPLIER BASE

	Direct materials	Indirect goods and services
Number of suppliers, approximately	1,650	12,350
EMEA	800	6,950
Americas	550	3,800
APAC	300	1,600
Percentage of suppliers that form 80% of the category spend	10%	7%

Integrity

OUR VALUES AND CODE OF CONDUCT

Our management approach to integrity and responsible business practices is based on our corporate values and our Code of Conduct. These principles demonstrate our commitment to conduct our business in compliance with all applicable laws and regulations and according to ethical standards.

Our Code of Conducts set the minimum standards of expected behavior for our employees and business partners. Our internal policies and procedures provide more detailed guidance to steer our daily work and decision-making.

Kemira's Code of Conduct was reviewed, updated and approved by the Board of Directors in 2017, followed by an extensive global campaign during 2017–2018 and thereafter continuing yearly trainings and communications. Every employee is expected to comply with Kemira's Code of Conduct. All people managers and leaders are responsible for implementing the Code within their teams. Since 2013, we have required all of our employees to regularly complete the Code of Conduct training, which is currently available in 21 languages. We also train selected employee groups on more specific compliance matters, such as anti-bribery, competition compliance and insider information.

We expect our business partners to follow our Code of Conduct for Business Partners (CoC-BP) in their business activities. Both of these Code of Conduct documents, as well as our corporate values can be found at **www.kemira.com**.

OUR ETHICS AND COMPLIANCE PROGRAM

Our Ethics and Compliance Program aims to enhance compliance management at Kemira on a continuous basis. The program addresses all of the following measures taken to manage ethics and compliance risks:

- Prevention: measures that help us proactively prevent ethics and compliance risks from materializing
- Detection: measures that help us detect where ethics and compliance risks have materialized or may arise
- Responding: measures that help us investigate and respond to potential ethics and compliance breaches

ORGANIZATIONAL STRUCTURE FOR ETHICS AND COMPLIANCE

Our Ethics and Compliance function is responsible for overseeing the effective implementation of Kemira's Ethics and Compliance program. The status of the program is also reported directly to the Audit Committee on a regular basis.

The Compliance Committee oversees the management of compliance allegations to ensure fair and sufficient investigation, remediation and consistent disciplinary action across our organization. The committee consists of Group General Counsel, EVP Human Resources, Head of Internal Audit, and Director, Ethics and Compliance.

Our Local Ethics and Compliance Officer Network consists of employees across the organization based in different regions, who support our regional ethics and compliance communication, activities and overall awareness as part of their work.

INTEGRITY INDEX

Integrity Index has been measured based on employee perception of integrity using the internal MyVoice Pulse survey. We use the question 'Speak My Mind' phrased as 'I can report unethical behavior or practices without fear of retaliation at Kemira' as a single-item index.

In 2021 the Integrity Index was 78 points, 8 points above manufacturing industry benchmark (80 in 2020) and the participation rate in the survey 80% (81% in 2020).

MECHANISMS FOR SEEKING ETHICS ADVICE AND REPORTING CONCERNS

We promote a culture that encourages our employees to speak freely. We actively encourage our employees to contact their managers, local HR, Legal or Ethics and Compliance function to express their concerns and ask questions.

All of our employees also have access to an externally hosted Ethics and Compliance hotline, which is a 24/7 service enabling them to report potential violations of our Code of Conduct or other ethical concerns. All employees can anonymously submit such reports in their own languages, by phone or through a web form, which can be accessed through Kemira's intranet, wherever such channels are not restricted by local legislation. Information about the availability of the Ethics and Compliance hotline is shared to all employees on Kemira's intranet. We provide regular training and communications to our employees on all of our

available channels to report concerns and to assure the anonymity of the report, as well as no retaliation. The hotline system and the process of handling the reports are managed by the Ethics and Compliance function.

There is an email address that can be used by third parties to report cases of potential misconduct relating to Kemira or our business partners. This information is available on our website and in Kemira's Code of Conduct for Business Partners.

All allegations of potential violations of our Code of Conduct made in good faith will receive a fair and comprehensive investigation utilizing internal and/or external assistance. Any reporting of potential Code violations is treated as strictly confidential and anonymous to the fullest extent and without fear of retaliation.

CONCERNS OF ALLEGATIONS OF POTENTIAL CODE OF CONDUCT VIOLATION REPORTED IN 2021

	Number of cases	Cases closed with merit	Cases closed without merit	Open cases as at dec 31, 2021
Cases reported via hotline	1	1	0	0
Cases reported via other channels	18	7	7	4
Total number of cases	19	8	7	4

CASES CLOSED WITH MERIT BY ISSUE CATEGORY

	Number of cases
Corruption and bribery	0
Code of Conduct (incl. Conflict of Interest / Safety)	10
Employee relations fair treatment	1
Harassment	8
Transactions and company records	0
Grand Total	19

GRI 406-1: Incidents of discrimination and corrective actions taken

During 2021, 19 incidents were reported to the Ethics & Compliance function alleging potential violations to the Code of Conduct. All cases were investigated (4 of them are still under investigation), 8 of the cases were closed with merit and remediated during 2021. No incident was concluded as being a case of discrimination.

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Economic performance

GRI 201-1: Direct economic value generated and distributed
Kemira generates economic value from expertise, products and sustainable solutions, enabling our customers to improve their resource-efficiency.

Kemira distributes the generated economic value to various stakeholders. This includes suppliers and service providers through payments for raw materials and services, employees through compensation and benefits, capital providers through dividends and interest payments, public sector through taxes, and society through local community projects, sponsorship and donations. Taxes have a significant impact on our businesses, financing and growth opportunities.

Kemira's approach to tax is to support responsible business performance in a sustainable way. A separate tax footprint report is available at **www.kemira.com** > Company > Investors.

The economic value retained is reinvested in the company for capital investments, R&D and technology development. The economic value retained decreased to EUR 125 million in 2021 (283 in 2020).

ECONOMIC VALUE, CASH FLOW BASED

Stakeholder	Economic Value, EUR million	2021	2020	2019
Direct economic value generated: Revenues				
Customers	Income from customers on the basis of products and services sold, and financial income	**2589**	2443	2687
Direct economic value distributed				
Suppliers	Payments to suppliers of raw materials, goods and services	**1922**	1630	1861
Employees	Employee wages and benefits	**371**	373	366
Investors & Lenders	Dividends, interests paid and financial expenses	**127**	121	122
Government & Public sector	Corporate income taxes	**44**	36	39
Economic value retained		**125**	283	299

Anti-corruption

GRI 205-1: Operations assessed for risks related to corruption
In 2020 Kemira conducted a global ethics and compliance risk assessment, covering key business operations and functions in all regions. Anti-corruption was one of the key focus areas in the assessment. In 2021 the assessment results have been utilized in Kemira's ethics and compliance and internal audits. No significant risks related to corruption have been identified through ethics and compliance activities or internal audits in 2021.

GRI 205-2: Communication and training about anti-corruption policies and procedures
Kemira's principles for anti-corruption are included in the Kemira Code of Conduct and in the Kemira Group Gifts, Entertainment and Anti-Bribery Policy. Both documents are available to all employees on Kemira's intranet, and the Code of Conduct is also publicly available at **www.kemira.com**.

Kemira's Code of Conduct has been approved by the Board of Directors, and as part of our mandatory and regular Code of Conduct training our anti-corruption principles are communicated to all of our employee groups and regions on a regular basis. All members of Kemira's Board of Directors have been trained on our anti-corruption principles.

Kemira provides mandatory anti-corruption training to its white-collar employees, who need to have a comprehensive understanding of Kemira's anti-corruption principles. The table below demonstrates the scope of the training, with a breakdown by employee category and regions.

ANTI-CORRUPTION TRAINING PERFORMANCE

		Number of permanent employees, not absent	Number of permanent employees, received training on anticorruption	% of employees received training on anti-corruption
Americas	White collars	835	818	98%
	Blue collars	650	0	
APAC	White collars	465	457	98%
	Blue collars	455	0	
EMEA	White collars	1,577	1,544	98%
	Blue collars	898	0	
Total		4,880.00	2,819.00	58%

We expect our suppliers and other business partners to conduct their business with integrity and commit to Kemira's Code of Conduct for Business Partners in their business activities with Kemira. According to the CoC-BP, Kemira expects our Business Partners to ensure that they, and third parties acting on their behalf, do not offer, give or accept improper or corrupt payments, and that they will not engage in any form of bribery. We aim to communicate the CoC-BP to all of our suppliers, agents and distributors. All of our suppliers (engaged with an SAP Purchase Order) receive a written reference to Kemira's CoC-BP as part of the Kemira general terms of purchase on the back of the Purchase Order.

GRI 205-2: Total number and percentage of suppliers that our anti-corruption policy has been communicated to

Region	Total number of suppliers*	Total number of suppliers* that our anti-corruption principles have been communicated to	% of suppliers* that our anti-corruption principles have been communicated to
Americas	4,350	4,350	100%
APAC	1,900	1,900	100%
EMEA	7,750	7,750	100%
Total	14,000	14,000	100%

*The numbers include suppliers engaged with an SAP Purchase Order. In addition to SAP transactions, some small purchases are processed via the travel claim process.

GRI 205-3: Confirmed incidents of corruption and actions taken

There were no confirmed incidents of corruption or public legal cases regarding corruption in 2021.

Anti-competitive behavior

GRI 206-1: Legal actions for anti-competitive behavior, anti-trust, and monopoly practices

On July 8, 2021, Kemira announced that Kemira Chemicals Oy, a fully owned subsidiary of Kemira Oyj, had reached a settlement with CDC Project 13 SA and CDC Holding SA (together "CDC") in the damage claim litigation in Amsterdam, the Netherlands. The settlement concerned claims assigned to CDC based on which CDC claimed compensation for alleged damages relating to the alleged old infringement of competition law in the sodium chlorite business during 1994–2000 by Finnish Chemicals Oy. Kemira Oyj acquired Finnish Chemicals Oy (now Kemira Chemicals Oy) in 2005. Kemira Chemicals Oy agreed to pay compensation and costs to CDC in the amount of EUR 22.75 million.

In 2021 Kemira had no other pending or completed legal actions initiated under national or international laws designed for regulating anti-competitive behavior, anti-trust, or monopoly practices.

Environmental Performance

Products and solutions

Kemira is offering sustainable chemical solutions for water intensive industries and is providing best suited products, services and expertise to improve our customers' end product quality, process and resource efficiency. Kemira's products can help in reducing the need of energy and water, cut the amount of waste and emissions and optimize raw material use in customers' processes. Besides increasing resource efficiency, our aim is to develop products and solutions that improve recycleability and biodegradability, to help customers accelerate circularity and meet their sustainability targets.

To better understand the impact, we calculate how large part of our product revenue is improving resource efficiency in customers' applications. Our KPI is described as the share of revenue from products sold for use-phase resource efficiency. The calculation is performed by identifying and mapping Kemira's product groups that improve resource efficiency in different customer applications, and calculating the revenue of these products and comparing that to the entire revenue. The target is to ensure that at least 50% of our revenue is generated through products improving customers' resource efficiency. We have been able to improve from baseline 49% in 2016 to 54% in 2021.

Year	2021	2020	2019	2018	2017	2016
Share of revenue from products sold improving customer resource efficiency	54%	52%	53%	51%	50%	49%

Kemira New Product Development (NPD) process, described in section Product Design for Sustainability, is also a big contributor in development of the sustainable products and solutions portfolio. During 2021, we started 12 new product development projects, all of them aiming to improve customers' resource efficiency. At the same time, Kemira started commercialization of two new product development projects both targeting to improve resource efficiency at customer processes. In addition, in 2021 Kemira initiated patenting of 36 inventions (2020: 37), and at the end of 2021, Kemira had 382 (2020: 367) patent families, including 1,972 (2020: 1,726) granted patents, and 996 (2020: 964) pending applications.

Transition to renewable resources is one core element in Kemira`s product portfolio strategy. This is advanced through our biobased focus and biobased products revenue target by 2030. Replacing fossil raw materials with more sustainable ones is advanced in many ways. The mass balance concept, which enables quick expansion towards bio-based and sustainable products, having significantly lower carbon footprints compared to traditional products, is one of our approaches. This means that renewable raw materials can be utilized in existing production infrastructures creating identical product quality and performance in making conventional products. In 2021 Kemira has selected ISCC PLUS* certification system for the mass-balance accreditation, because it is the globally widely recognized system and is also adopted by our suppliers and specific customers. Kemira produces certified biobased products in ISCC accredited manufacturing facilities in Italy and the UK, and globally supplies them to customers in water-intensive industries.

* ISCC PLUS is a sustainability certification program for bio-based and circular (recycled) raw materials for all markets and sectors without existing regulation.

Materials

GRI 301-1: Materials used by weight or volume
GRI 301-2 Recycled input materials used
The renewable materials used include mainly starches, tall oil, and fatty acid derivatives.

The recycled input materials are industrial by-products and recycled materials from external partners. These materials include mainly inorganic materials such as scrap iron, ferrous sulphate and spent pickling liquor bath. Industrial by-products are mainly from smelters, as well as steel and metal manufacturing. Inorganic byproducts and recycled materials are mainly used in the production of inorganic coagulants, which are used in water treatment.

Materials	GRI Disclosure	2021	2020	2019
Total raw materials used, million tonnes	301-1	2.51	2.21	2.29
Renewable raw materials, %	301-1	3.6	3.6	2.3
Renewable raw materials as a share of carbon-containing raw materials, %	301-1	21.3	15.8	13.0
Recycled raw materials, %	301-2	37.7*	28.0	27.1
Carbon-containing raw materials, %		17.0	23.1	17.4

*Recycled materials % for the year of 2021 is higher than previous years due to that more volume of spent pickling liquor bath is being reported

Energy

GRI 302-1: Energy consumption within the organization
GRI 302-2: Energy consumption outside of the organization
GRI 302-3: Energy intensity
GRI 302-4: Reduction of energy consumption

ENERGY CONSUMPTION AND MANAGEMENT

Energy costs amount to approximately 9% (11% in 2020) of our total sourcing spend. By continually improving energy efficiency at manufacturing sites, we are consistently reducing our energy usage, emissions and associated costs.

In 2021, our operations in Finland accounted for 42% of our total energy consumption. The USA accounted for 30%, and other countries accounted for the remaining 28%.

A substantial portion of our energy management activities is focused on the most energy-intensive sites, which include seven sodium chlorate manufacturing plants in Finland, USA, Uruguay and Brazil. Electricity is our most important energy source, accounting for 71% of the total energy input. Sodium chlorate plants purchase 90% of the electricity, which is the main raw material in the chlorate manufacturing electrolysis process.

Kemira has its most significant energy consuming European sites certified (Äetsä, Joutseno and Helsingborg) according to the ISO 50001:2018 standard. Additionally the sites in San Giorgio and Fredrikstad are certified.

As an energy-intensive company, we strive to reduce our climate and environmental impact in energy purchases. Our most important measures in mitigating our climate impact can be found in the climate target section.

ENERGY BALANCE, GWh

	GRI Disclosure	2021	2020	2019
Total fuel and purchased energy input		**4,932**	4,692	4,859
Consumed fuel as energy source		**831**	743	756
Non-renewable	302-1a	**831**	743	756
Renewable	302-1b	**0**	0	0
Purchased electricity	302-1c	**3,817**	3,301	3,454
Non-renewable		**2,802**	2,477	2,575
Renewable		**1,014**	825	879
Purchased heat and steam	302-1c	**584**	648	649
Non-renewable		**310**	283	281
Renewable		**274**	364	368
Total fuel and purchased energy input by source	302-1a, b	**4,932**	4,692	4,859
Non-renewable		**3,644**	3,503	3,612
Renewable		**1,288**	1,189	1,247
Total energy sold/delivered off-site		**535**	471	495
Heat[1] sold off-site/delivered off-site	302-1d	**453**	390	414
Electricity sold off-site/delivered off-site	302-1d	**82**	81	81
Total energy consumption[2]	302-1e	**4,397**	4,221	4,364
Change in total energy consumption[3]	302-4	**176**	-142	-68
Production volume, 1,000 tonnes		**5,517**	4,946	5,108
Energy intensity, GWh per 1,000 tonnes of production[4]	302-3	**0.80**	0.85	0.85

1. Sum of steam, district heat, condensate, and other heat delivered off-site.
2. The amount of fuel consumed plus purchased electricity and heat minus heat and electricity sold.
3. Comparison of total energy consumption to the previous year.
4. Kemira has calculated the energy intensity by dividing total energy consumption with the annual production volume. Energy intensity is strongly dependent on the types of production mix.

ENERGY EFFICIENCY ENHANCEMENT PROGRAM – E3PLUS

During 2021 we continued implementing our E3plus (Energy Efficiency Enhancement) program established in 2010. The E3plus program aims to reduce the overall specific energy consumption, measured as kWh per tonne of product, at each of our manufacturing sites.

The key focus areas of the E3plus program are:

- Continuing the global alignment of energy efficiency management across all Kemira sites
- Focused and thorough E3 Energy Reviews to identify improvement projects and support their implementation at our manufacturing sites
- Technical and economic evaluation of investment projects to improve energy efficiency
- Further development of the Kemira energy efficiency management system, improving energy management, and obtaining and maintaining ISO 50001:2018 certification in 5 selected sites

Our global Energy Management Team (EMT) coordinates, steers and supports energy management activities across all regions. Members of the EMT represent the top management of our manufacturing sites, as well as our global energy sourcing management.

Kemira participates in the voluntary national Energy Efficiency Agreement in Finland ("Energiatehokkuussopimus") for the period 2017–2025. This Agreement is a part of Finland's national ratification of the EU's response to the Paris Climate Agreement. The total savings reported to the National Energy Authority in Finland ("Energiavirasto") since 2017 are 67 GWh/a equivalent to approximately 2.2 MEur/year.

Our energy efficiency measures and activities focus on sites which have the highest energy consumption. There are 15 sites that consume approximately 90% of the energy in Kemira, and contribute approximately 85% of the company Scope 1 and Scope 2 emissions. Site-specific energy efficiency targets are defined for the largest energy consuming sites, based on energy consumption baseline data, the findings of E3 Energy Reviews, and the availability of resources.

During 2021 energy savings were additionally achieved through the implementation of 41 (26 in 2020) projects across Kemira's operations, saving a total of 28,228 (23,557 in 2020) MWh/a of energy, equivalent to EUR 1.2 (1.0 in 2020) million savings. The cumulative cost savings of more than 550 projects implemented since the start of the E3plus program in 2010, now totals EUR 13.2 million (12.1 in 2020).

ENERGY CONSUMPTION OUTSIDE OF THE ORGANIZATION

Some of our sodium chlorate manufacturing sites provide energy in the form of byproduct fuel (hydrogen) to third-party organizations that use the fuel for manufacturing processes and energy generation activities. The downstream hydrogen consumption by the organizations outside of Kemira offsets the use of carbon-containing fuels for their industrial and energy generating activities, and therefore, offers potential for CO_2e emissions reductions for those organizations. Since the use of the hydrogen by the organizations does not result in CO_2e emissions, Kemira reports 0 for its Scope 3, Category 11 emissions. A summary of the energy consumed outside of Kemira is provided below.

HYDROGEN CONSUMPTION OUTSIDE OF KEMIRA, GWh

	2021	2020	2019
Hydrogen consumption outside of Kemira, GWh	189	249	253

KEMIRA ENERGY EFFICIENCY INDEX

The Kemira Energy Efficiency Index measures the ratio of energy use to production volumes normalized to a 2012 benchmark for our 15 large manufacturing sites covering approximately 90% of energy consumption. The index is not affected by changes in production volumes but may be affected by the product mix.

KEMIRA ENERGY EFFICIENCY INDEX PERFORMANCE

2021	2020	2019	2018	2017	2016	2015	2014	2013	2012
96.7	97.2	96.5	97.1	97.4	96.9	97.7	99.1	98.9	100

Greenhouse gas (GHG) emissions

GRI 305-1: Direct (Scope 1) GHG emissions
GRI 305-2: Energy indirect (Scope 2) GHG emissions
GRI 305-3: Other indirect (Scope 3) GHG emissions
GRI 305-4: GHG emissions intensity
GRI 305-5: Reduction of GHG emissions

DIRECT AND INDIRECT EMISSIONS SOURCES

Kemira's GHG emissions are primarily CO_2, and negligible emissions of methane (CH4) and nitrous oxide (N2O). Kemira estimates GHG emissions using factors in terms of CO_2e and does not specifically estimate and report mass emissions of CH4 and N2O since CO_2 comprises over 99% of CO_2e emissions.

The majority of the electricity used at our Kemira manufacturing sites is obtained from external providers. Many Kemira facilities consume steam and heat generated on-site.

Direct (Scope 1) GHG emissions from Kemira's manufacturing sites are from the following sources:

- Generation of steam, heat and electricity: these Scope 1 emissions result from the combustion of fuels such as natural gas, propane, and diesel fuel in boilers and internal combustion engines, as well as mobile sources such as forklifts
  - Our sodium chlorate sites use byproduct hydrogen gas in their boilers to offset the use of carbon-containing fuels
- Emissions from physical or chemical processing of carbon-containing feedstock, raw materials and chemicals such as sodium and calcium carbonate
- Emissions from our transportation fleet in North America

Indirect (Scope 2) GHG emissions consist of the CO_2e from the generation of purchased or acquired electricity, heating, cooling, and steam consumed by an organization. Our sites purchase or acquire electricity, heating, cooling, and steam resources from either the local municipal authority or private company, or from a separate manufacturing facility located within the same industrial complex.

Other indirect (Scope 3) GHG emissions are a consequence of Kemira's business activities but occur from sources not owned or controlled by our company.

GREENHOUSE GAS EMISSIONS (1,000 TONNES CO_2eq) FROM MANUFACTURING SITES

	GRI Disclosure	2021	2020	2019
Total GHG emissions[1]		**5,197**	5,321*	5,993*
Direct (Scope 1) GHG emissions[2a]	305-1	**160**	136	134
Biogenic Direct (Scope 1) GHG emissions[2b]	305-1c	**0**	0	0
Energy indirect (Scope 2) emissions: market-based[3]	305-2	**696**	749	783
Energy indirect (Scope 2) emissions: location-based		**808**	845	896*
Other indirect emissions: Scope 3[4]	305-3a	**4,341**	4,436*	5,076*
Other indirect emissions: Scope 3 Biogenic emissions	305-3c	**0**	0	0
Change in total GHG emissions	305-5	**-124**	-672	-274
Production volume, 1,000 tonnes		**5,517**	4,946	5,108
GHG emissions intensity, tCO_2e per tonnes of production[5]	305-4	**0.94**	1.08*	1.17*

* Updates to data were provided by sites during 2021 data collection.

1. Scope1 + Scope 2 market-based + Scope 3.

2a. GHG emissions from sources that are owned or controlled by Kemira (Scope 1 of the WRI/WBCSD GHG Protocol). GHG emissions are calculated as CO_2e which includes CO_2, CH_4, N_2O, HFCs, PFCs, SF_6, NF_3.

2b. GRI Standard specifies reporting of biogenic emissions reported starting in 2017.

3. GHG emissions from the generation of purchased electricity, steam and heat that is consumed by Kemira (revised Scope 2 of the WRI/WBCSD GHG Protocol). Market-based emissions are used for target setting and following progress. Location-based emissions are also shown, but these are not used for other indicators. The sources for the emission factors used are the IEA, the UK government's Department for Environment, Food and Rural Affairs (DEFRA), Motiva Ltd. and energy utility companies.

4. GHG emissions from Kemira's value chain (Scope 3 of WRI/ WBCSD GHG Protocol). Scope 3 emissions have changed due to an improvement in the calculation method for purchased goods and services. Kemira has implemented a volume-based approach for Categories 1 and 2 where factors are available.

5. Kemira has calculated the GHG emissions intensity as the ratio of total GHG emissions per production volume. Direct GHG emissions (Scope 1), indirect GHG emissions from energy consumption (Scope 2 market-based) and other indirect GHG emissions (Scope 3) are included.

Kemira operates a transportation fleet in North America to deliver products to customers and raw materials to our manufacturing sites. The GHG emissions associated with the fleet are not included in the table above or in our climate target for our manufacturing sites. Beginning in

2019, Kemira obtained reliable fuel consumption data from our suppliers to estimate Scope 1 emissions related to our North America transportation fleet. The table below summarizes the emissions estimated since 2019. Kemira will continue to report these Scope 1 emissions in addition to the Scope 1 emissions from our manufacturing operations.

GREENHOUSE GAS EMISSIONS (1,000 TONNES CO_2eq) FROM NORTH AMERICA TRANSPORTATION FLEET

	2021	2020	2019
Greenhouse gas emissions (1,000 tonnes CO_2e)	11.5	18.1	11.4

GRI-305-3: Other indirect (Scope 3) GHG emissions

Purchased goods and services (including capital goods) cover 80% (80%), and transportation and distribution emissions (upstream and downstream) 10% (10%) of our Scope 3 emissions. Fuel and energy related activities are 5% (5%) of overall Scope 3 emissions.

In 2021, Kemira revised its methodology to estimate emissions from purchased goods and services. Prior to 2021, Kemira used a spend-based approach to estimate emissions from purchased goods and services. In 2021, Kemira used a volume-based approach for those goods and services with published emission factors. Spend-based emission factors were used for goods and services without volume-based emission factors. This hybrid approach is considered to be more representative of our emissions profiles because the influence of raw material costs fluctuations is eliminated and Scope 3 emissions are associated with the actual amounts of goods and services used in our production processes. Furthermore, this approach aligns with our ongoing collaboration with our value chain partners to obtain product-specific carbon footprints and life cycle assessments that are based on material consumption. This change in methodology also was applied to 2018 through 2020. Although the overall magnitude of Scope 3 emissions has increased, the change in the methodology for purchased goods and services results in more directly measurable actual opportunities to reduce emissions.

Kemira has continued improvements to our transportation and distribution data collection and emissions methodologies, and has increased our collaboration with our business partners to improve the accuracy of the Scope 3 emissions estimates.

OTHER INDIRECT (SCOPE 3) GHG EMISSIONS BY CATEGORIES (1,000 TONNES CO_2eq)

	GRI Disclosure	2021	2020	2019
Total Scope 3 emissions	305-3d	**4,341**	4,436^^	5,076^^
1. Purchased goods and services		**3,550**	3,620^^	4,170^^
2. Capital goods*		*	*	*
3. Fuel and energy related activities		**270**	200^	230
4. Upstream transportation and distribution		**310**	260^	290
5. Waste generated in operations		**25**	100	90
6. Business travel		**5****	5**	5**
7. Employee commuting		**10****	10**	10**
8. Upstream leased assets (leased offices)		**10****	10**	10**
9. Downstream transportation and distribution		**160**	230	270
11. Use of sold products		**0**	0	0
12. End-of-life treatment of sold products		**1**	1	1

* Emissions of Category 2: Capital goods are included in Category 1: Purchased goods and services.

** Categories 6–8 historically contribute less than 2% each year. 2018 - 2020 were assumed to be at the same level as historical years despite actual emissions likely to be lower due to changes in work practices related to COVID-19.

^ Calculation methodology for this category has been updated to include the GLEC framework methodology for downstream and internal movements paid by Kemira. Other logistics scenarios are calculated using the prior methodology.

^^ Calculation methodology for Categories 1 and 2 changed as described above, which results in changes to the total emissions.

Category 11 emissions were estimated to be zero or close to zero, as Kemira does not sell combustible fuels, products that form GHG emissions during use, or products that contain GHG. Category 12 covers all products sold. If a product is not known to have a new lifecycle, it is classified as waste.

The calculation is based on the GHG Protocol Corporate Value Chain (Scope 3) Accounting and Reporting Standard and a supporting guidance document Guidance for Accounting & Reporting Corporate GHG Emissions in the Chemical Sector Value Chain. Scope 3 emissions have been calculated since 2012. GHG emission are calculated as CO_2e. The sources for the emission factors used include the guidance document for the Chemical Sector, the DEFRA, the IEA, Ecoinvent, CEFIC and ECTA. Data covers all of Kemira's production sites according to Kemira consolidation rules. The margin of error for Scope 3 calculations is +/- 20%.

NOTE: Category 10 Processing of sold products is not calculated because it cannot be reasonably tracked; Category 13 Downstream leased assets is not relevant to chemical sector; Category 14 Franchises is not relevant to chemical sector; Category 15 Investments: No information available.

CLIMATE TARGET

In 2019, Kemira set a target to reduce combined Scope 1 and Scope 2 market-based GHG emissions from our manufacturing sites by 30% by 2030 compared to a 2018 baseline of 930 thousand tons CO_2e. In aligning Kemira's climate target with the expectations of our stakeholders, our ambition is to be carbon neutral by 2045 for combined Scope 1 and Scope 2 market-based GHG emissions. This target shows that Kemira supports the ambition of the UNFCCC Paris Agreement and that we recognize our contribution to the collaboration needed across sectors and stakeholders to ensure the implementation of solutions.

Kemira's Scope 1 and Scope 2 market-based GHG emissions in 2021 were 856 thousand tons CO_2e. Assuming a linear decrease from the 2018 baseline of 930 thousand tons CO_2e to the targeted emission rate of 650 thousand tons CO_2e 2030, Scope 1 and Scope 2 market-based emissions in 2021 would be approximately 860 thousand tons CO_2e (-0.5% difference actual 2021 emissions and the projected 2021 emissions). Kemira's emissions in 2021 are at the level expected to meet the 2030 climate target. Kemira has ongoing near-term projects which are expected to further reduce our emissions.

During 2021 our climate action has focused on several different ways of implementing concrete reduction measures but also building up competences to mitigate emissions more effectively. For Scope 1, our initial focus has been projects to find zero-carbon replacements for natural gas use at our largest consuming sites. For Scope 2 the main focus has been on energy efficiency measures. For more information see Energy Efficiency Enhancement Program - E3plus section. We have continued to implement our low/zero-carbon sourced electricity strategy for cleaner energy utilization. As a results of this we made a wind power related 5MW power purchase agreement in the beginning of 2021. In scope 3 we have continued to improve our competences in supply chain emission calculations by implementing the GLEC framework. We have also developed and made available an updated set of product carbon footprints (PCFs) in the EMEA region to provide our customers with up-to-date product climate impact information. We will continue the work in other regions. In 2022, we will increase our engagement with our suppliers through lifecycle assessments and PCF questionnaires to improve the quality of our Scope 3 emissions estimates and to identify opportunities to further reduce our emissions.

Other emissions to air

GRI 305-6: Emissions of ozone-depleting substances (ODS)
GRI 305-7: Nitrogen oxides (NOx), sulfur oxides (SOx), and other significant air emissions

Kemira almost exclusively uses hydrogen and natural gas for its on-site steam and heat requirements. Mobile equipment such as fork trucks use fuels such as natural gas, propane, and low-sulfur diesel fuel. Therefore, Kemira's releases into air of NOx, carbon monoxide, and SOx from combustion processes are not a material topic for Kemira. Kemira's emissions of dust, acid gases, and volatile organic compounds (VOC) are associated with its material handling and manufacturing processes. These releases also are not a material topic for Kemira. Kemira continues to calculate these releases to review materiality on a periodic basis.

Water

GRI 303-1: Interactions with water as a shared resource
GRI 303-2: Management of water discharge-related impacts

Through our Sustainability and EHSQ Policy and our water management program, we strive to minimize water consumption and minimize the negative impact of water discharge activities on the quality of receiving water bodies. Kemira's manufacturing processes require water primarily for use as cooling water and process water.

We are continuously evaluating opportunities to decrease water withdrawal, consumption, discharge, and associated impacts through water recycling and reuse, and process redesign and optimization projects in our upgraded and new production line projects. Where possible, water is recycled and/or reused at our sites to reduce water withdrawal, consumption, and discharge.

Wastewater and cooling water discharges at the manufacturing sites are subject to chemical sector regulations and local discharge requirements (permitting and effluent quality), including the profile of the receiving waterbody.

Wastewater generated from Kemira's manufacturing processes are primarily treated in third-party wastewater treatment plants prior to discharge to a waterbody. Cooling water does not usually require treatment prior to discharge.

Kemira uses EcoVadis platform to assess sustainability of its suppliers. Water management is included as one criteria in EcoVadis platform. In EcoVadis, suppliers are requested to meet certain standards and continuously improve in the area of environment including environmental compliance, waste, air emissions, climate change, water and groundwater, wastewater, energy, nuisance (noise and odour), land use & biodiversity, soil and hazardous chemicals. Scope and results of 2021 EcoVadis assessment are presented in chapter Sustainability Assessments and Audits of Suppliers earlier in this report.

WATER RISK ASSESSMENT

In 2021, there were no significant fines or non-conformities with regards to environmental laws or regulations or claims from external wastewater treatment plant authorities against Kemira.

In late 2021, Kemira updated its water risk assessment. At site level, identification, assessment and responding to water risks is included in the sites' EHSQ Risk Assessment process. Site specific EHSQ Risk Assessments are audited on regular basis internally by Kemira's Global EHSQ function and externally by accredited ISO 14001 auditors. Environmental impacts and risks including water related impacts and risks have also been initially assessed as part of the Environmental Impact Assessments performed as part of the environmental permitting process of the sites. Permit compliance is supervised and controlled by the local environmental authorities by regular inspections and regular environmental reporting to the authorities. Environmental permits are revised and updated as required by local legislation and regulators. At global level, water related risks are included in the Global level Environmental Aspects and Impacts Assessment and EHSQ Risk Assessment which are updated and reviewed minimum every three years. Water-related risks are further assessed by Global EHSQ function annually using WRI's Aqueduct tool and WWF Risk Filter (operational risk at manufacturing sites located in areas of water stress). Kemira has 9 sites (14 % of the sites) located within water stressed areas (areas of "High" or "Extremely High" water stress - that is, areas in which more than 40% of available water is used by industry, household and agriculture).

Water-related risks with potential to have significant (>1 M€) financial or strategic impact in site's business (3 to 6 years into the future) have been identified at some manufacturing sites. Site specific water risk assessments including more detailed assessment of the risk potential will be performed in Spring 2022 at the these sites and results will be reported in Kemira's 2022 CDP Water Security disclosure.

WATER WITHDRAWAL, CONSUMPTION AND DISCHARGE TRENDS

GRI 303-3: Water withdrawal
GRI 303-4: Water discharge
GRI 303-5: Water consumption

Total water withdrawal increased 4% compared to 2020 and 2019. The total water consumption remained at the approximately same level as in 2020 and 2019. The water withdrawal intensity (m^3 per tonnes of production) remained at the same level as in 2020 and 2019. Most of the water withdrawal is used for cooling water purposes (92%). The total water discharges increased 4 % compared to 2020 and 2019. Most of the water discharge is cooling water and other water that requires no treatment (97%). Water withdrawal and discharges increased mostly due to need for more cooling water in hot summer in Europe in 2021 and also due to increase in production.

Freshwater use intensity has decreased by approximately 10% from 2020 and the baseline year 2019 due to process improvements and a decrease in the proportion of water intensive products. Fresh water use intensity is defined as m^3 water withdrawn minus use of cooling water, rainwater and produced water per ton of production.

Kemira has new water target to improve our water management to Leadership level based on CDP Water Security scoring methodology by 2025. Kemira answered to CDP's Water Security full questionnaire for the first time in 2021 and achieved score B (Management level).

WATER WITHDRAWAL AND FRESHWATER USE (MEGALITERS)

	2021	2020	2019
Process water withdrawal, total	**7,001**	7,147	7,204
Surface water withdrawal - Process	**644**	664	678
Groundwater withdrawal - Process	**273**	285	269
Seawater withdrawal - Process	**0**	0	0
Produced water - Process	**79**	67	44
Third party water withdrawal - Process	**5,987**	6,042	6,139
Rain water - Process	**22**	90	75
Cooling water withdrawal, total	**83,454**	79,974	79,767
Surface water withdrawal -Cooling	**61,006**	60,294	59,759
Groundwater withdrawal - Cooling	**2,193**	1,935	1,984
Seawater withdrawal - Cooling	**18,113**	16,667	16,893
Produced water - Cooling	**85**	77	0
Third party water withdrawal - Cooling	**1,058**	1,001	1,131
Rainwater - Cooling	**0**	0	0
Other water, total	**420**	348	415
Surface water withdrawal - Other	**12**	12	13
Groundwater withdrawal - Other	**108**	68	113
Seawater withdrawal - Other	**0**	0	0
Produced water - Other	**0**	0	0
Third party water withdrawal - Other	**291**	204	227
Rainwater - Other	**9**	65	63
Water withdrawal intensity, m3 per tonne of production	**16**	18	17
Freshwater use, m3	**7,315**	7,275	7,438
Freshwater use intensity, m3 per tonne of production	**1.3**	1.5	1.5
Production volumes, thousands of tonnes	**5,517**	4,946	5,108

Fresh water use intensity is defined as m3 water withdrawn minus use of cooling water, rainwater and produced water per ton of production, i.e. surface water (process and other), groundwater (process and other) and third-party withdrawal (process and other) is included in the calculation of water use.

Other water includes water used in ancillary operations such as water used as potable water, sanitary water and cleaning and washing of premises used for ancillary operations such as outdoor areas outside of production, workshops, offices and toilets.

The values presented in Kemira's 2020 report for fresh water intensity in 2020 and 2019 have changed from 1.9 m3 to 1.5 m3 due to correction of systematic error in freshwater reporting at one site and other minor changes in historical data.

Wastewater generated from Kemira's manufacturing processes are primarily treated in third-party wastewater treatment plants. 82% of Kemira's wastewater that is required to be treated is treated in third-party wastewater treatment plants with no data available on direct effluent to water bodies. 18% of treated water is treated in own treatment plants. Kemira's most significant direct emissions to waterbodies include COD and suspended solid discharges that are primarily related to the biological wastewater treatment plant at one manufacturing site and overall discharges are minor at Kemira. Therefore, wastewater discharges by quality (including COD and suspended solids) are not a material topic for Kemira for GRI reporting purposes. However, Kemira continues to review GRI requirements and materiality on a periodic basis.

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OVERVIEW OF WATER FLOWS (MEGALITERS)

		GRI Disclosure	2021 All areas	2021 Areas with water stress	2020 All areas	2020 Areas with water stress	2019
Water withdrawal by sources, Total		303-3	**90,875**	**515**	87,470	528	87,386
Surface water			**61,693**	**0**	61,125	0	60,587
Ground water			**2,573**	**228**	2,288	166	2,366
Seawater			**19,113**	**0**	16,667	0	16,893
Produced water			**160**	**85**	144	77	44
Total third-party water			**7,336**	**201**	7,247	285	7,497
Third-party water by source	Surface water		**N/A**	**139**	N/A	149	N/A
	Groundwater		**N/A**	**62**	N/A	136	N/A
	Seawater		**N/A**	**0**	N/A	0	N/A
Water dicharges by destination, Total		303-4	**84,360**	**294**	80,869	142	80,853
Surface water			**62,869**	**N/A**	61,880	N/A	61,593
Ground water			**0**	**N/A**	0	N/A	0
Seawater			**19,296**	**N/A**	16,869	N/A	17,014
Total third-party water			**2,194**	**N/A**	2,121	N/A	2,245
Third-party water sent for use to other organizations			**3**	**N/A**	2	N/A	278
Water discharge by treatment	No treatment (mainly cooling water)		**81,688**	**N/A**	78,286	N/A	78,115
	Own treatment		**478**	**N/A**	463	N/A	492
Water consumption		303-5	**6,515**	**386**	6,601	321	6,534

Kemira has changed reporting of water withdrawal and water discharges compared to 2020 and earlier sustainability reports by exclusion of water intake and outlet at sites where site is connected to closed cooling water circuit in industrial parks with off-site cooling towers managed by other company.

In addition, limited updates were done to historic figures compared to the total volumes by sites during 2021 data collection. Figures reported in 2020 and earlier are presented in Kemira's 2020 and earlier sustainability reports. Water discharges in areas with water stress increased from 2020 to 2021 due to increased production at one site and wastewater treatment of other companies' wastewater in water treatment plant operated by Kemira. A breakdown of volumes by freshwater (<1,000 mg/L Total Dissolved Solids) and seawater (>1,000 mg/L Total Dissolved Solids) is not provided since only one site uses seawater as cooling water and discharges the cooling water back to seawater after cooling.

Produced water as defined in GRI 303 is generated mostly in Kemira's two tall oil plants in which water is extracted from raw material in process. Water as steam condensate also is categorized as produced water.
Water consumption consists of the water withdrawn and incorporated into products, evaporated, consumed by humans, or otherwise unusable by others such that it is not released back to surface water, groundwater, seawater, or a third-party
Water storage is not a significant water-related impact at our manufacturing sites and therefore, is not reported in our disclosure.

Waste

GRI 306-1: Waste generation and significant waste-related impacts
GRI 306-2: Management of significant waste-related impacts

Through our Sustainability and EHSQ Policy and waste management program, Kemira strives to minimize the amount of industrial and municipal waste generated through consistent material flow management processes and improvements to the efficiency of manufacturing processes. Waste in Kemira is disposed or recovered in compliance with statutory requirements.

Kemira's GRI inventory of direct wastes include seven waste categories. Most significant waste categories include chemical waste and wastewater. Some wastewater streams are defined as waste in local environmental permits and reported as waste to local environmental authorities and therefore also reported as waste as part of Kemira's sustainability reporting. Kemira is continuously working internally and together with its waste handling companies to decrease amount of waste directed to disposal by process optimization and finding recovery options for waste streams that are directed to disposal with focus on waste that is disposed on landfills and incinerated with no energy recovery. Wastewater classified as waste is mostly recovered by combination of wastewater treatment and incineration with energy recovery. Kemira has no own waste disposal, e.g. own active landfills. All waste is collected by third party waste handling companies that have permits to receive and manage waste. All waste is managed by third party companies in compliance with local regulations. This is ensured as part of sourcing of waste management services.

Significant waste generated upstream in Kemira's value chain include waste generated by raw material suppliers. Kemira uses EcoVadis platform to assess sustainability of its suppliers. Waste management is included as one criteria in EcoVadis platform. Scope and results of 2021 EcoVadis assessment are presented in chapter Sustainability Assessments and Audits of Supplier earlier in this report.

Waste generated downstream in Kemira's value chain include mostly products disposed of by Kemira's customers and packaging waste. Kemira operates in B2B business environment. Kemira's products are most often a small fraction of customers' products and some of Kemira's products are disposed or recovered as waste with customer waste. In I&W sector, Kemira's water treatment products are disposed or recovered after use depending on the client's application. In P&P sector, Kemira's products are mostly used in paper and cardboard products. Paper and cardboard waste is generally mostly recovered, either recycled or incinerated with energy recovery. Approximately 90% of Kemira's products transportation to customers is bulk transportation with in practice no packaging waste generated. Approximately 5% of products are transported to customers in Intermediate Bulk Containers (IBCs) that are mostly recycled. Approximately 5% of products are transported to customers in other packaging such as drums, bags and other packaging that are assumed to be mostly recovered, either recycled or incinerated with energy recovery, but no data on recovery and disposal method is available.

GRI 306-3 Waste generated
GRI 306-4 Waste diverted from disposal
GRI 306-5 Waste directed to disposal

Waste data is collected by seven composition categories including chemical waste (filter cake, disposed products and other chemical waste), sludge, metallic waste, mineral waste from construction and demolition and other mineral waste, soils, wastewater and other waste. In recovery and disposal method definitions, Kemira follows local environmental permits.

Total waste generated in Kemira in 2021 was 117.0 thousand tonnes that is 22% less than in 2020 (150.2 thousand tonnes) and 23% less than in 2019 (152.3 thousand tonnes).

HAZARDOUS WASTE

Approximately 22% of Kemira's waste is hazardous waste. Volume of hazardous waste reduced significantly by approximately 45% compared to 2020 and by approximately 55% compared to 2019. The main reason for reduction is cease of operation in December 2020 at a site that accounted for 47% of total hazardous waste generated in 2020 due to disposal of stormwater potentially impacted by acrylamide. Disposal of stormwater at the site as hazardous waste

was done in accordance with local legislation and regulations. Approximately 32% of Kemira's hazardous waste is diverted from disposal and approximately 68% is directed to disposal.

NON-HAZARDOUS WASTE

Approximately 78% of Kemira's waste is non-hazardous waste. The total amount of non-hazardous waste decreased by approximately 11% from 2020. This is primarily due to less non-production related demolition and soil waste. Approximately 35% of Kemira's non-hazardous waste is diverted from disposal and approximately 65% is directed to disposal.

WASTE COMPOSITION (THOUSAND TONNES)

	GRI Disclosure	Waste generated	Waste diverted from disposal	Waste directed to disposal
Weight of waste, Total	306-3	117.0	40.5	76.5
Chemical waste		33.6	8.8	24.9
Filter cake		19.6	5.2	14.4
Disposed products		0.8	0.2	0.6
Other chemical waste		13.2	3.3	9.9
Sludges		5.7	4.0	1.6
Metallic waste		0.4	0.4	0.0
Mineral waste from construction and demolition		1.6	1.6	0.0
Soils		5.9	1.1	4.7
Wastewater		62.4	21.8	40.6
Other waste		7.4	2.7	4.6

Wastes reported for the first time in accordance with GRI 306: Waste 2020 in 2021 and therefore waste composition not available for reference years 2020 and 2019.

WASTE DIVERTED FROM DISPOSAL BY RECOVERY OPERATION (THOUSAND TONNES)

	GRI Disclosure	2021	2020	2019
Weight of waste diverted from disposal, Total	306-4c	**40.5**	44.1	58.7
Hazardous waste	306-4b	**8.3**	4.7	11.3
Preparation for reuse		**0.0**	0.0	0.0
Recycling		**7.2**	3.9	10.4
Other recovery operations		**1.0**	0.7	0.9
Non-hazardous waste	306-4d	**32.3**	39.4	47.4
Preparation for reuse		**0.2**	6.2	5.9
Recycling		**27.7**	7.1	5.6
Other recovery operations		**4.3**	26.1	36.0

WASTE DIRECTED TO DISPOSAL BY DISPOSAL OPERATION (THOUSAND TONNES)

	GRI Disclosure	2021	2020	2019
Weight of waste directed to disposal, Total	306-5c	**76.5**	106.1	93.6
Hazardous waste	306-4b	**17.5**	42.9	45.8
Incineration (with energy recovery)		**4.9**	9.3	2.4
Incineration (without energy recovery)		**0.8**	1.4	1.0
Landfilling		**1.6**	1.8	1.4
Other disposal operations		**10.3**	30.5	40.9
Non-hazardous waste	306-4d	**59.0**	63.2	47.8
Incineration (with energy recovery)		**41.4**	35.9	28.7
Incineration (without energy recovery)		**0.2**	0.2	0.2
Landfilling		**13.4**	23.1	14.1
Other disposal operations		**4.1**	3.8	4.9

Limited updates compared to the total volumes were provided by sites during 2021 data collection.
Figures reported in 2020 and earlier are presented in Kemira's 2020 and earlier sustainability reports.
Waste disposal method was determined based on information in environmental permits and provided by waste disposal contractors.
All waste presented in tables above is either diverted from disposal or directed to disposal off-site.
There was no onsite disposal in Kemira in 2021.

PRODUCTION WASTE, WASTE TARGET AND RECOVERY RATE

Most of Kemira's waste is production waste. Other waste categories are non-production waste and disposed products that are defined as follows:

- Non-production waste:
  - Expired or outdated raw materials
  - Contaminated soil or debris from a spill
  - Construction and demolition waste, including waste (reusable and non-reusable associated with plant or site closures
  - Biomass from gardening and pruning activities
  - Laboratory/warehouse cleanouts
  - Non-routine tank/railcar cleaning wastes
- Disposed products:
  - Kemira's products that have been disposed or recovered by third-party disposal company

WASTE CATEGORIES (THOUSAND TONNES)

	2021	2020	2019
Production waste	103.1 (88%)	128.8 (86%)	142.2 (93%)
Non-production waste	13.1 (11%)	19.7 (13%)	9.0 (8%)
Disposed Products	0.8 (1%)	1.7 (1%)	1.1 (1%)

Kemira's target is to reduce disposed production waste intensity by 15% by 2030. In the target we measure disposed production waste. It includes both hazardous and non-hazardous waste. It excludes waste that is recovered, e.g. via recycling, reuse and incineration with energy recovery. It is expressed as an intensity, metric tons of waste per thousand metric tons of production. Baseline is 2019 at 4.6 and target is 3.9 by 2030. The intensity in 2021 was 4.3, that is slightly more compared to 4.2 in 2020. The increase is due to first year of full production at one site with significant disposed waste generation. Calculation of the target is presented in the table below.

Kemira is following recovery rate of production waste. Recovery rate of the production waste was decreased slightly from 2020 due to decrease of the most significant recovered waste fraction at one site. One waste stream at this site (sulfuric water recovered at adjacent paper mill) comprised 34% of all Kemira's total production waste and 43% of production related non-hazardous waste. The stream is classified as waste in the site's environmental permit and therefore reported as waste in accordance with GRI standards. Calculation of recovery rate of production waste is presented in the table below.

PRODUCTION WASTE BY TYPE AND DISPOSAL METHOD (THOUSAND TONNES), WASTE TARGET AND RECOVERY RATE

	2021	2020	2019
Hazardous waste	20.7	42.1	48.4
Preparation for reuse	0.0	0.0	0.0
Recycling	8.9	3.8	8.6
Other recovery operations	1.0	0.7	0.9
Incineration (with energy recovery)	4.8	8.9	2.0
Incineration (without energy recovery)	0.7	1.3	0.8
Landfilling	1.5	0.8	0.9
Other disposal operations	5.8	26.6[3]	35.1[3]
Non-hazardous waste	82.4	86.7	93.8
Preparation for reuse	0.2	6.2	5.9
Recycling	26.4	3.9	5.2
Other recovery operations	2.8	26.0	36.0
Incineration (with energy recovery)	37.4	35.9	28.7
Incineration (without energy recovery)	0.1	0.1	0.2
Landfilling	11.5	10.7	12.9
Other disposal operations	3.9	3.8	4.9
Grand Total	103.1	128.8	142.2
Total disposed production waste[3]	23.8	20.9	23.5
Recovery rate of production waste, %[2,3]	77	80	79
Disposed production waste intensity (Kemira waste target) tonnes per tonnes of production [1,3]	4.3	4.2	4.6
Production volumes, thousands of tons	5,517	4,946	5,108

1. Incineration (without energy recovery), Landfilling and Other disposal operations are included in calculation of the waste target (disposed production waste intensity). Incineration (with energy recovery) is considered as recovery operation in the target calculation and is therefore not included in the calculation.
2. Preparation for reuse, Recycling, Other recovery operations and Incineration (with energy recovery) are considered as recovery operations in calculation of recovery rate of production waste.
3. The target calculation and recovery rate calculation excludes disposed waste at Fortier site that was closed in late 2020. Exclusions are 22.4 kt in 2020 and 31.3 kt in 2019. At the time of setting the target it was known that the site will be closed and therefore decided to be excluded from the target.

SIGNIFICANT SPILLS

Kemira's definition of a significant spill includes a spill resulting in one or more of the following:

- A spill or leak of more than 1,000 kg of a hazardous chemical (those chemicals identified as hazardous or dangerous by federal, provincial, state or local regulations, or by internationally recognized protocols such as, United Nations dangerous goods classification or assigned a reportable quantity if spilled) outside of secondary containment or to the atmosphere
- Requirement for immediate reporting of an environmental release/spill to a regulatory agency
- Substantial negative publicity

In 2021 there were 2 significant spills compared to 4 in 2020.

- Manufacturing incidents accounted for 2 significant spills. All occurred at our manufacturing sites. The total volume of the significant spills at manufacturing plants were approximately 8 tonnes

The significant spills did not have a permanent or significant impact on the environment beyond the remediated material. These spills were not reported in Kemira's Financial Statements.

TRANSPORT OF HAZARDOUS WASTE

In 2021, approximately 23,000 tonnes of hazardous waste were transported by, or on behalf of Kemira, to external suppliers not owned by Kemira. Hazardous waste was not imported or treated by Kemira in 2021.

One of our sites in South America does not have a treatment or disposal option within the country for some of its hazardous wastes. Therefore, it must be shipped to the EU for disposal. In 2021, there were approximately 17 tonnes of hazardous waste exported from South America to Europe for disposal and 6 tonnes of hazardous waste between EU countries. In total, less than 1% of the hazardous waste generated in 2021 (less than 1% in 2020) by Kemira was shipped internationally.

Biodiversity

GRI 304-1: Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas
GRI 304-2: Significant impacts of activities, products, and services on biodiversity
GRI 304-3: Habitats protected or restored
GRI 304-4: IUCN Red List species and national conservation list species with habitats in areas affected by operations

In 2021, Kemira collected relevant information for a biodiversity assessment from all our manufacturing sites (62). In addition, the Integrated Biodiversity Assessment Tool (IBAT) was used to review Kemira's manufacturing sites locations in relation to protected areas and areas of biodiversity importance.

We identified that the majority of Kemira's manufacturing sites (53) are not located in, or adjacent to, protected areas or areas of biodiversity importance. Kemira has two manufacturing sites located within important biodiversity areas and one site containing a portion of an important biodiversity area. In addition, seven manufacturing sites are adjacent to protected areas or important biodiversity areas. The sites in, containing portions, or adjacent to, protected areas and key biodiversity areas are presented in the table on the next page.

Kemira's manufacturing sites are located in industrial zones and have environmental permits. Based on the environmental impact assessments conducted as part of environmental permitting of the sites, Kemira's manufacturing sites do not have direct significant impacts on biodiversity that adversely affect the integrity of a geographic area or change its ecological features and functions, and are not considered to have impact on the IUCN Red List of Threatened Species. We continue to assess possible indirect impacts of our operations on biodiversity throughout the value chain.

Kemira monitors impacts of its manufacturing sites on biodiversity in accordance with monitoring programs assigned by local environmental authorities. In addition, Kemira partnered with the local county government in Baltimore, Maryland USA on a shoreline stabilization program along Bear Creek. One of the primary purposes of the program is to reduce and control nutrient runoff into the creek. The program aims to stabilize 460 m of eroding shoreline and create about 0.47 ha of new marsh vegetation and habitat. Final construction of the project was completed in July 2021. Kemira's funding for the project will include ongoing maintenance of the property for up to 12 years.

THE MANUFACTURING SITES IN RELATION TO PROTECTED AREAS OR AREAS OF HIGH BIODIVERSITY VALUE

Geographic location	Type of operation	Position in relation to the protected area or area of high biodiversity value	Size of operational site, ha	Biodiversity value of the protected area or area of high biodiversity value
Fray Bentos, Uruguay	Manufacturing	In the area[1]	7.00	Important Bird and Biodiversity Area - Terrestrial, Freshwater
Vancouver, Canada	Manufacturing	In the area	0.49	Important Bird and Biodiversity Area - Terrestrial, Marine
Pori, Finland	Manufacturing	1) Contains portions[2] 2) Adjacent[3]	54.90	1) Important Bird and Biodiversity Area - Terrestrial, Marine 2) Special Protection Area (Birds Directive) - Marine
Krems, Austria	Manufacturing	Adjacent	2.18	1) Important Bird and Biodiversity Area - Terrestrial 2) Special Protection Area (Birds Directive) - Terrestrial
Ostroleka, Poland	Manufacturing	Adjacent	0.41	1) Importand Bird and Biodiversity Area - Terrestrial 2) Special Protection Area (Birds Directive) - Terrestrial
Police, Poland	Manufacturing	Adjacent	2.97	Site of Community Importance (Habitats Directive) - Terrestrial
Teesport, UK	Manufacturing	Adjacent	8.09	1) Special Protection Area (Birds Directive) - Marine 2) Site Of Special Scientific Interest (Gb) - Marine
Washougal, USA	Manufacturing	Adjacent	4.45	National Wildlife Refuge - Terrestrial
Wroclaw, Poland	Manufacturing	Adjacent	4.66	Site of Community Importance (Habitats Directive) - Terrestrial

1) "In the area" means the whole area of the manufacturing site is within the protected area or area of high biodiversity value.
2) "Contains portions" means some part of the protected area or area of high biodiversity value lies in the area of the manufacturing site.
3) "Adjacent" is defined by Kemira as a maximum distance of 300 meters from the manufacturing site. The definition is subject to modification in accordance with the updated GRI guidelines.

Environmental compliance

GRI 307-1: Non-compliance with environmental laws and regulations

Kemira's integrated EHSQ management system is a set of standards, procedures, and practices to achieve environmental goals through continual planning, implementation, evaluation, and review of environmental performance. One of the primary environmental goals of Kemira's EHSQ management system is compliance with legal requirements. Kemira has identified its legal compliance obligations and implements an Auditing Standard to verify conformance. Kemira regularly conducts EHSQ compliance audits at manufacturing sites, research and development laboratories, and offices. Management system audits are performed on a periodic cycle (typically every 3 years) by Kemira's independent internal auditing team and external bodies. The audits focus on certain elements within the management system based on the risks and opportunities impacting the site, business segment, or Kemira as a whole at the time of the audit. To supplement this audit sampling approach, verification of legal compliance is provided annually as part of the data collection and reporting processes. Kemira's robust integrated EHSQ management system requires all sites to report non-compliance to the group's Global EHSQ Team using our incident reporting program (Synergi Life).

Kemira did not receive significant fines or non-monetary sanctions for non-compliance with environmental laws and/or regulations in 2021.

A non-governmental organization (NGO) filed a complaint against a local environmental authority and a Kemira site in the United States alleging violations of a permit issued under the Clean Water Act. Kemira expressly denied all allegations in the NGO's complaint. Kemira entered into a settlement agreement with the NGO to resolve the dispute without further litigation. As part of the settlement agreement, the NGO dismissed its complaint and waived claims against Kemira. The settlement agreement included a payment of USD 130,000, in which a party to the NGO received USD 70,000 be used directly for projects benefiting water quality or aquatic habitat in the local river basin. The balance covered attorney's fees and costs for the NGO.

Social Performance

Information on employees

GRI 102-8: Information on employees and other workers

Total number of employees

	2021	2020	2019
Total number of employees*	4,926	4,921	5,062
Female, %	26%	26%	26%
Male, %	74%	74%	74%
White collar, %	59%	59%	59%
Blue collar; %	41%	41%	41%

* At year end. Workers who are legally recognized as self-employed, or individuals other than the ones in Kemira's payroll are not counted on these numbers.

GRI 102-8a: Total number of employees by employment contract (permanent and temporary), by gender

	2021	2020	2019
Total number of employees	4,926	4,921	5,062
Total permanent	4,846	4,819	4,940
Total fixed-term*	80	102	122
Female total	1,291	1,280	1,295
Permanent	1,257	1,228	1,237
Fixed term*	34	52	58
Male total	3,635	3,641	3,767
Permanent	3,589	3,591	3,703
Fixed term*	46	50	64

*Fixed term meaning temporary employment contract

GRI 102-8b: Total number of employees by employment contract (permanent and temporary), by region

	2021	2020	%, 2021	%, 2020
Total number of employees	4,926	4,921		
Americas	1,487	1,467	30.2%	29.8%
APAC	923	924	18.7%	18.8%
EMEA	2,516	2,530	51.1%	51.4%
Permanent total	4,846	4,819	98.4%	97.9%
Americas	1,486	1,462	30.7%	30.3%
APAC	923	924	19.0%	19.2%
EMEA	2,437	2,433	50.3%	50.5%

A temporary (fixed-term) employment contract is a type of employment used mainly in EMEA, atypical for Americas and APAC. In 2021 there were 80 employees (1,6%) with temporary contract (102; 2.1% in 2020).

GRI 102-8c: Total number of employees by employment type (full-time and part-time), by gender

	2021	2020	2019
Total employees	4,926	4,921	5,062
Total full-time	4,845	4,832	4,980
Total part-time	81	89	82
Female total	1,291	1,280	1,295
Full-time	1,230	1,215	1,240
Part-time	61	65	55
Male total	3,635	3,641	3,767
Full-time	3,615	3,617	3,740
Part-time	20	24	27

GRI 102-41: Collective bargaining agreements

The collective bargaining agreements are measured for 'significant locations of operations' referring to countries with 10 or more employees. In Kemira's case there are 25 such countries and altogether these countries represent 99% of all employees.

In 2021, 2366 (48%) of Kemira employees globally were covered by collective bargaining agreements (2120; 44% in 2020).

Employment

GRI 401-1: New employee hires and employee turnover

GRI 401-1 a: Total number and rate of new employee hires during the reporting period, by age group, gender and region

	Number of new hires			% of new hires		
	2021	2020	2019	2021	2020	2019
Total new hires	**526**	411	751			
New hires by age group	-	-	-	-	-	-
<30	**220**	184	289	**42%**	45%	38%
30–50	**247**	177	396	**47%**	43%	53%
>50	**59**	50	66	**11%**	12%	9%
New hires by gender	**526**	411	751	-	-	-
Females	**146**	131	208	**28%**	32%	28%
Males	**380**	280	543	**72%**	68%	72%
New hires by region	**526**	411	751	-	-	-
APAC	**56**	28	233	**11%**	7%	31%
EMEA	**275**	255	335	**52%**	62%	45%
Americas	**195**	128	183	**37%**	31%	24%

GRI 401-1 b: Total number and rate of employee turnover during the reporting period, by age group, gender and region

	Number of new hires			Turnover, %		
	2021	2020	2019	2021	2020	2019
Total turnover	**403**	429	489	**8.2%**	8.7%	9.7%
Turnover by age group	-	-	-	-	-	-
<30	**58**	50	83	**12.4%**	10.0%	14.6%
30–50	**200**	193	253	**6.8%**	6.6%	8.5%
>50	**145**	186	153	**9.4%**	12.5%	10.2%
Turnover by gender	**403**	429	489	-	-	-
Females	**90**	95	123	**7.0%**	7.4%	9.5%
Males	**313**	334	366	**8.6%**	9.2%	9.7%
Turnover by region	**403**	429	489	-	-	-
APAC	**56**	53	63	**6.1%**	5.7%	6.7%
EMEA	**173**	145	254	**6.9%**	5.7%	10.0%
Americas	**174**	231	172	**11.7%**	15.7%	11.0%

The total turnover is based on permanent workforce.

Labor/Management relations

GRI 401-2: Benefits provided to full-time employees that are not provided to temporary or part-time employees

The benefit programs at Kemira differ depending on regional and country specific practices and the programs have been stable across recent years without major changes to the practices. In most countries, the same benefits are offered to full-time and part-time employees and for temporary employees hired directly by Kemira, if the temporary contract exceeds a certain length.

Benefit practices are country specific and typically do not vary between locations and operations. Some exceptions apply, for example some countries offer additional insurance and/or retirement benefits for permanent full-time employees.

GRI 402-1: Minimum notice periods regarding operational changes

As stated in our Code of Conduct, all sites are obliged to follow local legislation, regulations and other agreements regarding labor practices, including notice periods. Minimum notice periods are defined in laws or in collective agreements, and are followed in each country accordingly. The time period for the consultation process relating to operational changes varies by country and region, starting from 14 days for smaller changes to up to six months in some countries and for major changes, varying between one to two months in most countries.

Occupational health and safety

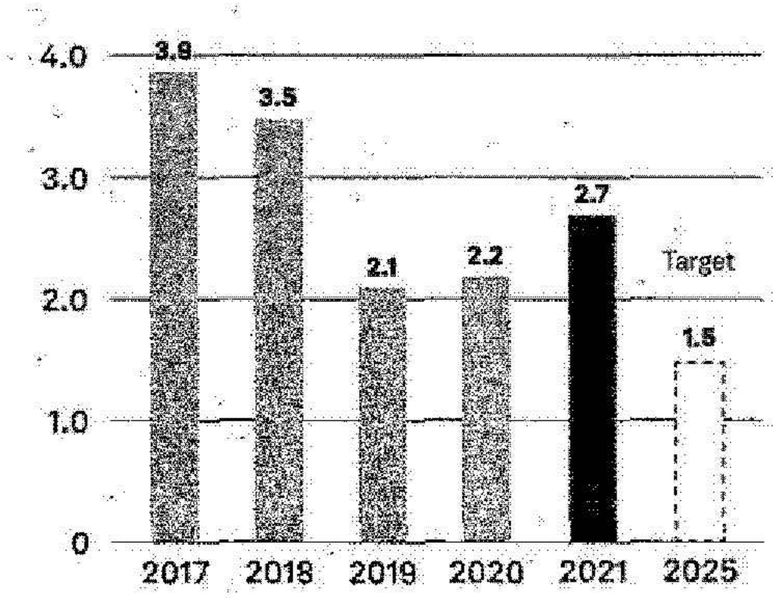
GRI 403-2: Hazard identification, risk assessment, and incident investigation
GRI 403-4: Worker participation, consultation, and communication on occupational health and safety
GRI 403-5: Worker training on occupational health and safety
GRI 403-9 Work-related injuries

Kemira reports its occupational safety performance indicator as Total Recordable Injuries (TRI) which includes permanent injuries and fatalities, lost time incidents, restricted work cases and medical treatment cases covering Kemira employees and contractors working at Kemira sites. TRI Frequency (TRIF) is measured as Total Recordable Injuries per million working hours.

Kemira uses external service providers (contractors) which work at Kemira locations. These services cover for example maintenance, repair, turnaround, major renovation or specialty work at a Kemira site. We follow the contractor hours as this information is included in the workplace safety indicator TRIF. Third party transportation companies, whether onsite or offsite, are excluded. In 2021, there were approximately 2.2 million hours which equals to about 1,180 FTE (Full Time Equivalents) when assuming 7.5 hours per day and 250 working days per year.

There was a setback in our health and safety performance in 2021 compared with the performance in 2019 and 2020. Total number of TRIs in 2021 (2020) was 36 (31) and TRIF was 2.7 (2.2). The overall ratio of contractors' TRIs to total number of TRIs remained quite consistent with the 2020 level. During the first 4 months we saw an increasing trend with contractor incidents. In response, a Contractor Safety Management project was launched and consequently achieved 5 consecutive contractor injury free months. It is expected that all planned project actions will be implemented by the end 2022. Although above our 2021 TRIF target of 1.9, safety performance has stabilized and compares to equivalent industrial safety performance levels. To achieve a world class target (<2.0) Kemira will further enhance our focus on safety awareness, people behavior and contractor management. We look forward to meeting our 2022 target of TRIF 1.9 and beyond.

OUR SAFETY PERFORMANCE (TRIF)



TRIF: Total Recordable Injury Frequency per million hours

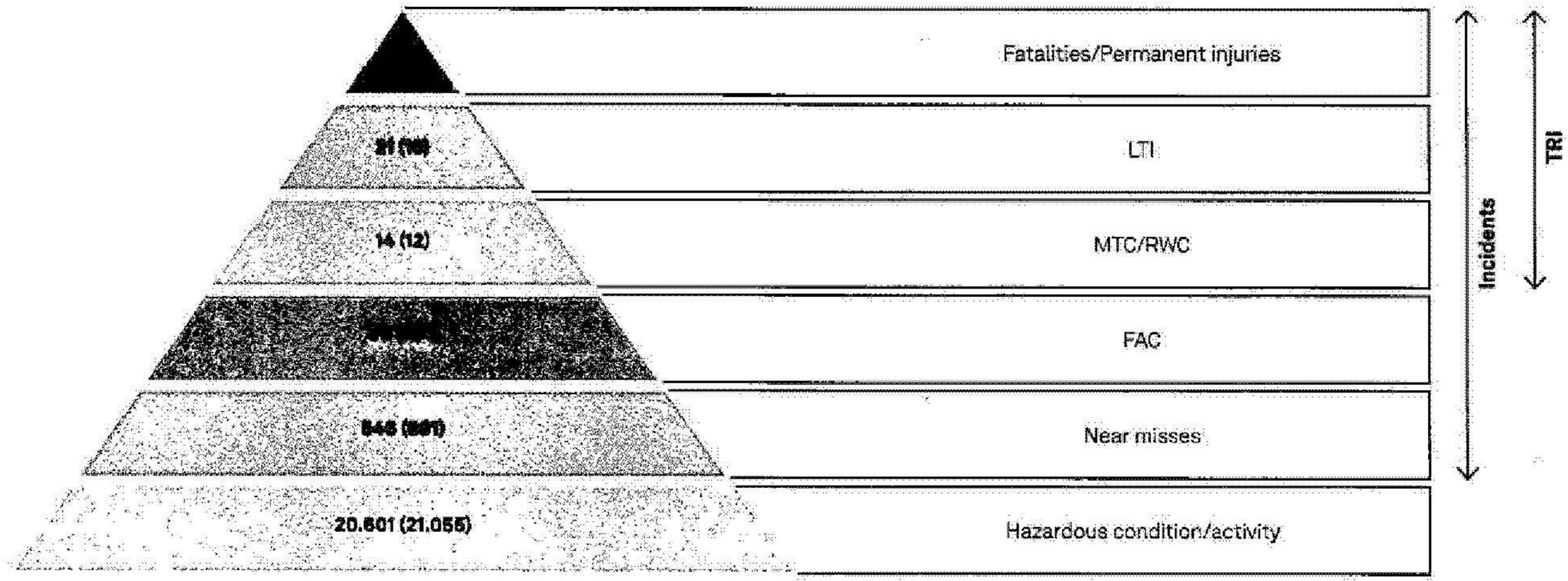
No fatalities have occurred with Kemira employees or contractors since 2005. We saw a slight increase in the number of Lost Time Incidents (LTIs). Unfortunately, we had one permanent finger incident with one of our contractors. He was carrying out maintenance activities with an air actuated spring return valve. While he was trying to lock out the energy stored in the spring the valve accidentally hit his finger causing partial finger loss. The contractor was working according to their own work process in a Kemira workshop. The incident was reported to authorities by the contractor's employer and Kemira.

Kemira continued to put effort in protecting our employees, contractors, drivers and their families from the COVID-19 pandemic. We have followed a Careful Return approach globally and we have systematically transitioned from global COVID-19 management to regional and local COVID-19 management. We will continue this work into next year, ensuring the health of our employees and business continuity.

We continued our Behavior Based Safety (BBS) program in 2021. In 2021, Kemira employees performed over 337,000 individual BBS observations included in 15,118 surveys. This level of engagement and proactive identification of at-risk behaviors is a good achievement in the middle of a pandemic. We had a plan to refresh our BBS program, however this was delayed because of extensive remote work. Nevertheless, we were able to start a project for further digitized tools for supporting and improving Sustainability & EHSQ Management. This also includes the refreshment of our existing Behavior Based Safety (BBS) program. We strongly believe the BBS is the key to improve our ways of working and to achieve our future challenging safety targets.

Incident classification	Definition
Permanent injury	A work-related injury leads to damage that will indefinitely restrict the employment or other normal activities of an individual
Lost Time Incidents (LTI)	A work-related injury or illness, suffered by a Kemira employee or contractor resulting in at least one full day of time away from work (this does not to include the day of the injury), as determined by a physician or other licensed health care professional
Medical Treatment Case (MTC)	Any work-related injury or illness that requires professional medical treatment or a prescription medication. Medical Treatment means beyond first aid level medical attention
Restricted Work Case (RWC)	A work-related injury or illness that requires the employee to have restricted work, or transfer to another job for at least one full day, as determined by a physician or other licensed health care professional
Total Recordable Injury (TRI)	TRI is the sum of Fatalities, LTI, RWC, and MTC
First Aid Case (FAC)	First aid refers to a work related minor injury or illness which can be treated by a first responder or equivalent and does not require a professional physician or paramedic medical attention
Near Miss	An undesired event in the work environment that under different circumstances could have resulted in harm to people
Hazardous Condition/ Activity	Leading safety indicator reflecting environmental or behavior related hazards at the workplace

PERSONAL INJURIES PYRAMID 2021 (2020)



Kemira employs a large number of Commercial Sales Representatives, which may perform a variety of activities at customer locations. Depending on the product line and customer requirements our Commercial Sales Representatives can perform tasks such as equipment upkeeping, process sampling and inventory management at the customer facility. In 2021, Kemira continued implementation of health and safety requirements. Commercial Sales Representatives have now completed more than 1,700 job hazard assessments in a mobile application. Also internal Standard Operating Procedures and other risk assessment are further developed.

In 2021, Kemira continued systematically reporting process safety incidents (RPSI) based on the ICCA definition. Additionally, we expanded our formal root cause analysis and investigation process to include major RPSI in all regions. The work on generic PHA's initiated in 2019 to improve the process safety for our coagulant business was completed. Our PSM standard was updated according to a 3-year revision cycle, and as part of this work a few key Process Safety Procedures (PSI, PHA, LOPA, PSSR) were renewed. Training of the new procedures was conducted with a focus on Process Hazard Analysis (PHA). Kemira's Global PHA templates were updated to new requirements in our global process risk assessment software, and refresher trainings conducted.

As part of our competence development program an EHSQ Learning path for Manufacturing was launched via Kemira internal learning system, MyKem covering EHSQ Culture, Risk Management and Root Cause Analysis. The goal of the trainings was to strengthen our core values and get a common understanding of our main risk management vocabulary and available tools and methods to use.

As a part of continuous improvements, we continued the work on updating our site's EHSQ Assessments with migration to the unified format in alignment with ISO 45001 requirements, which will support our digitalization of risk assessments, ensuring we cover the same risks across all of our sites.

The number of Near Misses (546) which under different circumstances could have resulted in harm to people was a bit lower level compared with previous year (681). It is still believed that number of Near Misses decreased due to intensive remote activity, however their number is expected to increase when all Near Miss cases are reviewed, classified and closed. Based on 2020 a 10 % increase is expected in the final 2021 Near Miss total.

Hazardous Conditions/Activities reporting is a leading safety indicator reflecting environmental or behavior related hazards at the workplace. The number of reported Hazardous Conditions/Activities remained at a good level. The outcome was 20,601 in 2021 which equals to 4.2 per Kemira employee. The proactive identification of Hazardous Conditions/ Activities not only allows us to avoid incidents but also improves our operations and work methods.

Transportation safety overall has improved compared to last year. Our transportation incident KPI rate is currently <(1.6) Kemira Global Target. Proactive communication to the sites, ongoing transportation safety audits, and support from Regional Transport Safety have contributed to better performance. New safety programs (e.g. Global Load Securement Standard, & Chemical Storage of Samples) have been established to assist in improving performance. Ongoing initiatives, including continued support for the sites, new procedures e.g. Proposed Global Sample Shipping Procedure targeting transportation related activities is currently under way to achieve our goals for 2022.

TOTAL RECORDABLE INJURIES

	2021	2020	2019
Total TRI	**36**	31*	30
Kemira employees	**28**	21	21
Contractors working at Kemira site	**8**	10	9
Regional TRI			
APAC	**3**	1	2
EMEA	**21**	15	19
Americas	**12**	14	9
TRI Frequency			
Global TRIF	**2.7**	2.2	2.1
Kemira employees	**2.5**	1.9	1.9
Contractors working at Kemira site	**3.6**	3.3	2.9
Regional TRIF			
APAC	**1.0**	0.3	0.6
EMEA	**4.0**	2.6	3.5
Americas	**3.3**	3.4	2.3

*Global Functions 1 TRI

LOST TIME INCIDENTS

	2021	2020	2019
Total LTI	**22**	19	15
Kemira employees	**17**	14	11
Contractors working at Kemira site	**5**	5	4
Regional LTI			
APAC	**0**	0	1
EMEA	**16**	12	11
Americas	**6**	7	3
LTI Frequency			
Global LTI	**1.6**	1.4	1.1
Regional LTI			
APAC	**0.0**	0.0	0.3
EMEA	**3.0**	2.1	2
Americas	**1.6**	1.7	0.8

Training and education

GRI 404-1: Average hours of learning per year per employee

Kemira continued in 2021 to advance towards its aims to capture all training, education and employee development related hours in the learning management system (LMS). So far, leadership development activities, regional and global competence development and vocational training programs and many local programs are recorded in the LMS. However, some remaining training and development activities are still recorded locally.

LEARNING HOURS REGISTERED IN THE SYSTEM FOR LARGER COUNTRIES IN 2021 ARE

Country	2021	2020
Finland	6,427	8,268
UK	4,719	5,831
Sweden	4,327	5,014
USA	7,444	8,775
Netherlands	4,585	4,039
China	31,678	22,899
Poland	3,838	5,050

There were variations in some of the biggest countries. The increase in learning hours recorded in China is due to multi-skilling for blue collars and well-being initiatives for all employees. This was balanced by stable learning hours globally and a notable decrease in Finland, UK and Poland.

The globally registered average hours of learning for employees do not differ significantly by gender and have improved in favor of blue collar employees in 2021.

GRI 404-2: Programs for upgrading employee skills and transition assistance programs

Kemira provides each employee with access to the relevant competence development programs and structured learning opportunities to support upgrading of employee skills through on-the-job learning programs (including generic and job-specific competence development), buddy/coaching/mentoring programs and traditional methods like classroom and digital learning.

The scope includes:

- Future competency programs, sustainability and data & analytics, EHSQ / safety culture
- Leadership development (internal and external) programs
- Professional & technical competence development programs up-skilling and re-skilling
- Statutory or compliance related programs

All of these programs are available based on the position, skills/competence level and career aspirations. With the exception of leadership development programs and other external cost-based programs (pre-approval required), employees can typically enroll and complete the self-paced learning programs available through our LMS (Learning Management System).

Examples of global and regional programs offered during 2021 are listed below:

- Code of Conduct, Anti-corruption, Speak Up, Information Security Awareness and other compliance programs delivered mainly through eLearning
- Data & analytics and digitalization: Introduction to Data & Analytics at Kemira, Kemira as a Data-Driven Company, Case Studies of Digital Products and Services
- Sustainability: Introduction to Sustainability at Kemira, Kemira as a Sustainability-Focused Company
- Learning Solutions for Commercial and Manufacturing roles as part of professional competence development included Value Selling, Negotiation, Insight, Innovation & Creativity, Adaptability, Strategic Thinking, Account Development and Ownership delivered as co-created self-paced eLearning and virtually

- EHSQ related programs including EHSQ Policy and Vision, EHSQ Life Saving Rules and standards and competence development with EHSQ Culture, Risk Management and Root Cause Analysis
- Project Management Fundamentals and Agile & Scrum Fundamentals
- Leadership training programs incl. awareness training for all people managers and HR community on the new Leadership Principles
- Talent Development Journey Programs for identified talents

Kemira also provides transition assistance programs where relevant, with bigger changes to facilitate the continued employability and management of career endings resulting from retirements or termination of employment. These have included:

- Up-skills training for those intending to continue working with Kemira
- Severance pay
- Career planning and out-placement/job placement services

GRI 404-3: Percentage of employees receiving regular performance and career development reviews

Our global performance and development discussion (PDD) process covers all permanent employees, both white collar and blue collar, who are not absent for an extended time period because of leave, for example. Temporary employees' inclusion in the PDD process is evaluated case-by-case, depending on the length of the contract. During 2020–2021 the PDD process has been fully digitalized for blue collars in 30/37 countries. This has enabled better employee experience and follow-up of the PDD.

GRI 404-3a: Percentage of total employees by gender and by employee category who received a regular performance and career development review during the reporting period

Performance and Development Discussion (PDD)	Number			%		
	2021	2020	2019	2021	2020	2019
Total permanent employees not absent*	4,827	4,757	4,771			
Employees covered in Global PDD process	4,567	4,383	4,593	95%	92%	96%
Female	1,189	1,129	1,142	98%	97%	98%
Male	3,378	3,254	3,464	93%	91%	96%
White collars	2,771	2,701	2,748	98%	99%	98%
Blue	1,796	1,682	1,845	90%	83%	94%

*All permanent employees, who are not absent for an extended time period, because of leaves, for example, are covered by global performance and development discussion process.

Diversity and equal opportunity

In Kemira we aspire to build a team and culture that fosters diversity and inclusion. We believe that diversity is one of the greatest contributors to our success. A truly diverse and inclusive culture builds our value as an employer of choice and as the first choice for our customers.

In 2021, we set ourselves a diversity and inclusion target measured as the employee perception of diversity & inclusion. Our target is to reach top 10% cross industry norm for diversity & inclusion by 2025. To move us closer to our target, in 2021 we assessed the current state of diversity & inclusion and based on the assessment planned a diversity & inclusion roadmap for the upcoming years.

GRI 405-1: Diversity of governance bodies and employees

As stated in our Code of Conduct, we respect the diversity, talent and abilities of others. We at Kemira define 'diversity' as all the unique characteristics that make up each of us: personality, lifestyle, work experience, ethnicity, religion, gender, sexual orientation, age, national origin, ability and other characteristics. We focus our efforts to attract, develop and retain a workforce that is diverse, and to ensure an inclusive work environment that embraces the strength of our differences. We do not discriminate or treat employees or job applicants unfairly in matters that involve recruiting, hiring, training, promoting, compensation or any other term or condition of employment.

The number of females in executive positions was 31% in 2021, (Directors and above) and has remained on the same level as in 2020 (31%).

GRI 405-1a: Percentage of individuals within the organization's governance bodies in each of the following diversity categories: Gender, age group, other indicators of diversity where relevant

	Total			%		
	2021	2020	2019	2021	2020	2019
Management Board						
Total	8	8	8		-	-
Female	1	1	1	13%	13%	13%
Male	7	7	7	88%	88%	88%
By age group						
<30	0	0	0	0%	0%	0%
30–50	1	1	1	13%	13%	13%
>50	7	7	7	88%	88%	88%
Board of Directors						
Total	7	7	6		-	-
Female	1	3	3	14%	43%	50%
Male	6	4	3	86%	57%	50%
By age group					-	-
<30	0	0	0	0%	0%	0%
30–50	1	1	1	14%	14%	17%
>50	6	6	5	86%	86%	83%

GRI 405-1b: Percentage of employees per employee category in each of the following diversity categories: Gender, age group, other indicators of diversity where relevant

	Total			%		
	2021	**2020**	**2019**	**2021**	**2020**	**2019**
Total employees	**4,926**	4,921	5,062	**100%**	100%	100%
<30	**466**	501	569	**9%**	10%	11%
30–50	**2,924**	2,930	2,989	**59%**	60%	59%
>50	**1,536**	1,490	1,504	**31%**	30%	30%
Female	**1,291**	1,280	1,295	**26%**	26%	26%
<30	**144**	158	171	**11%**	12%	13%
30–50	**870**	851	858	**67%**	66%	66%
>50	**277**	271	266	**21%**	21%	21%
Male	**3,635**	3,641	3,767	**74%**	74%	74%
<30	**322**	343	398	**9%**	9%	11%
30–50	**2,054**	2,079	2,131	**57%**	57%	57%
>50	**1,259**	1,219	1,238	**35%**	33%	33%

GRI 405-2: Ratio of basic salary and remuneration of women to men

Kemira operates a global job structure that is applied to all white-collar employees. The job structure describes job families and the respective job roles with required qualifications and main responsibilities. The job structure links to job grades, which define the salary range and the incentive opportunity for a specific job role. The job grades and salary data information allow Kemira to evaluate, analyze and implement equal remuneration. The main factors impacting the base salary level are the country of employment and location, and the job grade of the position. Other factors impacting include the experience, tenure and performance of the employee as well as country-specific statutory increases and merit increase opportunities.

Incentive payouts are based on measured achievement for pre-defined targets on the company, unit and individual levels. The Disclosure 405-2a describes the ratio of basic salary when considering country of employment and location and the job grade of the position. Other remuneration elements are not recorded globally and thus not reported.

Disclosure 405-2a: Ratio of the basic salary and remuneration of women to men for each employee category, by significant locations of operation

Country	Women to men pay ratio 2021	Women to men pay ratio 2020	Women to men pay ratio 2019	White collar headcount 2021
Austria	**87%**	87%	89%	**49**
Brazil	**94%**	91%	92%	**130**
Canada	**89%**	89%	90%	**122**
China	**90%**	90%	89%	**290**
Finland	**91%**	92%	90%	**581**
Germany	**96%**	97%	97%	**79**
Italy	**92%**	93%	93%	**66**
Netherlands	**88%**	88%	91%	**87**
Poland	**98%**	96%	97%	**318**
Spain	**93%**	91%	85%	**52**
Sweden	**100%**	95%	99%	**140**
United Kingdom	**95%**	94%	92%	**89**
United States	**93%**	92%	92%	**545**
Total for largest countries	**93%**	92%	92%	**2,548**

Freedom of association and collective bargaining

GRI 407-1: Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk

Kemira respects the freedom of association and collective bargaining as stated in our Code of Conduct, and through our commitment to the United Nations Global Compact. We expect our suppliers to respect these same principles and commit to the Code of Conduct for Business Partners. All of our Suppliers (engaged with an SAP Purchase Order) receive a written reference to CoC-BP as part of the Kemira general terms of purchase on the back of the Purchase Order.

To increase Kemira employees' awareness of their rights regarding freedom of association and collective bargaining, we provide regular training on our Code of Conduct.

In 2021 Kemira did not identify any violations of freedom of association or collective bargaining in our own operations, and no evidence has been found to indicate that suppliers would be restricting their employees' opportunities to exercise freedom of association and collective bargaining based on sustainability assessments of our key suppliers, representing approximately 45% of our total spend.

For additional information, see the Integrity section for details of our Code of Conduct training and Ethics and Compliance hotline. Details of the numbers of employees covered by collective bargaining agreements are given under GRI 102-41.

Human rights assessment

GRI 412-1: Operations that have been subject to human rights reviews or impact assessments

A group level Human Rights Impact Assessment was updated in 2021 to identify human rights impacts throughout Kemira operations and value chain. The assessment methodology was based on the United Nations Guiding Principles on Business and Human Rights and the OECD Due Diligence Guidance.

According to the assessment, Kemira meets on group level the EU Taxonomy minimum safeguards of most recognized human rights guidelines and guiding principles.

Based on the assessment, Kemira has increased its knowledge and actions towards human rights since the previous assessment (2014). The findings indicate that Kemira main positive impact is on themes relating to health and wellbeing, freedom of association and speech, and driving the global sustainability transition through climate and water impacts. The potentially negative risks relate to production and raw material sourcing of suppliers and supply chain partners, health and safety at own sites and the impacts of utilizing fossil fuels. In early 2022, Kemira will assess these findings and evaluate existing mitigating measures, assess recommendations and implement the needed improvement actions.

In the previous years, focus has been on increasing overall awareness of human rights related themes throughout the organization and improving the management approach and due diligence. Main means to increase awareness relate to regular and compulsory training on the Code of Conduct for all employees and since 2015 a basic training on human rights for white collar employees responsible for business relationships. Since 2015 all new hires have participated in this training as part of their induction program. Human rights are evaluated in scope of supplier ethical audits conducted by external audits (follow the SMETA protocol).

Key activities in 2021

- Continued the global 90-day onboarding program for new hires (white collars) that automatically assigns online courses on Code of Conduct and Human Rights and Business. By the end of 2021, 66% of white collar new hires have completed the basic training on Human rights and Business as part of their onboarding program
- All relevant sales team members are trained on third party due diligence for potential new business partners and a new process is introduced to further develop our third-party risk management
- Workplace safety – we further developed our safety culture through the Behavior Based Safety Culture program, target setting, training and communications measure
- Product safety – product lifecycle management. For more information, see section Product Stewardship
- Supplier assessments and audits – For more information, see supplier Management section
- Diversity and inclusion roadmap buildup during 2021 to reach sustainability targets

Public policy

GRI 415-1: Political contributions

The Kemira Code of Conduct, Kemira Group Sponsorship and Donation policy and the Kemira Group Gifts, Entertainment and Anti-bribery Policy, prohibit any financial support to politicians, political parties or political organizations. No financial or any in-kind political contributions paid by Kemira have come to Kemira's attention during 2021.

Customer health and safety

GRI 416-1: Assessment of the health and safety impact of product and service categories

According to Kemira's product stewardship policy, we are acting:

- to comply with all applicable chemical regulatory requirements in the countries where we either manufacture and/or sell chemicals covering raw materials, intermediates, processing aids and products
- to make hazard assessments covering regulatory compliance, human health, and safety, as well as environmental protection aspects, as part of the Product Lifecycle Management processes throughout products' lifecycle from development to termination
- to maintain data related to chemical products and substances including raw materials is managed in ERP and is linked to Product Lifecycle Management tool/ process
- to proactively identify and manage chemical risks and concerns to build management action plans for the identified unacceptable risks to human health, safety or environment; covering all substances from raw materials to products
- to share information with our stakeholders about the health and safety aspects of products and to ensure that our customers can safely use our products

Kemira complies with all laws and regulations relating to chemicals and trade. Kemira does not sell any banned products. We continuously screen substances that are covered by any regulatory restrictions, or subject to substitution requirements imposed by non-regulatory stakeholders. We proactively work to mitigate health, safety, environmental and image-related risks (GRI 102-2: Activities, brands, products, and services).

GRI 416-1a: Percentage of significant product and service categories for which health and safety impacts are assessed for improvement.

At the end of 2021, 100% (21 out of 21) of the identified 21 SVHC (Substances of Very High Concern) substances had a management plan approved by the Operational Excellence board.

GRI 416-2: Incidents of non-compliance concerning the health and safety impact of products and services

We are not aware of any fine, penalty or warning for noncompliance with regulations and voluntary codes regarding our products or services in 2021.

Marketing and labeling

GRI 417-1: Requirements for product and service information and labeling
Kemira's product portfolio consists of seven major product lines and approximately 1340 different products. All of these products are duly documented and labeled according to legal requirements, including the identification of their hazardous components and information on their safe use. Kemira provides Safety Data Sheets (SDS) for all products, independent of the product safety classification, even if in most jurisdictions Safety Data Sheets are mandatory only for hazardous products. Our IT system for Product Lifecycle Management enables us to prepare SDSs and labels in alignment with the latest regulatory data requirements and in the official languages of the countries where our products are manufactured, stored or sold. In EU member states, the information requirements are stated under REACH regulations with regard to substance properties, exposure, use and risk management measures, and the chemical safety assessment. Registered uses will also be communicated via the updated extended SDSs for downstream users. In addition to the information provided on product labels and Safety Data Sheets, more detailed information about products and their raw material ingredients can be provided on request.

In 2021, the Kemira Product Stewardship & Regulatory Affairs team responded to 6,721 (6,947 in 2020) requests concerning product safety and/or regulatory. The response time for those requests is one of our internal key performance indicators (KPIs).

GRI 417-2: Incidents of non-compliance concerning product and service information and labeling
Our customer complaints management process handles complaints by recording the complaint, investigation, root cause and corrective action determination and implementation and communication with the customers. During the process complaints are classified with a complaint reason from a predefined list. The process and system in use can exclude those complaints that Kemira has met the agreed requirements with the customers. All complaints are actively monitored, evaluated and corrected as required by the quality management system in use at Kemira.

Non-compliance related to product and service information usually refers to insufficient information on the label.

During 2021, a total of 45 customer complaints were recorded relating to labeling or product information, of which 29 cases were in the EMEA region, 8 in the Americas, and 8 in the APAC region. All cases have been investigated and needed corrective actions have been implemented.

During 2021, no incidents of non-compliance with regulations resulting in any fine, penalty or warning were reported within Kemira's operations.

Socioeconomic compliance

GRI 419-1: Non-compliance with laws and regulations in the social and economic area
We are not aware of any significant fine or non-monetary sanction for noncompliance with laws or regulations in the social and economic area in 2021.

GRI 417-1: Product and service information provided

Topic	Product and service information provided by Kemira
The sourcing of components of the product or service	Only if requested by customers
Content, particularly with regard to substances that might produce an environmental or social impact	As required by law, always in SDS and on the labels. Additional information about chemicals in our products for voluntary certification/compliance schemes such as eco-labeling is also provided to customers upon request and when applicable
Safe use of the product or service	Safe use of a product or service is communicated in the SDSs and on the labels. Registered uses will be communicated via the extended SDSs. Additional information about the use, dosage and application is provided to customers when applicable
Disposal of the product and environmental/social impacts	When legally required, disposal of a product and environmental/social impact are communicated in the SDSs and on the labels

Reporting practice

Reporting scope and content

GRI 102-10: Significant changes to the organization and its supply chain
At the end of the year 2021, Kemira had 63 (63 in 2020) manufacturing sites of which 63 were included in the environmental reporting scope, and 63 in the auditing scope of our integrated management system. There were no significant changes in the company structure, size or ownership. Kemira offices and other non-manufacturing sites are not included in the environmental reporting, as they do not represent a material share of our environmental related processes.

GRI 102-46: defining report content and topic boundaries
When defining the relative importance of material topics for reporting purpose we have taken into account our economic, environmental and social impact, stakeholder expectations, our purpose and strategy, and our commitments to the Code of Conduct, United Nations Global Compact, SDGs and Responsible Care®. program. According to the GRI 101 Foundation standard, the principles for defining the report content were applied when assessing material topics and boundaries.

The most significant economic, environmental and social impacts
Economic impact: We generate revenue by selling chemical products and solutions for industrial uses in the pulp and paper, oil and gas, mining, and water treatment industries. We have a direct economic impact on suppliers and service providers through the payments we make for purchased goods and services, to employees through compensation and benefits, to capital providers through dividends and interest payments, to the public sector through taxes, and to society through local community projects, sponsorship and donations. Unethical business behavior could impact Kemira's reputation and thus financial position.

Environmental impact: We have a positive environmental impact through our products and solutions which enable our customers to improve their resource efficiency by reducing the use of water, the generation of waste, the need of energy or the use of raw materials in their processes. Our main environmental risks relate to carbon emissions from our own manufacturing and in the value chain due to our purchasing activities, upstream and downstream transportation, and to potential incidents through accidental release of chemicals or process safety deficiencies.

Social impact: Our main social impacts, and related risks, concern safety in the workplace, safe use of our products along the value chain and human rights issues like non-compliance with responsible business practices in our own operations or those of our upstream business partners.

	INDIRECT IMPACT Production of input materials and energy	INDIRECT IMPACT Upstream services	DIRECT IMPACT Kemira's own operations	INDIRECT IMPACT Downstream services	INDIRECT IMPACT Use of Kemira products
ECONOMIC IMPACT	• Anti-corruption • Anti-competitive behavior	• Anti-corruption • Anti-competitive behavior	• Sustainable products and solutions (own topic) • Economic performance* • Anti-corruption • Anti-competitive behavior	• Anti-corruption • Anti-competitive behavior	
ENVIRONMENTAL IMPACT	• Emissions (Scope 3) • Supplier performance for their environmental impacts	• Emissions (Scope 2 and Scope 3) • Supplier performance for their environmental impacts	• Materials • Energy • Water and Effluents • Emissions (Scope 1) • Waste • Environmental compliance	• Emissions (Scope 3) • Supplier performance for their environmental impacts	• Emissions (Scope 3) • Sustainable products and solutions (own topic)
SOCIAL IMPACT	• Supplier performance for their social impacts and ethical business behavior	• Supplier performance for their social impacts and ethical business behavior	• Employment*, and Labor-Management relations* • Occupational health and safety • Training and education • Diversity and equal opportunity • Non-discrimination • Freedom of association and collective bargaining • Human rights assessment • Public policy • Customer health and safety • Marketing & labelling • Socioeconomic compliance	• Supplier performance for their social impacts and ethical business behavior	

Prioritization process of material topics

IDENTIFICATION

Material topics relevant to Kemira have been identified based on their relative magnitude of impact and respective concerns raised by our stakeholders. The most recent materiality assessment was done in 2021. Representatives of our key stakeholder groups were interviewed to identify their expectations of Kemira, a benchmark study on material disclosure topics was carried out and major sustainability related development trends were analyzed.

PRIORITIZATION

The identified topics were prioritized with reference to the relative importance to stakeholders, and to the relevance to Kemira's business and strategy, as well as the significance of specific topics related to the global chemical sector. Based on the prioritization, we have selected GRI disclosure topics. In addition to these GRI topics we also disclose information and performance data on sustainable products and product stewardship, which is material but not covered by the GRI standards.

VALIDATION

Data compilation practices for the identified material topics were reviewed and defined. Group level KPIs and targets are defined for the most material topics which are reported as Corporate sustainability priorities.

REVIEW

GRI 102-47: List of material topics
GRI 103-1: Explanation of the material topic and its boundary

GRI 102-48: Restatements of information
Materials data (GRI 301) updated so that it includes both purchased and received materials. Scope 3 data (GRI 305) reviewed and calculation method for purchased goods and services (category 1) changed from spend-based to volume-based.

Material topics	Topic boundaries	Kemira data collection practices
Economic Standard Series		
Economic performance	Kemira operations[1]	Data is extracted from Kemira's ERP system
Anti-corruption	Kemira operations[1]	Data is collected from each region, from Kemira's legal archive, and through notifications from Kemira's Compliance and Ethics Hotline
Anti-competitive behavior	Kemira operations[1]	Data is collected from each region, from Kemira's legal archive, and through notifications from Kemira's Compliance and Ethics Hotline
Environmental Standard Series		
Sustainable products and solutions (non GRI topic)*	Kemira operations[1]	Product applications are manually linked to product categories. Product sales data is extracted from Kemira's ERP system
Materials	Kemira operations as covered by our ERP[2]	Data is extracted from Kemira's ERP system
Energy	Kemira manufacturing sites[3]	Data is collected from each production site and consolidated at the Group level
Greenhouse gas emissions **Other emissions to air**	Kemira manufacturing sites[3]	Data is collected from each production site and consolidated at the Group level. Scope 3 emissions data is collected from Kemira's ERP system and the relevant organizational units. Default data and assumptions are as in the WBCSD Guidance for Accounting & Reporting Corporate GHG Emissions in the Chemical Sector Value Chain.
Water and Effluents	Kemira manufacturing sites[3]	Data is collected from each production site and consolidated at the Group level
Waste	Kemira manufacturing sites[3]	Data is collected from each production site and consolidated at the Group level
Biodiversity	Kemira manufacturing sites[3]	Data is collected from each production site and consolidated at the Group level.
Environmental compliance	Kemira manufacturing sites[3]	Data is collected from each production site and consolidated at the Group level
Supplier environmental assessment	Kemira suppliers	Contract Management Tool used to track suppliers' signing of Code of Conduct for BP. Assessment data is stored on both external and internal service platform
Social Standard Series		
Employment*	Kemira operations[1]	HR data management system

GRI 102-49: Changes in reporting
This year GRI 304: Biodiversity was included as a material topic and reported. Also GRI 306: Waste reporting was updated with latest standard from 2020. Furthermore GRI 403: Occupational Health and Safety was reported according to 2018 standard.

Report profile

GRI 102-50: Reporting period
The reporting period is from January 1 to December 31, 2021.

GRI 102-51: Date of most recent report
Kemira's most recent Annual Review including non-financial information (GRI disclosures) was published on February 19, 2021.

GRI 102-52: Reporting cycle
Kemira's Annual Review is published yearly, by calendar year. The Annual Review consists of Business Overview, Sustainability report , Corporate Governance statement and Financial statements.

GRI 102-53: Contact point for questions regarding the report
The contact point for questions is Kemira Communications and Corporate Sustainability. Contact details are available at **www.kemira.com.**

GRI 102-54: Claims of reporting in accordance with the GRI standards

- The report is prepared in accordance with the GRI standards (2016): core option. However, the updated versions of GRI 303: Water and Effluents (2018), GRI 306: Waste (2020) and GRI 403: Occupational Health and Safety (2018) were applied
- Communication on Progress (COP) of the United Nations Global Compact at Global Compact Active level by using the GRI-standards reporting principles

Material topics	Topic boundaries	Kemira data collection practices
Labor-Management relations*	Kemira operations[1]	Data is collected from each region and combined with the HR data management system
Occupational health and safety	Kemira operations[1]	Synergy data management system. Data covers also contractors working at Kemira sites
Training and education	Kemira operations[1]	HR data management system
Diversity and equal opportunities	Kemira operations[1]	HR data management system
Non-discrimination	Kemira operations[1]	Data is collected from each region, from Kemira's legal archive, and through notifications from Kemira's Compliance and Ethics Hotline
Freedom of association and collective bargaining	Kemira operations[1]	Data is collected from each region, from Kemira's legal archive, and through notifications from Kemira's Compliance and Ethics Hotline
Human rights assessment	Kemira operations[1]	A Human Rights Impact Assessment was conducted in 2014
Supplier social assessment	Kemira suppliers	Contract Management Tool used to track suppliers' signing of Code of Conduct for BP. Assessment data is stored on both external and internal service platform
Public policy	Kemira operations[1]	Data is collected from each region, from Kemira's legal archive, and through notifications from Kemira's Compliance and Ethics Hotline
Customer health and safety	Kemira operations as covered by our ERP[2]	Data is extracted from Kemira's ERP system and from R&D New Product Development process documentation, and from Kemira's legal archives
Marketing and labelling	Kemira operations as covered by our ERP[2]	Kemira operations as covered Data is extracted from Kemira's ERP system and from PSRA4) documentation, and from Kemira's legal archives
Socioeconomic compliance	Kemira operations[1]	Data is collected from each region, from Kemira's legal archive, and through notifications from Kemira's Compliance and Ethics Hotline

*) Not material GRI topic but reported because considered useful based on continuity.
1) Kemira's operations = All operations covered by Kemira's consolidation rules.
2) Kemira's operations covered by ERP = All operations covered by both Kemira's consolidation rules and the company's Enterprise Resource Planning (ERP).
3) Kemira's manufacturing sites = All manufacturing sites covered by Kemira's consolidation rules.
4) PSRA Product Stewardship and Regulatory Affairs.

Assurance Report

GRI 102-56: External assurance
The corporate sustainability information presented in the Annual Report are externally assured by an independent third party. Information on the organization's policy and current practice with regard to external assurance can be found in the Assurance statement

Independent accountant's assurance report

To the Management of Kemira Oyj.

SCOPE

We have been engaged by Kemira Oyj (hereafter Kemira) to perform a 'limited assurance engagement', as defined by International Standards on Assurance Engagements, hereafter referred to as the engagement, to report on Kemira's Annual Review 2021's pages 21–38 and Sustainability Report 2021 (the "Subject Matter") for the period 1.1.–31.12.2021.

CRITERIA APPLIED BY KEMIRA

In preparing the Subject Matter, Kemira applied the Global Reporting Initiative Sustainability Reporting Standards and Kemira's own internal reporting principles (Criteria). As a result, the subject matter information may not be suitable for another purpose.

KEMIRA'S RESPONSIBILITIES

Kemira's management is responsible for selecting the Criteria, and for presenting the Subject Matter in accordance with that Criteria, in all material respects. This responsibility includes establishing and maintaining internal controls, maintaining adequate records and making estimates that are relevant to the preparation of the subject matter, such that it is free from material misstatement, whether due to fraud or error.

EY'S RESPONSIBILITIES

Our responsibility is to express a conclusion on the presentation of the Subject Matter based on the evidence we have obtained.

We conducted our engagement in accordance with the International Standard for Assurance Engagements Other Than Audits or Reviews of Historical Financial Information ('ISAE 3000'), and the terms of reference for this engagement as agreed with Kemira on 26.8.2021. Those standards require that we plan and perform our engagement to obtain limited assurance about whether, in all material respects, the Subject Matter is presented in accordance with the Criteria, and to issue a report. The nature, timing, and extent of the procedures selected depend on our judgment, including an assessment of the risk of material misstatement, whether due to fraud or error.

We believe that the evidence obtained is sufficient and appropriate to provide a basis for our limited assurance conclusions.

OUR INDEPENDENCE AND QUALITY CONTROL

We have maintained our independence and confirm that we have met the requirements of the Code of Ethics for Professional Accountants issued by the International Ethics Standards Board for Accountants, and have the required competencies and experience to conduct this assurance engagement.

EY also applies International Standard on Quality Control 1, Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance and Related Services Engagements, and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

DESCRIPTION OF PROCEDURES PERFORMED

Procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for a reasonable assurance engagement. Consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. Our procedures were designed to obtain a limited level of assurance on which to base our conclusion and do not provide all the evidence that would be required to provide a reasonable level of assurance

Although we considered the effectiveness of management's internal controls when determining the nature and extent of our procedures, our assurance engagement was not designed to provide assurance on internal controls. Our procedures did not include testing controls or performing procedures relating to checking aggregation or calculation of data within IT systems.

A limited assurance engagement consists of making enquiries, primarily of persons responsible for preparing the Annual Review 2021's pages 21–38 and Sustainability Report 2021 and related information, and applying analytical and other appropriate procedures.

Our procedures included:

a. An update of our knowledge and understanding of Kemira's material sustainability reporting topics, organization and activities,
b. An assessment of suitability and application of the reporting principles regarding the stakeholders' needs for information,
c. Interviews with senior management to understand Kemira's corporate responsibility leadership,
d. Interviews with personnel responsible for gathering and consolidation of the corporate responsibility information to understand the systems, processes and controls related to gathering and consolidating the information,
e. Assessing corporate responsibility data from internal and external sources and checking the data to reporting information on a sample basis to check the accuracy of the data,
f. Performing recalculation of reported information and evaluating the correctness of underlying data and narrative disclosures,
g. Virtual visits to Fray Bentos and Tao sites where we assessed reporting practices.

We also performed such other procedures as we considered necessary in the circumstances.

CONCLUSION

Based on our procedures and the evidence obtained, we are not aware of any material modifications that should be made to Annual Review 2021's pages 21–38 and Sustainability Report 2021 for the period 1.1–31.12.2021, in order for it to be in accordance with the Criteria.

RESTRICTED USE

This report is intended solely for the information and use of Kemira and is not intended to be and should not be used by anyone other than Kemira.

Ernst & Young Oy

14.2.2022
Helsinki

Mikko Rytilahti
Partner, Authorized Public Accountant

Jani Alenius
Leader of Climate Change and Sustainability Services, EY Finland

GRI Content Index

GRI 102-55

Abbreviations:
AR = Annual Review
SR = Sustainability report
CG = Corporate Governance
FS = Financial Statements

GRI Standard	Disclosure	Page number(s)	Document	United Nations Global Compact
	GRI 101: Foundation 2016 General disclosures			
GRI 102: General disclosures 2016	Organizational profile			
	102-1 Name of the organization	p. 6	AR	
	102-2 Activities, brands, products, and services	p. 6	AR	
	102-3 Location of headquarters	p. 6	AR	
	102-4 Location of operations	p. 6	AR	
	102-5 Ownership and legal form		FS	
	102-6 Markets served	p. 6	AR	
	102-7 Scale of the organization	p. 6	AR	
	102-8 Information on employees and other workers	p. 6	AR	
	102-9 Supply chain	p. 54	SR	Principle 8
	102-10 Significant changes to the organization and its supply chain	p. 91	SR	
	102-11 Precautionary Principle or approach	n/a		
	102-12 External initiatives	p. 45	SR	
	102-13 Membership of associations	n/a		
	Strategy			
	102-14 Statement from senior decision-maker	p. 4–5	AR	Commitment to Global Compact
	102-15 Key impacts, risks, and opportunities	p. 141–145	FS	
	Ethics and integrity			
	102-16 Values, principles, standards, and norms of behavior	p. 57	SR	Principle 6, 8
	102-17 Mechanisms for advice and concerns about ethics	p. 57	SR	Principle 1, 6, 8

GRI Standard	Disclosure	Page number(s)	Document	United Nations Global Compact
	Governance			
	102-18 Governance structure	p. 48	SR	
	102-19 Delegating authority	p. 48	SR	
	Stakeholder engagement			
	102-40 List of stakeholder groups	p. 43–44	SR	
	102-41 Collective bargaining agreements	p. 88	SR	Principle 3
	102-42 Identifying and selecting stakeholders	p. 43–44	SR	
	102-43 Approach to stakeholder engagement	p. 43–44	SR	
	102-44 Key topics and concerns raised	p. 43–44	SR	
	Reporting practice			
	102-45 Entities included in the consolidated financial statements	p. 153–154	FS	
	102-46 Defining report content and topic Boundaries	p. 91, 93–94	SR	
	102-47 List of material topics	p. 93–94	SR	
	102-48 Restatements of information	p. 94	SR	
	102-49 Changes in reporting	p. 94	SR	
	102-50 Reporting period	p. 94	SR	
	102-51 Date of most recent report	p. 94	SR	
	102-52 Reporting cycle	p. 94	SR	
	102-53 Contact point for questions regarding the report	p. 94	SR	
	102-54 Claims of reporting in accordance with the GRI Standards	p. 94	SR	
	102-55 GRI content index	p. 97–106	SR	
	102-56 External assurance	p. 95–96	SR	

GRI Standard	Disclosure	Page number(s)	Document	United Nations Global Compact
	Material Topics			
Sustainable products and solutions	**Own material topic**			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 52	SR	
	103-3 Evaluation of the management approach	p. 52	SR	
Own KPI	Product sustainability	p. 62	SR	
	GRI 200 Economic Standard Series			
	ECONOMIC PERFORMANCE			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 59	SR	
	103-3 Evaluation of the management approach	p. 59	SR	
GRI 201: Economic Performance 2016	201-1 Direct economic value generated and distributed	p. 59	SR	
	201-3 Defined benefit plan obligations and other retirement plans	p. 124–125	CG	
	201-4 Financial assistance received from government	n/a		
	ANTI-CORRUPTION			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 60	SR	
	103-3 Evaluation of the management approach	p. 60	SR	
GRI 205: Anti-corruption 2016	205-1 Operations assessed for risks related to corruption	p. 60	SR	Principle 10
	205-2 Communication and training about anti-corruption policies and procedures	p. 60–61	SR	Principle 10
	205-3 Confirmed incidents of corruption and actions taken	p. 61	SR	Principle 10

GRI Standard	Disclosure	Page number(s)	Document	United Nations Global Compact
	ANTI-COMPETITIVE BEHAVIOR			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 61	SR	
	103-3 Evaluation of the management approach	p. 61	SR	
GRI 206: Anti-competitive Behavior 2016	206-1 Legal actions for anti-competitive behavior, anti-trust, and monopoly practices	p. 61	SR	
	GRI 300 Environmental Standards Series			
	MATERIALS			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 63	SR	
	103-3 Evaluation of the management approach	p. 63	SR	
GRI 301: Materials 2016	301-1 Materials used by weight or volume	p. 63	SR	
	301-2 Recycled input materials used	p. 63	SR	Principle 7, 8
	ENERGY			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 63–65	SR	
	103-3 Evaluation of the management approach	p. 63–65	SR	
GRI 302: Energy 2016	302-1 Energy consumption within the organization	p. 63–65	SR	Principle 7, 8
	302-3 Energy intensity	p. 63–65	SR	Principle 8
	302-4 Reduction of energy consumption	p. 63–65	SR	Principle 8, 9
	WATER			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 68–71	SR	

GRI Standard	Disclosure	Page number(s)	Document	United Nations Global Compact
	103-3 Evaluation of the management approach	p. 68–71	SR	
GRI 303: Water 2018	303-1 Interactions with water as a shared resource	p. 68–71	SR	Principle 7,8
	303-2 Management of water discharge-related impacts	p. 68–71	SR	
	303-3 Water withdrawal	p. 68–71	SR	Principle 7,8
	303-4 Water discharge	p. 68–71	SR	Principle 7,8
	303-3 Water consumption	p. 68–71	SR	Principle 8
	BIODIVERSITY			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 75–76	SR	
	103-3 Evaluation of the management approach	p. 75–76	SR	
GRI 304 Biodiversity 2016	304-1 Operational sites owned, leased, managed in, or adjacent to, protected areas and areas of high biodiversity value outside protected areas	p. 75–76	SR	
	304-2 Significant impacts of activities, products, and services on biodiversity	p. 75–76	SR	
	304-3 Habitats protected or restored	p. 75–76	SR	
	304-4 IUCN Red List species and national conservation list species with habitats in areas affected by operations	p. 75–76	SR	
	EMISSIONS			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 66–68	SR	
	103-3 Evaluation of the management approach	p. 66–68	SR	
GRI 305: Emissions 2016	305-1 Direct (Scope 1) GHG emissions	p. 66–68	SR	Principle 7,8
	305-2 Energy indirect (Scope 2) GHG emissions	p. 66–68	SR	Principle 7,8
	305-3 Other indirect (Scope 3) GHG emissions	p. 66–68	SR	Principle 7,8
	305-4 GHG emissions intensity	p. 66–68	SR	Principle 8

GRI Standard	Disclosure	Page number(s)	Document	United Nations Global Compact
	305-5 Reduction of GHG emissions	p. 66–68	SR	Principle 8, 9
	305-6 Emissions of ozone-depleting substances (ODS)	p. 66–68	SR	Principle 7,8
	305-7 Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions	p. 66–68	SR	Principle 7,8
	WASTE			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 72–75	SR	
	103-3 Evaluation of the management approach	p. 72–75	SR	
GRI 306: Waste 2020	306-1 Waste generation and significant waste-related impacts	p. 72–75	SR	
	306-2 Management of significant waste-related impacts	p. 72–75	SR	
	306-3 Waste generated	p. 72–75	SR	
	306-4 Waste diverted from disposal	p. 72–75	SR	
	306-5 Waste directed to disposal	p. 72–75	SR	
	ENVIRONMENTAL COMPLIANCE			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 78	SR	
	103-3 Evaluation of the management approach	p. 78	SR	
GRI 307: Environmental Compliance 2016	307-1 Non-compliance with environmental laws and regulations	p. 78	SR	Principle 8
	SUPPLIER ENVIRONMENTAL ASSESSMENT			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 54–56	SR	
	103-3 Evaluation of the management approach	p. 54–56	SR	

GRI Standard	Disclosure	Page number(s)	Document	United Nations Global Compact
GRI 308: Supplier Environmental Assessment 2016	308-1 New suppliers that were screened using environmental criteria	p. 54–56	SR	Principle 8
	GRI 400 Social Standards Series			
	EMPLOYMENT			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 79	SR	
	103-3 Evaluation of the management approach	p. 79	SR	
GRI 401: Employment 2016	401-1 New employee hires and employee turnover	p. 79	SR	Principle 6
	401-2 Benefits provided to full-time employees that are not provided to temporary or part-time employees	p. 80	SR	
	LABOR-MANAGEMENT RELATIONS			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 80	SR	
	103-3 Evaluation of the management approach	p. 80	SR	
GRI 402: Labor/Management Relations 2016	402-1 Minimum notice periods regarding operational changes	p. 80	SR	Principle 3
	OCCUPATIONAL HEALTH AND SAFETY			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 80–83	SR	
	103-3 Evaluation of the management approach	p. 80–83	SR	
GRI 403: Occupational Health and Safety 2016	403-2 Hazard identification, risk assessment, and incident investigation	p. 80–83	SR	
	403-4 Worker participation, consultation, and communication on occupational health and safety	p. 80–83	SR	
	403-5 Worker training on occupational health and safety	p. 80–83	SR	
	403-9 Work-related injuries	p. 80–83	SR	

GRI Standard	Disclosure	Page number(s)	Document	United Nations Global Compact
	TRAINING AND EDUCATION			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 84–85	SR	
	103-3 Evaluation of the management approach	p. 84–85	SR	
GRI 404: Training and Education 2016	404-1 Average hours of training per year per employee	p. 84–85	SR	Principle 6
	404-2 Programs for upgrading employee skills and transition assistance programs	p. 84–85	SR	
	404-3 Percentage of employees receiving regular performance and career development reviews	p. 84–85	SR	Principle 6
	DIVERSITY AND EQUAL OPPORTUNITY			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 86–87	SR	
	103-3 Evaluation of the management approach	p. 86–87	SR	
GRI 405: diversity and Equal Opportunity 2016	405-1 Diversity of governance bodies and employees	p. 86–87	SR	Principle 6
	405-2 Ratio of basic salary and remuneration of women to men	p. 86–87	SR	Principle 6
	NON-DISCRIMINATION			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 57–58	SR	
	103-3 Evaluation of the management approach	p. 57–58	SR	
GRI 406: Non-discrimination 2016	406-1 Incidents of discrimination and corrective actions taken	p. 57–58	SR	
	FREEDOM OF ASSOCIATION AND COLLECTIVE BARGAINING			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 88	SR	
	103-3 Evaluation of the management approach	p. 88	SR	

GRI Standard	Disclosure	Page number(s)	Document	United Nations Global Compact
GRI 407: Freedom of Association and Collective Bargaining 2016	407-1 Operations and suppliers in which the right to freedom of association and collective bargaining may be at risk	p. 88	SR	
	HUMAN RIGHTS ASSESSMENT			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 88–89	SR	
	103-3 Evaluation of the management approach	p. 88–89	SR	
GRI 412: Human Rights Assessment 2016	412-1 Operations that have been subject to human rights reviews or impact assessments	p. 88–89	SR	Principle 1
	SUPPLIER SOCIAL ASSESSMENT			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 54–56	SR	
	103-3 Evaluation of the management approach	p. 54–56	SR	
GRI 414: Supplier Social Assessment 2016	414-1 New suppliers that were screened using social criteria	p. 54–56	SR	Principle 2
	PUBLIC POLICY			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 89	SR	
	103-3 Evaluation of the management approach	p. 89	SR	
GRI 415: Public Policy 2016	415-1 Political contributions	p. 89	SR	
	CUSTOMER HEALTH AND SAFETY			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 89	SR	
	103-3 Evaluation of the management approach	p. 89	SR	
GRI 416: Customer Health and Safety 2016	416-1 Assessment of the health and safety impacts of product and service categories	p. 89	SR	

GRI Standard	Disclosure	Page number(s)	Document	United Nations Global Compact
	416-2 Incidents of non-compliance concerning the health and safety impacts of products and services	p. 89	SR	
	MARKETING AND LABELING			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 90	SR	
	103-3 Evaluation of the management approach	p. 90	SR	
GRI 417: Marketing and Labeling 2016	417-1 Requirements for product and service information and labelling	p. 90	SR	
	417-2 Incidents of non-compliance concerning product and service information and labeling	p. 90	SR	
	SOCIOECONOMIC COMPLIANCE			
GRI 103: Management Approach 2016	103-1 Explanation of the material topic and its Boundary	p. 93–94	SR	
	103-2 The management approach and its components	p. 90	SR	
	103-3 Evaluation of the management approach	p. 90	SR	
GRI 419: Socioeconomic compliance	419-1 Non-compliance with laws and regulations in the social and economic area	p. 90	SR	

Kemira



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Corporate Governance Statement 2021

Introduction

Kemira Oyj's corporate governance is based on the Articles of Association, the Finnish Companies Act and Nasdaq Helsinki Ltd.'s rules and regulations on listed companies. Kemira complies with the Finnish Corporate Governance Code, which is publicly available at **www.cgfinland.fi**.

This statement is presented separately from the annual report by the Board of Directors. Kemira's Audit Committee has reviewed the Corporate Governance Statement. The Company's Auditor, Ernst & Young Oy, has verified that the statement has been issued and that the description of the main features of the internal control and risk management related to the financial reporting process included in the statement is consistent with the Financial Statements.

Governance bodies

The General Meeting of Shareholders, the Board of Directors and the Managing Director are responsible for Kemira's governance and operations. Their tasks are defined based on the Finnish Companies Act and Kemira's Articles of Association.

GENERAL MEETING OF SHAREHOLDERS

Kemira Oyj's General Meeting of Shareholders is the Company's highest decision-making body, and it is held at least once a year. The Annual General Meeting (AGM) must be held each year by the end of May. The AGM decides on matters within its competence under the Companies Act and the Articles of Association, such as the adoption of the financial statements and the dividend payout, the discharge from liability of Board members, Managing Director and his Deputy, the election of Chairman, Vice Chairman and other members of the Board of Directors and their remuneration, and the election of the auditor and the auditor's fees.

Notice to the General Meeting shall be released on the Company's website no earlier than two months and no later than three weeks before the meeting, however, at least nine days before the record date of the meeting. Additionally, if so decided by the Board of Directors, the Company may publish the notice to the General Meeting in one nationwide newspaper.

Kemira Oyj's Annual General Meeting was held in Helsinki on March 24, 2021. Due to the coronavirus pandemic the shareholders and their proxy representatives could participate in the meeting only by voting in advance, by submitting counterproposals and/or by asking questions in advance. The Board of Directors had decided upon the exceptional arrangements for the Annual General Meeting based on the Act 677/2020 promulgated by the Finnish Parliament on October 2, 2020 and in order to protect the health and safety of the shareholders, employees and other stakeholders of the company. A total of 118 shareholders had registered for the meeting either in person, by legal representative or by proxy, and a total of 97,540,729 shares and votes were represented at the meeting.

The documents related to the AGM are available on Kemira's website **www.kemira.com** > Company > Investors > Corporate governance > Annual General Meeting.

NOMINATION BOARD

The 2012 Annual General Meeting decided to establish a Nomination Board consisting of the shareholders or the representatives of the shareholders to prepare annually a proposal for the next AGM concerning the composition and remuneration of the Board of Directors. The Nomination Board consists of the representatives of the four largest shareholders of Kemira Oyj based on the situation on May 31 preceding the AGM, and the Chairman of Kemira Oyj's Board

of Directors acts as an expert member. The members of the Nomination Board shall elect a Chairman at the first meeting of the Board. The Group General Counsel acts as the Secretary of the Nomination Board.

The Nomination Board has a Charter approved by the General Meeting that defines more precisely the process to elect its members and chairman as well as its tasks and meeting routines. The Charter is publicly available on the company's website. According to its Charter, the Nomination Board will meet at least two times a year, with authority to convene additional meetings, as circumstances require. The members present at the meeting shall constitute a quorum if at least three of the members are present at the meeting.

As of May 31, 2021 the members of the Nomination Board are Ville Kivelä, Chief Investment Officer, Oras Invest Oy; Reima Rytsölä, Deputy CEO, Investments, Varma Mutual Pension Insurance Company; Pauli Anttila, Investment Director, Solidium Oy; Annika Ekman, Head of Direct Equity Investments of Ilmarinen Mutual Pension Insurance Company and the Chairman of the Board Jari Paasikivi as an expert member. Ville Kivelä is the Chairman of the Nomination Board and Group General Counsel Jukka Hakkila acts as the Secretary of the Nomination Board. Between January 1 and May 31, the members of the Nomination Board were Reima Rytsölä, Pauli Anttila, Annika Ekman, Jari Paasikivi and Annika Paasikivi, President & CEO, Oras Invest Oy.

The Nomination Board met five times in 2021 with an attendance rate of 100%. Each member's participation in the Nomination Board meetings was as follows:

Name	Participation in meetings	Participation percentage
Anttila, Pauli	5/5	100%
Ekman, Annika	5/5	100%
Kivelä, Ville	4/4	100%
Paasikivi, Annika	1/1	100%
Paasikivi, Jari	5/5	100%
Rytsölä, Reima	5/5	100%
Total	25/25	100%

BOARD OF DIRECTORS

Composition

The AGM elects the Chairman, Vice Chairman and other members of the Board of Directors. In accordance with the Articles of Association, the Board of Directors comprises 4–8 members. On March 24, 2021, the Annual General Meeting elected seven members to the Board of Directors. The AGM re-elected Wolfgang Büchele, Shirley Cunningham, Werner Fuhrmann, Timo Lappalainen and Jari Paasikivi to the Board of Directors. Matti Kähkönen and Kristian Pullola were elected as new members to the Board. Jari Paasikivi was elected the Board's Chairman and Matti Kähkönen was elected the Vice Chairman. Group General Counsel Jukka Hakkila acts as the Secretary of the Board of Directors. Between January 1 and March 24, 2021 the Board members were Wolfgang Büchele, Shirley Cunningham, Werner Fuhrmann, Kaisa Hietala, Timo Lappalainen, Jari Paasikivi, and Kerttu Tuomas.

All of the Board members are independent of the Company. When assessing the independence of the Board members, the Board has taken into consideration that Wolfgang Büchele has been either a member of the Board of Directors or the Managing Director for more than 10 years consecutively as of April 8, 2019. The Board of Directors has not identified any reason why Wolfgang Büchele should not be considered independent of the company. The Board members are also independent of significant shareholders of the Company except for the Chairman Jari Paasikivi. He is the Chairman of the Board of Directors of Oras Invest Oy and Oras Invest Oy owns over 10% of Kemira Oyj's shares.

The personal information concerning the members of the Board of Directors can be found in the section Group Management and their holdings can be found under the heading Insiders.

Principles concerning the diversity of the Board of Directors

The Board of Directors has adopted the following principles and targets concerning the diversity of the Board of Directors. When designing the composition of the Board of Directors, the Nomination Board of the company assesses the Board composition from the viewpoint of the company's current and future business needs, while taking into account the diversity of the Board. The diversity of the Board of Directors will be assessed from various viewpoints. Kemira's Board of Directors shall have sufficient and complementary experience and expertise in the key industries and markets relevant to Kemira's business. In addition, an essential element is the personal characteristics of the members and their diversity. The company's aim is that the Board of Directors represent diverse expertise in different industries and markets, diverse professional and educational

background, diverse age distribution and both genders. The objective is that both genders are represented in the Board by at least two members.

The current Board of Directors of the company complies with the company's diversity targets except for the gender criterion. Versatile expertise from various industries and markets is represented in the Board of Directors, as well as various professional and educational backgrounds. There are six male and one female directors. The Nomination Board has in its proposal to the 2021 AGM noted that the composition of the Board of Directors does not comply with the diversity principles adopted by the company with regard to the gender criterion, and stated that it is the Nomination Board's purpose to keep this situation short-lived and to rectify it as soon as possible.

Tasks and duties

According to the Articles of Association, the Board of Directors is tasked with duties within its competence under the Companies Act. It has drawn up a written Charter defining its key duties and procedures. The Charter is publicly available on the company's website. The following is a description of the essential contents of the Charter.

The Board of Directors is in charge of corporate governance and the due organization of the Company's operations. It decides on convening and prepares the agenda for the shareholders' meeting and ensures the practical implementation of decisions taken thereby. The Board of Directors decides on authorizations for representing the Company. The Board of Directors' key duties include matters which, in view of the scope and type of the Company's operations, are uncommon or involve wide-ranging effects. These include establishing the Company's long-term goals and the main strategies for achieving them, approving the annual business plans and budget, defining and approving corporate policies in key management control areas, approving the Company's organizational structure and appointing the Managing Director, his Deputy and members of the Management Board. The Board of Directors approves the Company's capital investment policy and major investments, acquisitions and divestments. It also approves the group treasury policy and major long-term loans and guarantees issued by the Company. The Board's duties include ensuring that the Company has adequate planning, information and control systems and resources for monitoring result and managing risks in operations. The Board of Directors monitors and evaluates the performance of Managing Director, his Deputy and members of the Management Board and decides upon their remuneration and benefits. The Board's duty is to ensure continuation of the business operations by succession planning for key persons. The Board defines and approves the main principles for the incentive bonus systems within the Company. The Board of Directors also manages other tasks within its competence under the Companies Act. It is responsible for the due organization of the supervision of the Company's accounting and asset-liability management. The Board of Directors sees to it that the Company's financial statements give a true and fair view of the Company's affairs and that the consolidated financial statements are prepared under the International Financial Reporting Standards (IFRS) and the parent company's financial statements under the acts and regulations in force in Finland (FAS).

The Board of Directors' meetings discuss the Company's profit performance at monthly level. The Board of Directors discusses the Company's audit with the auditor. The Board of Directors evaluates its performance and working methods on an annual basis. According to the Charter of the Board of Directors, the Board must convene regularly and at least eight times a year. The Board of Directors has a quorum when more than half of the Directors are present. The opinion which has been supported by more than half of those present shall become the decision or, in the event of votes being equal, the opinion with which the Chairman concurs.

In 2021, the Board of Directors met ten times. The average attendance rate at the meetings was 100%. Each director's attendance in the meetings was as follows:

Name	Participation in meetings	Participation percentage
Büchele, Wolfgang	10/10	100%
Cunningham, Shirley	10/10	100%
Fuhrmann, Werner	10/10	100%
Hietala, Kaisa	1/1	100%
Kähkönen, Matti	9/9	100%
Lappalainen, Timo	10/10	100%
Paasikivi, Jari	10/10	100%
Pullola, Kristian	9/9	100%
Tuomas, Kerttu	1/1	100%
Total	70/70	100%

BOARD COMMITTEES

Kemira Oyj's Board of Directors has appointed two committees: the Audit Committee and the Personnel and Remuneration Committee.

Audit Committee

The Audit Committee works in accordance with its Charter confirmed by the Board of Directors. The Charter is publicly available on the Company's website. It is tasked to assist the Board of Directors in fulfilling its oversight responsibilities for financial reporting process, the system of internal control, the internal and external audit process and Kemira's process for monitoring compliance with laws and regulations and the Kemira Code of Conduct.

The Committee reports to the Board on each meeting. The Audit Committee consists of three members of the Board of Directors. Majority of the members shall be independent of the company and at least one member shall be independent of significant shareholders. According to its Charter, the Audit Committee shall convene at least four times a year. The Audit Committee has a quorum when at least two members are present in the meeting.

After the 2021 AGM, the Board elected Timo Lappalainen as the Chairman of the Audit Committee and Jari Paasikivi and Kristian Pullola as members of the Committee. Timo Lappalainen and Kristian Pullola are independent of the company and its significant shareholders, and Jari Paasikivi is independent of the company. Between January 1 and March 24, 2021 the Committee members were Kaisa Hietala, Timo Lappalainen and Jari Paasikivi.

The Audit Committee met five times in 2021 with an attendance rate of 100%. Each member's attendance in the Audit Committee meetings was as follows:

Name	Participation in meetings	Participation percentage
Hietala, Kaisa	1/1	100%
Lappalainen, Timo	5/5	100%
Paasikivi, Jari	5/5	100%
Pullola, Kristian	4/4	100%
Total	15/15	100%

Personnel and Remuneration Committee

The Personnel and Remuneration Committee works according to its Charter confirmed by the Board of Directors. The Charter is publicly available on the company's website. The Committee assists the Board of Directors by preparation of matters related to compensation and appointment of Managing Director, his Deputy and the members of the Management Board, and by preparation of matters pertaining to the compensation systems and long-term incentive plans of the Company. The Committee also monitors succession planning of the senior management and the senior management's performance evaluation. The Committee plans matters pertaining to the development of the organization and reviews the Remuneration Report of the Company. The Committee reports to the Board of Directors on each meeting.

The Committee consists of three members, the majority of which shall be independent of the Company. According to its Charter, the Committee shall convene at least twice a year. The members present at the meeting shall constitute a quorum if at least two of the members are present at the meeting.

After the 2021 AGM, the Board elected Jari Paasikivi the Chairman of the Personnel and Remuneration Committee and Timo Lappalainen and Matti Kähkönen the members of the Personnel and Remuneration Committee. All Committee members are independent of the company. Between January 1 and March 24, 2021 the Committee members were Timo Lappalainen, Jari Paasikivi and Kerttu Tuomas.

In 2021, the Personnel and Remuneration Committee met five times. The attendance rate at the meetings was 100%. Each member's attendance in the Personnel and Remuneration Committee meetings was as follows:

Name	Participation in meetings	Participation percentage
Kähkönen, Matti	4/4	100%
Lappalainen, Timo	5/5	100%
Paasikivi, Jari	5/5	100%
Tuomas, Kerttu	1/1	100%
Total	15/15	100%

MANAGING DIRECTOR

The Board of Directors appoints the Managing Director and the Managing Director's Deputy. Under the Articles of Association, the Managing Director is responsible for managing and developing the Company in accordance with the instructions and regulations issued by the Board of Directors, ensuring that the Company's interests are served by the subsidiaries

and associated companies under its ownership, and implementing the decisions taken by the Board of Directors. The Managing Director reports to the Board on financial affairs, the business environment and other significant issues. The Managing Director is the Chairman of Kemira's Management Board. Kemira Oyj's Managing Director is President and CEO Jari Rosendal, and the Deputy Managing Director is Group General Counsel Jukka Hakkila. The Managing Director and the Managing Director's Deputy, including their related parties, are not involved in any substantial business relationships with the Company.

The personal information concerning the Managing Director and the Managing Director's Deputy is set forth under the section Group Management and their holdings can be found in the section Insiders. The financial benefits related to the Managing Director's and Deputy Managing Director's employment relationships are described in the Remuneration Report.

MANAGEMENT BOARD

The Management Board is a non-statutory management body consisting of the operative management of the Company. It is responsible for securing the long-term strategic development of the Company.

Kemira's Management Board consists of Managing Director Jari Rosendal (President and CEO), Petri Castrén (CFO), Matthew R. Pixton (CTO), Kim Poulsen (President, Pulp & Paper), Esa-Matti Puputti (EVP, Operational Excellence), Antti Salminen (President, Industry & Water) and Eeva Salonen (EVP, HR).

The Managing Director is the Chairman of the Management Board and the Group General Counsel acts as its Secretary. The personal information of the Management Board members is presented in the section Group Management and their holdings can be found in the section Insiders.
The decision-making process and main principles of remuneration of the members of the Management Board, other than the Managing Director, are described on the Company's website.

OPERATIVE ORGANIZATION

Kemira has organized its business into two customer-based segments. The Pulp & Paper segment focuses on serving customers in the pulp and paper industry and the Industry & Water segment focuses on serving customers in the municipal and industrial water treatment as well as oil, gas and mining industries. The segments have a strategic leadership role as they formulate their respective business strategies and guide the strategy implementation within the segment. Operational business responsibilities as well as the Profit & Loss responsibility belong to each of the segments.

The segments are guided by policies and guidelines defined by global functions. Global functions are responsible for developing policies, processes, guidelines and tools related to their respective functional areas on a global basis. Such policies and processes are complied with throughout the Company. Functions also have representatives in each geographic region. Regional functions ensure that the global policies are implemented and adhered to in the regions. They are also responsible for supporting the business locally in the region.

Geographically Kemira's operations are divided into three business regions: Europe, Middle East and Africa (EMEA), Americas and Asia Pacific (APAC). The Region Heads provide operational support and co-ordination within the region and steer all regional development projects.

Internal control

Kemira maintains an internal control system to ensure the effectiveness and efficiency of its operations, including the reliability of financial and operational reporting and compliance with the applicable regulations, policies and practices. Internal control is an integral part of all of Kemira's operations and covers all levels of the Group. The entire Group personnel are responsible for internal control and managers monitor its effectiveness as part of operative management.

Kemira's corporate values, Code of Conduct and Group level policies and procedures guide the corporate governance and internal control in the Group. The internal policies and the Kemira Code of Conduct have been communicated to all Group staff. The Group also provides training concerning the main policies for people who need to know such policies. The Code of Conduct is trained to all employees. Every employee has the right and duty to report any violations of the law, the Code of Conduct or Group policies. The main components of internal control are the management and organizational culture, risk assessment, control activities, reporting and communication, as well as monitoring and auditing.

Insiders

Kemira Oyj complies with EU Market Abuse Regulation, Finnish Securities Market Act, the rules and regulations issued by the European Securities and Markets Authority (ESMA) and Finnish Financial Supervision Authority (Fin-FSA) as well as the Guidelines for the Insiders of Listed Companies issued by Nasdaq Helsinki Ltd. The company has identified the persons and vice-persons responsible for the various areas of insider administration within the company, including among others compliance in general, decision-making on publishing of insider information and on delaying the publication, maintaining the insider list, overseeing the compliance with the trading restriction as well as the publication of transactions made by the persons discharging managerial responsibilities and their closely associated persons involving stocks and other financial instruments relating to Kemira.

The company has determined, as required by the Market Abuse Regulation, that the persons discharging managerial responsibilities within the company include the Board of Directors, the Managing Director (President & CEO), Management Board as well as the secretary of Board of Directors and Management Board. The persons discharging managerial responsibilities are responsible for identifying their closely associated persons and to disclose the same to Kemira.

Kemira discloses by way of stock exchange release all transactions made by the persons discharging managerial responsibilities and their closely associated persons and companies involving stocks and other financial instruments relating to Kemira, as required by the Market Abuse Regulation.

SHAREHOLDINGS OF BOARD OF DIRECTORS AND MANAGEMENT BOARD ON DEC 31, 2021

BOARD OF DIRECTORS

Name	Position	Kemira Oyj shares
Paasikivi, Jari	Chairman of the Board of Directors	244,526
Kähkönen, Matti	Vice Chairman of the Board of Directors	6,796
Büchele, Wolfgang	Member of the Board of Directors	13,903
Cunningham, Shirley	Member of the Board of Directors	7,064
Fuhrmann, Werner	Member of the Board of Directors	2,880
Lappalainen, Timo	Member of the Board of Directors	13,031
Pullola, Kristian	Member of the Board of Directors	1,271
Total		289,471

MANAGEMENT BOARD

Name	Position	Kemira Oyj shares
Rosendal, Jari	Chief Executive Officer (President & CEO)	140,800
Castrén, Petri	Member of the Management Board	37,726
Pixton, Matthew	Member of the Management Board	18,710
Poulsen, Kim	Member of the Management Board	32,977
Puputti, Esa-Matti	Member of the Management Board	30,509
Salminen, Antti	Member of the Management Board	46,091
Salonen, Eeva	Member of the Management Board	57,098
Hakkila, Jukka	Other person discharging managerial responsibilities	88,365
Total		452,276

According to the law, a person discharging managerial responsibilities must not make transactions with stocks or other financial instruments of a listed company during a period of 30 days preceding the publications of the interim or annual financial report of a listed company. Kemira applies a similar 30 days trade restriction to those of Kemira Group employees who are involved in the preparation or publication of the interim or annual financial report and who have access to group level unpublished financial information.

Kemira Oyj's insider list is maintained by the legal department of the company. The attached table lays out the number of stocks owned by the persons discharging managerial responsibilities in Kemira Oyj, and by companies under their control, on December 31, 2021.

Internal Audit

Kemira Group's Internal Audit function provides independent appraisal and assurance for the review of operations within the Group in order to support the management and the Board of Directors in fulfilling their oversight responsibilities. The purpose is to evaluate and contribute to the improvement of risk management, control and governance systems in the Group. The purpose, authority and responsibilities of the unit are defined in the Kemira Internal Audit Charter approved by the Audit Committee.

Internal auditors have complete and unrestricted access to all Kemira activities. Internal Audit is free to determine the scope of internal auditing, the ways of performing its work and communicating its results.

Internal Audit reports to the Audit Committee and administratively to the Group General Counsel. Internal Audit reports all of its observations to the responsible management and to the auditor. In addition, Internal Audit reports regularly the most essential and material observations to the Audit Committee in connection with the Audit Committee's meetings. Furthermore, the Internal Audit has a direct and unrestricted access to discuss with the Chairman of the Audit Committee.

Audit

Under the Articles of Association, the General Meeting elects an audit firm certified by the Auditor Oversight department of the Finnish Patent and Registration Office as the Company's auditor. The audit firm appoints the Principal Auditor, who is an Authorized Public Accountant certified by the Auditor Oversight department of the Finnish Patent and Registration Office. The auditor's term of office continues until the next Annual General Meeting after the Auditor's election.

The 2021 Annual General Meeting re-elected Ernst & Young Ltd. as the Company's auditor, with Mikko Rytilahti, APA, acting as the Principal Auditor. In 2021, the audit fee paid globally to the audit firm Ernst & Young totaled EUR 1.4 million. In addition, a total of EUR 0.1 million was paid as fees for tax services and 0.1 million as fees for other services.

Control and risk management systems pertaining to the financial reporting process

Kemira's Board of Directors defines the main principles of risk management and approves the Group's risk management policy. The business segments and functions are responsible for identifying, assessing and managing risks involved in their activities. The Group's Risk Management function coordinates and supports risk management. Kemira's internal control system covers all Group operations, including financial reporting. The internal control activities are carried out in all organizational levels as part of the Group's daily operations. A more detailed description of risks and risk management can be found in Board of Directors Review and on the Company's website at **www.kemira.com** > Company > Investors > Corporate governance > Internal Control and Risk management. A general description of Kemira's internal control system can be found above under the heading Internal control.

The following describes how Kemira's internal control and risk control work in connection with the financial reporting process to ensure that the financial reports published by the Company give essentially correct information of the Company's financial situation.

ROLES AND RESPONSIBILITIES

Kemira's Board of Directors ensures that the Company has sufficient resources for risk management and control, and that the control has been arranged appropriately and that the financial statements provide correct and sufficient information of the Company. The Board of Directors is

assisted by the Audit Committee in these tasks. The Managing Director handles the Company's everyday management in accordance with instructions and regulations from the Board of Directors. The Managing Director is responsible for the Company accounting being lawful and that assets are managed reliably.

The CFO is responsible for the general control system of financial reporting. The areas of responsibility between financial administration of the Group and the regions have been defined precisely. Group level financial functions support, monitor, instruct and offer training to the financial organizations of the regions. Group level financial functions are also responsible for the Group's financial reporting and support segment controllers in analyzing business processes. Financial organization in the regions is responsible for the functionality of the accounting processes and correctness of figures in their region. Controlling in segments operates under the segments' business management and analyzes and supports the business processes.

The Group's IT function has a significant role both in financial reporting and internal control, as reporting and many control measures, such as process monitoring are based on IT solutions.
The Internal Audit function including its tasks and areas of responsibility are described more specifically above under the heading Internal Audit.

RISK MANAGEMENT

The Group's financial administration is responsible for managing risks related to financial reporting. The risks are identified, assessed and managed in connection with the Group's general risk management process and separately as part of financial administration's own operating processes. The Group's financial administration assesses risks it has recognized related to financial reporting. The aim of the risk assessment is to identify and to assess the most significant threats affecting the financial reporting and to define to which function or process risks are related and how the risks would affect the Group's financial reporting if those were to materialize. The Group's financial administration and Risk Management are responsible for that the risks are reassessed regularly.

FINANCIAL REPORTING AND CONTROL

The internal control and risk management systems pertaining to the financial reporting process have been designed so that sufficient certainty on the reliability of the financial reporting can be obtained and that the financial statements have been prepared in accordance with the applicable laws and regulations. Kemira complies with the international standards for financial statements (IFRS) which are applicable in the EU and other requirements of the listed companies. Kemira Group policies and procedures define in detail the processes and principles of accounting and financial reporting to be applied in all Group companies.

The purpose of the policies and procedures is to ensure the reliability of financial reporting. The Group has a uniform and comprehensive Enterprise Resources Planning (ERP) system that ensures fast and reliable access to data. Subsidiaries report their figures from the ERP system to the Group, using a uniform Group reporting system. The financial organizations of the Group, segments and regions check the correctness of the figures in the Group reporting system in accordance with the responsibility areas described above. Proper control of financial administration, financial reporting and accounting processes is a basic requirement for the reliability of financial reporting. The Group financial administration has determined the appropriate control functions, the objectives of each control function and how the effectiveness of the control functions is monitored and checked based on a risk analysis it performs. The control functions are described in the above-mentioned risk documentation, and financial administration is responsible for their practical implementation.

Financial reporting control is performed either continuously as part of the transactions of the company's monitoring processes, such as purchasing and sales processes, or alternatively monthly or annually as part of the reporting process.

COMMUNICATION

By well-functioning internal control environment Kemira aims at securing the timeliness, correctness and transparency of the company's internal and external communication. The most essential guidelines and regulations concerning the financial reporting, internal control and risk management, such as the guidelines regarding the principles of preparation of the financial statements and financial reporting, are available to all employees in the group intranet. Kemira's financial administration regularly arranges trainings regarding internal control and financial reporting as well as using the relevant tools.

MONITORING

The functionality of internal control, risk management and reporting systems is constantly monitored as part of daily management of the Company. Each segment, function and

region are responsible for implementing internal control, its efficiency and reliability of reporting within their area of responsibility. The Group financial administration monitors the functionality and reliability of the financial reporting process and principles at Group level. The financial reporting processes are also monitored by the Internal Audit function.

Principles for related party transactions

The Board of Directors of the Company has approved a policy regarding related party transactions. The policy sets forth the Company's process for the monitoring, assessment, and decision-making of related party transactions, as well as public disclosure of information about related parties and related party transactions. The purpose of the policy is to prevent a related party from taking undue advantage of its position and to provide adequate protection for the interests of the Company and its shareholders. The policy aims to ensure that related party transactions are decided without a conflict of interest, do not affect shareholders' value or the company's profit negatively, and are made transparently.

The Board of Directors have decided that the following persons are related parties of Kemira: Members of the Board of Directors, the Managing Director and his deputy, other members of the Management Board, and such other employees belonging to the management of Kemira Group who have influence in making financial and operational decisions in Kemira Group and who have been considered to be related parties by the Group General Counsel, and close family members of the persons mentioned above. Related party entities include entities of Kemira Group, entities controlled by a related party, and Pension Fund Neliapila. The legal department of the Company maintains an up to date register of the Company's related parties.

All proposed related party transactions must be disclosed to the Company's legal department in advance, except for certain customary transactions such as remuneration paid in accordance with the company's remuneration practices, and transactions having a value not exceeding EUR 5,000. The Company's legal department, assisted by the Finance & Accounting department, assesses whether a proposed related party transaction is made within the ordinary course of Kemira's business and whether it is made on customary commercial terms. Related party transactions which are made either outside the ordinary course of business of Kemira's or on other than customary commercial terms must be approved in advance by the Board of Directors. The Company's Finance & Accounting department also monitors transactions made with the related parties within the framework of its own controlling and monitoring system.

The Board of Directors, the Managing Director, and the General Meeting will take into account and comply with the disqualification rules set forth in the applicable laws when considering and deciding on related party transactions. In accordance with the applicable laws and the Rules of Exchange, the Company publicly discloses related party transactions which are material from the shareholders' perspective and have been entered into either outside of the ordinary course of business or on other than customary commercial terms.

Board of Directors



JARI PAASIKIVI

b. 1954
- Finnish citizen
- M.Sc. (Econ.)
- Chairman of the Board, member of the Audit Committee, chairman of the Personnel and Remuneration Committee
- Independent of the Company
- Chairman of the Board of the Directors of Oras Invest Oy, which owns over 10% of Kemira Oyj's shares



MATTI KÄHKÖNEN

b. 1956
- Finnish citizen
- M.Sc. (Eng.)
- Vice Chairman of the Board, member of the Personnel and Remuneration Committee
- Independent of the Company and its significant shareholders
- Board professional



WOLFGANG BÜCHELE

b. 1959
- German citizen
- Dr. rer.nat.
- Member of the Board
- Independent of the Company and its significant shareholders
- Main occupation Exyte GmbH (formerly part of M+W Group GmbH), CEO and Chairman of the Board



SHIRLEY CUNNINGHAM

b. 1960
- United Kingdom and United States of America citizen
- MBA
- Member of the Board
- Independent of the Company and its significant shareholders
- Board professional



WERNER FUHRMANN

b. 1953
- German citizen
- M.Sc. (Econ.)
- Member of the Board
- Independent of the Company and its significant shareholders
- Board professional



TIMO LAPPALAINEN

b. 1962
- Finnish citizen
- M.Sc. (Eng.)
- Member of the Board, Chairman of the Audit Committee, member of the Personnel and Remuneration Committee
- Independent of the Company and its significant shareholders
- Main occupation Orion Corporation, President & CEO

Further information on the Board of Directors and the Management Board is available on **www.kemira.com**.

Members of the Board of Directors until March 24, 2021



KRISTIAN PULLOLA

b. 1973
- Finnish citizen
- M.Sc. (Econ.)
- Member of the Board and the Audit Committee
- Independent of the Company and its significant shareholders
- Board professional



KERTTU TUOMAS

b. 1957
- Finnish citizen
- B.Sc. (Econ.)
- Vice Chairman of the Board, member of the Personnel and Remuneration Committee
- Independent of the Company and its significant shareholders
- Board professional



KAISA HIETALA

b. 1971
- Finnish citizen
- M.Sc. (Physics) and M.Sc. (Env.Sc.)
- Member of the Board, member of the Audit Committee
- Independent of the Company, Independent of the Company's significant shareholders
- Board Professional

Further information on the Board of Directors and the Management Board is available on **www.kemira.com**.

Group Management

Managing Director, Deputy Managing Director and members of the Management Board



JARI ROSENDAL

b. 1965
- M.Sc. (Eng.)
- President & CEO
- Managing Director of Kemira Oyj, Chairman of the Management Board



PETRI CASTRÉN

b. 1962
- LL.M., MBA
- Chief Financial Officer



JUKKA HAKKILA

b. 1960
- LL.M.
- Group General Counsel
- Deputy Managing Director, secretary of the Board of Directors and the Management Board



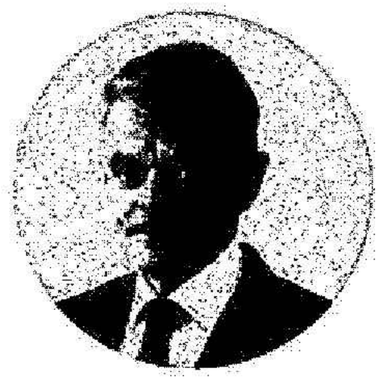
MATTHEW R. PIXTON

b. 1964
- Ph.D. (Chem. Eng.)
- CTO



KIM POULSEN

b. 1966
- M.Sc. (Econ.)
- President, Pulp & Paper



ESA-MATTI PUPUTTI

b. 1959
- Lic. Tech. (Eng)
- Executive Vice President, Operational Excellence



ANTTI SALMINEN

b. 1971
- Ph.D. (Eng.)
- President, Industry & Water



EEVA SALONEN

b. 1960
- M.A. (Edu.)
- Executive Vice President, Human Resources

Remuneration Report 2021

The Remuneration Report describes the remuneration of Kemira Governing Bodies, i.e., the Board of Directors, the President and CEO and the Deputy CEO of Kemira Oyj, for the financial year 2021 as required by the Finnish Securities Market Act, the Finnish Limited Liability Companies Act and the Finnish Corporate Governance Code 2020 issued by the Securities Markets Association.

The report is divided into following sections:

- Pay-for-performance during the preceding five years
- Remuneration of the Board of Directors for the preceding financial year
- Remuneration of the CEO and Deputy CEO for the preceding financial year

Letter from the Chairman of the Board and Personnel and Remuneration Committee

Dear Shareholders, as Chairman of the Board and Personnel and Remuneration Committee, I am pleased to present Kemira's Remuneration Report for the financial year 2021. Kemira's overall performance was good in 2021 despite a challenging operating environment. Kemira's revenue reached a record high of EUR 2.7 billion following strong organic revenue growth. Profitability on the other hand was negatively impacted by the unprecedented inflationary environment, and cost mitigation actions were taken to compensate for the inflationary pressures.

The Remuneration Policy for the Governing Bodies of Kemira Oyj ("Policy") was approved by the Board and confirmed at the 2020 Annual General Meeting. The Policy provides a framework for the remuneration principles and practices of the Board and of the CEO of Kemira. Kemira follows a total remuneration approach built around the principles of pay-for-performance, competitive market driven remuneration and effective communication. In 2021, the remuneration of the Board and CEO follows the Policy and no deviations have been made nor have any clawbacks of remunerations taken place. Then Annual General Meeting 2021 approved the Remuneration Report 2020 in the advisory voting. Kemira will continue to follow its remuneration principles aiming to align the interests of the CEO, the operative management and employees with those of our shareholders.

In 2022, Kemira will continue to implement its strategy, drive growth initiatives, such as the biobased strategy, while also maintaining profitability as a strategic priority. These priorities are cascaded to the variable compensation programs continuing to drive company strategy and priorities. During 2022 Kemira intends to further develop its sustainability incentive KPIs.

Chairman of the Board and the Personnel and Remuneration Committee,

JARI PAASIKIVI

For Kemira's 2022 outlook, including assumptions behind the outlook, please refer to the section "Outlook" on page 147.

DIVIDEND AND DIVIDEND POLICY

On December 31, 2021, Kemira Oyj's distributable funds totaled EUR 475,407,339, of which net profit for the period was EUR -2,851,325. No material changes have taken place in the company's financial position after the balance sheet date.

Kemira Oyj's Board of Directors proposes to the Annual General Meeting to be held on March 24, 2022 that a dividend of EUR 0.58 per share, totaling EUR 89 million, be paid on the basis of the adopted balance sheet for the financial year that ended on December 31, 2021. The dividend will be paid in two installments. The first installment, of EUR 0.29 per share, will be paid to shareholders who are registered in the company's shareholder register maintained by Euroclear Finland Oy on the record date for the dividend payment: March 28, 2022. The Board of Directors proposes that the first installment of the dividend be paid out on April 7, 2022. The second installment, of EUR 0.29 per share, will be paid in November 2022. The second installment will be paid to shareholders who are registered in the company's shareholder register maintained by Euroclear Finland Oy on the record date for the dividend payment. The Board of Directors will decide the record date and the payment date for the second installment at its meeting in October 2022. The record date is planned to be October 27, 2022, and the dividend payment date November 3, 2022 at the earliest.

Kemira's dividend policy is to pay a competitive dividend that increases over time.

SETTLEMENT WITH CDC

On July 8, 2021, Kemira announced that Kemira Chemicals Oy, a fully owned subsidiary of Kemira Oyj had reached a settlement with CDC Project 13 SA and CDC Holding SA (together "CDC") in the damage claim litigation in Amsterdam, the Netherlands.

The settlement concerned claims assigned to CDC based on which CDC claimed compensation for alleged damages relating to the alleged old infringement of competition law in the sodium chlorate business during 1994–2000 by Finnish Chemicals Oy. Kemira Oyj acquired Finnish Chemicals Oy (now Kemira Chemicals Oy) in 2005.

Kemira Chemicals Oy agreed to pay compensation and costs to CDC in the amount of EUR 22.75 million. Kemira recorded a provision of EUR 11.5 million in Q4 2019 related to the damage claim. The remaining EUR 11.25 million was recognized as a cost (item affecting comparability) in Q2 2021. The compensation and costs were paid during Q3 2021.

More information on the CDC case can be found in Kemira's Financial Statements for 2020.

EVENTS AFTER THE REVIEW PERIOD

PROPOSALS OF THE NOMINATION BOARD TO THE ANNUAL GENERAL MEETING 2022

January 13, 2022 Kemira announced the proposals of the Nomination Board to the Annual General Meeting 2022

The Nomination Board proposes to the Annual General Meeting of Kemira Oyj that eight members (previously seven) be elected to the Board of Directors and that the present members Wolfgang Büchele, Shirley Cunningham, Werner Fuhrmann, Timo Lappalainen, Matti Kähkönen and Kristian Pullola be re-elected as members of the Board of Directors. The Nomination Board proposes that Annika Paasikivi and Tina Sejersgård Fanø be elected as new members of the Board of Directors. In addition, the Nomination Board proposes that Matti Kähkönen be elected as the Chairman of the Board of Directors and Annika Paasikivi be elected as the Vice Chairman.

All the nominees have given their consent to the position and are independent of the company and the company's significant shareholders except for Annika Paasikivi, who is not independent of significant shareholders. Annika Paasikivi is the President and CEO of Oras Invest Oy and Oras Invest Oy owns over 10% of Kemira Oyj's shares.

Current Chairman of the Board, Jari Paasikivi, has informed that he will no longer be available for re-election the next term of the Board of Directors. Jari Paasikivi has served ten years in the Board of Directors of Kemira Oyj including eight years as the Chairman. The Nomination Board wishes to thank Jari Paasikivi for his long service and significant contribution to Kemira Oyj.

Ms. Annika Paasikivi, M.Sc. Global Politics, University of Southampton and BA, International Business, EBS London, b. 1975 is President and CEO of Oras Invest Oy, Chairman of the Board of Directors of Uponor Oyj, Deputy Chairman of the Board of Directors of Oras Ltd and Member of the Board of Varova Oy. Annika Paasikivi is a Finnish citizen.

Ms. Tina Sejersgård Fanø, M.Sc. in Engineering, Biochemistry, Technical University of Denmark and BA, Philosophy and Educational Science, University of Copenhagen, b. 1969, is Executive Vice President, Agriculture & Industrial Biosolutions of Novozymes A/S and Chairman of the Board of Innovationsfonden and Member of the Board of DLF Seeds & Science A/S. Tina Sejersgård Fanø is a Danish citizen.

With regard to the selection procedure for the members of the Board of Directors, the Nomination Board recommends that shareholders take a position on the proposal as a whole at the Annual General Meeting. This recommendation is based on the fact that Kemira's shareholders' Nomination Board is separate from the Board of Directors, in line with a good Nordic governance model. The Nomination Board, in addition to ensuring that individual nominees for membership of the Board of Directors possess the required competences, is responsible for making sure that the proposed Board of Directors as a whole also has the best possible expertise and experience for the company and that the diversity principles of the company will be met and that the composition of the Board of Directors meets other requirements of the Finnish Corporate Governance Code for listed companies.

The Nomination Board proposes that the remuneration paid to the members of the Board of Directors will be increased as follows (current remuneration in parentheses): for the Chairman EUR 110,000 per year (EUR 92,000), for the Vice Chairman and the Chairman of the Audit Committee EUR 65,000 per year (EUR 55,000) and for the other members EUR 50,000 per year (EUR 44,000). The annual fees were last increased in 2019.

The Nomination Board proposes that a fee payable for each meeting of the Board of Directors and the Board Committees will be paid based on the method and place of the meeting (previously based on the participant's country of residence) as follows: participating remotely or in the member's country of residence EUR 600, for the meeting on the same continent EUR 1,200 and for the meeting to be held in a different continent than the member's country of the residence EUR 2,400. Travel expenses are proposed to be paid according to Kemira's travel policy.

In addition, the Nomination Board proposes to the Annual General Meeting that the annual fee be paid as a combination of the company's shares and cash in such a manner that 40% of the annual fee is paid with the company's shares owned by the company or, if this is not possible, shares purchased from the market, and 60% is paid in cash. The shares will be transferred to the members of the Board of Directors and, if necessary, acquired directly on behalf of the members of the Board of Directors within two weeks from the release of Kemira's interim report January 1–March 31, 2022. The meeting fees are proposed to be paid in cash.

The Nomination Board has consisted of the following representatives: Ville Kivelä, Chief Investment Officer of Oras Invest Oy as the Chairman of the Nomination Board; Pauli Anttila, Investment Director, Solidium Oy; Reima Rytsölä, Deputy CEO, Investments, Varma Mutual Pension Insurance Company and Annika Ekman, Head of Direct Equity Investments, Ilmarinen Mutual Pension Insurance Company as members of the Nomination Board and Jari Paasikivi, Chairman of Kemira's Board of Directors as an expert member.

OUTLOOK FOR 2022

Revenue

Kemira's revenue in local currencies, excluding acquisitions and divestments, is expected to increase from 2021 (EUR 2,674.4 million).

Operative EBITDA

Kemira's operative EBITDA is expected to be within a +/- 5% range of the operative EBITDA in 2021 (EUR 425.5 million).

ASSUMPTIONS BEHIND OUTLOOK

There continues to be uncertainty related to COVID-19 and the inflationary environment. However, Kemira's end-market demand in both segments is expected to grow following forecasted global economic growth. The outlook assumes the COVID-19 pandemic situation to remain under control and not having a significant impact on Kemira's end-market demand. The outlook also assumes no major disruptions to Kemira's manufacturing operations or further significant supply chain disruptions. Strong inflationary pressures are expected to continue, particularly in H1 2022.

FINANCIAL TARGETS

Kemira aims for above-market revenue growth with an operative EBITDA margin of 15–18%. The target for gearing is below 75%.

Helsinki, February 10, 2022

Kemira Oyj
Board of Directors

All forward-looking statements in this review are based on the management's current expectations and beliefs about future events, and actual results may differ materially from the expectations and beliefs such statements contain.

Consolidated Income Statement

EUR million	Note	Year ended 31 December 2021	2020
Revenue	2.1.	2,674.4	2,427.2
Other operating income	2.2.	5.9	4.0
Operating expenses	2.2.	-2,306.7	-2,017.9
Share of the results of associates	6.2.	-0.5	0.0
EBITDA		373.2	413.2
Depreciation, amortization and impairments	2.4.	-203.1	-197.4
Operating profit (EBIT)		170.1	215.9
Finance income	2.5.	6.8	1.5
Finance expenses	2.5.	-34.1	-34.4
Exchange differences	2.5.	0.6	-1.9
Finance costs, net	2.5.	-26.7	-34.9
Profit before tax		143.3	181.0
Income taxes	2.6.	-28.2	-43.0
Net profit for the period		115.2	138.0
Net profit attributable to			
Equity owners of the parent company		108.1	131.3
Non-controlling interests	6.2.	7.1	6.7
Net profit for the period		115.2	138.0
Earnings per share for net profit attributable to the equity owners of the parent company, EUR			
Basic	2.7.	0.71	0.86
Diluted	2.7.	0.70	0.86

The above Consolidated Income Statement should be read in conjunction with the accompanying notes.

Consolidated Comprehensive Income

EUR million	Note	Year ended 31 December 2021	2020
Net profit for the period		115.2	138.0
Other comprehensive income			
Items that may be reclassified subsequently to profit or loss			
Exchange differences in translating foreign operations		32.2	-47.1
Cash flow hedges		19.3	-0.8
Items that will not be reclassified subsequently to profit or loss			
Other shares		40.2	-26.3
Remeasurements of defined benefit plans		21.6	-1.2
Other comprehensive income for the period, net of tax	2.8.	113.3	-75.3
Total comprehensive income for the period		228.4	62.6
Total comprehensive income attributable to			
Equity owners of the parent company		221.2	56.7
Non-controlling interests	6.2.	7.2	5.9
Total comprehensive income for the period		228.4	62.6

Items in the Consolidated Statement of Comprehensive Income are disclosed net of tax. The income tax relating to each component of other comprehensive income is disclosed in Note 2.8. Other comprehensive income.
The above Consolidated Comprehensive Income should be read in conjunction with the accompanying notes.

Consolidated Balance Sheet

EUR million	Note	As at 31 December 2021	2020
ASSETS			
NON-CURRENT ASSETS			
Goodwill	3.1.	**514.0**	504.1
Other intangible assets	3.2.	**66.7**	78.0
Property, plant and equipment	3.3.	**1,063.0**	1,011.4
Right-of-use assets	3.4.	**135.8**	121.0
Investments in associates	6.2.	**4.8**	5.3
Other shares	3.5.	**260.0**	212.3
Deferred tax assets	4.4.	**30.5**	27.5
Other investments	5.4.	**7.3**	7.3
Receivables of defined benefit plans	4.5.	**73.2**	51.1
Total non-current assets		**2,155.4**	2,018.0
CURRENT ASSETS			
Inventories	4.1.	**352.1**	242.3
Interest-bearing receivables	5.4.	**0.3**	0.4
Trade receivables and other receivables	4.2.	**475.2**	362.0
Current income tax assets		**13.9**	13.4
Cash and cash equivalents	5.4.	**142.4**	159.5
Total current assets		**983.9**	777.7
Total assets		**3,139.3**	2,795.7

The above Consolidated Balance Sheet should be read in conjunction with the accompanying notes.

EUR million	Note	As at 31 December 2021	2020
EQUITY AND LIABILITIES			
EQUITY			
Equity attributable to equity owners of the parent company			
Share capital		**221.8**	221.8
Share premium		**257.9**	257.9
Fair value and other reserves		**140.9**	81.1
Unrestricted equity reserve		**196.3**	196.3
Translation differences		**-53.7**	-85.8
Treasury shares		**-14.9**	-16.3
Retained earnings		**580.5**	537.1
Total equity attributable to equity owners of the parent company	5.2.	**1,328.8**	1,192.1
Non-controlling interests	6.2.	**13.9**	13.2
Total equity		**1,342.7**	1,205.3
NON-CURRENT LIABILITIES			
Interest-bearing liabilities	5.3.	**776.9**	724.1
Other liabilities	5.4.	**9.4**	8.1
Deferred tax liabilities	4.4.	**77.1**	52.0
Liabilities of defined benefit plans	4.5.	**94.1**	96.3
Provisions	4.6.	**48.0**	35.6
Total non-current liabilities		**1,005.5**	916.1
CURRENT LIABILITIES			
Interest-bearing liabilities	5.3.	**215.3**	194.7
Trade payables and other liabilities	4.3.	**538.3**	422.2
Current income tax liabilities		**14.3**	25.7
Provisions	4.6.	**23.1**	31.7
Total current liabilities		**791.0**	674.3
Total liabilities		**1,796.5**	1,590.4
Total equity and liabilities		**3,139.3**	2,795.7

Consolidated Statement of Cash Flow

EUR million	Note	2021	2020
CASH FLOW FROM OPERATING ACTIVITIES			
Net profit for the period		**115.2**	138.0
Adjustments for			
Depreciation, amortization and impairments	2.4.	**203.1**	197.4
Income taxes	2.6.	**28.2**	43.0
Finance costs, net	2.5.	**26.7**	34.9
Share of the results of associates	6.2.	**0.5**	0.0
Other non-cash items		**14.9**	23.0
Cash flow before change in net working capital		**388.6**	436.2
Change in net working capital			
Increase (-) / decrease (+) in inventories		**-100.8**	2.2
Increase (-) / decrease (+) in trade and other receivables		**-77.8**	3.4
Increase (+) / decrease (-) in trade payables and other liabilities		**98.1**	-8.5
Change in net working capital		**-80.2**	-2.9
Cash flow from operations before financing items and taxes		**308.3**	433.3
Interests paid		**-31.9**	-28.8
Interests received		**0.9**	1.1
Other finance items, net		**-13.2**	5.6
Dividends received		**0.0**	0.0
Income taxes paid		**-44.0**	-36.5
Net cash generated from operating activities		**220.2**	374.7

EUR million	Note	2021	2020
CASH FLOW FROM INVESTING ACTIVITIES			
Capital expenditure in associated company		**0.0**	-2.6
Capital expenditure in other shares		**-1.0**	0.0
Capital expenditure in property, plant and equipment and intangible assets		**-188.8**	-195.6
Decrease (+) / increase (-) in loan receivables		**0.2**	-5.6
Capital repayments from other shares		**3.5**	0.0
Proceeds from sale of property, plant and equipment, and intangible assets		**3.2**	2.5
Net cash used in investing activities		**-182.9**	-201.4
CASH FLOW FROM FINANCING ACTIVITIES			
Proceeds from non-current interest-bearing liabilities (+)	5.1.	**200.0**	0.0
Repayments of non-current interest-bearing liabilities (-)	5.1.	**-97.3**	-55.0
Repayments of non-current non-interest-bearing liabilities (-)		**0.0**	-10.7
Short-term financing, net increase (+) / decrease (-)	5.1.	**-53.9**	37.2
Repayments of lease liabilities		**-38.1**	-30.6
Dividends paid		**-95.3**	-91.8
Net cash used in financing activities		**-79.5**	-150.9
Net increase (+) / decrease (-) in cash and cash equivalents		**-22.2**	22.4
Cash and cash equivalents on Dec 31		**142.4**	159.5
Exchange gains (+) / losses (-) in cash and cash equivalents		**5.1**	-6.0
Cash and cash equivalents on Jan 1		**159.5**	143.1
Net increase (+) / decrease (-) in cash and cash equivalents		**-22.2**	22.4

The above Consolidated Statement of Cash Flow should be read in conjunction with the accompanying notes.

Consolidated Statement of Changes in Equity

	Equity attributable to equity owners of the parent company									
EUR million	**Share capital**	**Share premium**	**Fair value and other reserves**	**Unrestricted equity reserve**	**Exchange differences**	**Treasury shares**	**Retained earnings**	**Total**	**Non-controlling interests**	**Total equity**
Equity on January 1, 2021	**221.8**	**257.9**	**81.1**	**196.3**	**-85.8**	**-16.3**	**537.1**	**1,192.1**	**13.2**	**1,205.3**
Net profit for the period	—	—	—	—	—	—	108.1	108.1	7.1	115.2
Other shares	—	—	40.2	—	—	—	—	40.2	—	40.2
Exchange differences in translating foreign operations	—	—	—	—	32.1	—	—	32.1	0.1	32.2
Cash flow hedges	—	—	19.3	—	—	—	—	19.3	—	19.3
Remeasurements of defined benefit plans	—	—	—	—	—	—	21.5	21.5	—	21.5
Total other comprehensive income	—	—	59.5	—	32.1	—	21.5	113.2	0.1	113.3
Total comprehensive income	—	—	59.5	—	32.1	—	129.6	221.2	7.2	228.4
Transactions with owners										
Dividends paid	—	—	—	—	—	—	-88.8	-88.8	-6.5	-95.3
Treasury shares issued to the target group of a share-based incentive plan	—	—	—	—	—	1.3	—	1.3	—	1.3
Treasury shares issued to the Board of Directors	—	—	—	—	—	0.1	—	0.1	—	0.1
Treasury shares returned	—	—	—	—	—	0.0	—	0.0	—	0.0
Share-based payments	—	—	—	—	—	—	3.3	3.3	—	3.3
Transfers in equity	—	—	0.3	—	—	—	-0.3	0.0	—	0.0
Other items	—	—	—	—	—	—	-0.4	-0.4	—	-0.4
Total transactions with owners	—	—	0.3	—	—	1.4	-86.2	-84.5	-6.5	-91.0
Equity on December 31, 2021	**221.8**	**257.9**	**140.9**	**196.3**	**-53.7**	**-14.9**	**580.5**	**1,328.8**	**13.9**	**1,342.7**

	Equity attributable to equity owners of the parent company									
EUR million	Share capital	Share premium	Fair value and other reserves	Unrestricted equity reserve	Exchange differences	Treasury shares	Retained earnings	Total	Non-controlling interests	Total equity
Equity on January 1, 2020	221.8	257.9	108.5	196.3	-39.5	-18.1	490.9	1,217.7	13.3	1,231.0
Net profit for the period	—	—	—	—	—	—	131.3	131.3	6.7	138.0
Other shares	—	—	-26.3	—	—	—	—	-26.3	—	-26.3
Exchange differences in translating foreign operations	—	—	—	—	-46.3	—	—	-46.3	-0.8	-47.1
Cash flow hedges	—	—	-0.8	—	—	—	—	-0.8	—	-0.8
Remeasurements of defined benefit plans	—	—	—	—	—	—	-1.2	-1.2	—	-1.2
Total other comprehensive income	—	—	-27.1	—	-46.3	—	-1.2	-74.5	-0.8	-75.3
Total comprehensive income	—	—	-27.1	—	-46.3	—	130.1	56.7	5.9	62.6
Transactions with owners										
Dividends paid	—	—	—	—	—	—	-85.6	-85.6	-6.1	-91.8
Treasury shares issued to the target group of a share-based incentive plan	—	—	—	—	—	1.8	—	1.8	—	1.8
Treasury shares issued to the Board of Directors	—	—	—	—	—	0.1	—	0.1	—	0.1
Treasury shares returned	—	—	—	—	—	-0.1	—	-0.1	—	-0.1
Share-based payments	—	—	—	—	—	—	1.6	1.6	—	1.6
Transfers in equity	—	—	-0.2	—	—	—	0.2	0.0	—	0.0
Total transactions with owners	—	—	-0.2	—	—	1.8	-83.8	-82.2	-6.1	-88.4
Equity on December 31, 2020	221.8	257.9	81.1	196.3	-85.8	-16.3	537.1	1,192.1	13.2	1,205.3

The above Consolidated Statement of Changes in Equity should be read in conjunction with the accompanying notes.

Notes to the Consolidated Financial Statements

1. THE GROUP'S ACCOUNTING POLICIES FOR THE CONSOLIDATED FINANCIAL STATEMENTS

GROUP PROFILE

Kemira Oyj is a Finnish public limited liability company, domiciled in Helsinki, and its registered address is Energiakatu 4, FI-00180 Helsinki, Finland. Kemira Oyj's shares are listed on Nasdaq Helsinki Oy. The parent company Kemira Oyj and its subsidiaries together form the Kemira Group. A list of subsidiaries is disclosed in Note 6.2.

Kemira is a global chemicals company serving customers in water-intensive industries. The company provides expertise in applications and chemicals that improve customers' efficient use of water, energy and raw materials. Kemira's two segments Pulp & Paper and Industry & Water focus on customers in the pulp & paper, oil & gas, mining and water treatment industries, respectively.

The Board of Directors of Kemira Oyj has approved the Financial Statements for publication at its meeting on February 10, 2022. Under the Finnish Limited Liability Companies Act, the General Meeting of Shareholders is entitled to decide on the adoption of the financial statements. A copy of the Consolidated Financial Statements is available at **www.kemira.com** or at Energiakatu 4, FI-00180 Helsinki, Finland.

BASIS OF PREPARATION FOR THE CONSOLIDATED FINANCIAL STATEMENTS

The Group has prepared its Consolidated Financial Statements in accordance with International Financial Reporting Standards (IFRS) and its interpretations (IFRIC), adopted by the European Union. The Consolidated Financial Statements have been prepared in accordance with IFRS standards and IFRIC Interpretations effective on December 31, 2021. The Notes to the Consolidated Financial Statements also comply with the requirements of the Finnish accounting and corporate legislation that supplement the IFRS regulations.

The Consolidated Financial Statements are presented in EUR million and have been prepared based on historical cost, except for the items measured at fair value through other comprehensive income including unlisted PVO/TVO shares, financial assets and liabilities at fair value through profit or loss, and share-based payments on the grant date.

All individual figures presented in the Consolidated Financial Statements have been rounded to the nearest exact figure. Therefore, the sum of the individual figures may deviate from the sum figure presented in the Consolidated Financial Statements. The key figures are calculated using exact values.

NEW, AMENDED IFRS STANDARDS AND IFRIC INTERPRETATIONS INTO EFFECT IN 2021

The group has applied the following standards and amendments for the first time to its annual reporting period commencing January 1, 2021:

- Amendment to IFRS 16 Leases Covid-19 Related Rent Concessions
- Amendments to IFRS 9, IAS 39, IFRS 7, IFRS 4 and IFRS 16 Interest Rate Benchmark Reform – Phase 2

In accordance with the amendment to IFRS 16 Leases COVID-19 Related Rent Concessions, lease benefits received by a lessee that are a direct result of COVID-19 restrictive actions need not be treated as change in lease contract. During the financial years 2020–2021, the Group has not received any significant such exemptions from its lessors.

The amendments listed above also did not have any impact on the amounts recognized in financial period January 1,–December 31, 2021 and are not expected to significantly affect the next financial period January 1,–December 31, 2022.

NEW, AMENDED IFRS STANDARDS AND IFRIC INTERPRETATIONS NOT YET ADOPTED

New IFRS standards, amendments to standards and IFRIC interpretations effective on or after January 1, 2022 are not expected to have a material impact on the Group.

CONSOLIDATION PRINCIPLES OF SUBSIDIARIES AND NON-CONTROLLING INTERESTS

The Consolidated Financial Statements include the parent company and its subsidiaries. Subsidiaries are all entities that the Group has control over (voting rights generally being over 50 percent). The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity, and when it has the ability to

affect those returns through its power over the entity. Subsidiaries are fully consolidated from the date on which control is transferred to the Group. They are de-consolidated from the date on which this control ceases.

All intra-group transactions are eliminated. Intra-group shareholdings are eliminated using the acquisition method. The consideration transferred for acquisition of a subsidiary is defined as an aggregate of the fair values of the assets transferred, the liabilities assumed and the equity interest issued by the Group. The consideration transferred may include the fair value of any asset or liability resulting from the contingent consideration arrangement. Acquisition-related costs are expensed as incurred. Identifiable assets acquired, and liabilities and contingent liabilities that are assumed in a business combination are measured at their fair values on the acquisition date. On an acquisition-by-acquisition basis, the Group recognizes any non-controlling interest in the acquiree either at fair value or at the non-controlling interest's proportionate share of the acquiree's net assets.

The amount that exceeds the aggregate of consideration transferred, the amount of any non-controlling interest in the acquiree and the acquisition-date fair value of any previous equity interest in the acquiree over the fair value of the Group's share of the net assets acquired is recognized as goodwill in the Balance Sheet. If this is less than the fair value of the net assets of the subsidiary acquired by bargain purchase, the difference is recognized directly in the Income Statement.

Net profit or loss for the financial year and other comprehensive income attributable to the equity holders of the parent and non-controlling interests are presented in the Income Statement and in the Statement of Comprehensive Income. The portion of equity attributable to non-controlling interests is stated as an individual item separately from the equity to the equity holders of the parent company. Total comprehensive income shows separately the total amounts attributable to the equity holders of the parent company and to non-controlling interests. The Group recognizes negative non-controlling interests, unless the non-controlling interest does not have a binding obligation to cover the losses up to the amount of their investment.

If the parent company's ownership interest in the subsidiary is reduced but control is retained, then the transactions are treated as equity transactions. When the Group ceases to have control or significant influence, any retained interest in the entity is remeasured at its fair value, and the difference is recognized as profit or loss.

ASSOCIATES

Associated companies are companies over which the Group exercises significant influence (voting rights generally being 20–50 percent), but does not control. Holdings in associated companies are consolidated using the equity method. If the Group's share of the associate's losses exceeds the carrying amount of the investment, the exceeding losses will not be consolidated unless the Group has a commitment to fulfill the obligations on behalf of the associate. The Group's share of the associated companies' net profit for the financial year is stated as a separate item in the consolidated Income Statement in operating profit, in proportion to the Group's holdings. The Group's share of the movements of its associates in other comprehensive income is recognized in the Group's other comprehensive income.

FOREIGN CURRENCY TRANSLATION

Items included in the financial statements of each of the Group's entities are measured by using the currency of the primary economic environment in which the entity operates (the functional currency). The Consolidated Financial Statements are presented in euros, which is the Group's presentation currency and the parent company's functional and presentation currency.

In the Consolidated Financial Statements, the Income Statements of foreign subsidiaries are translated into EUR using the financial year's average foreign currency exchange rates, and the balance sheets are translated using the exchange rates quoted on the balance sheet date. Translating the net profit for the period using different exchange rates in the Income Statement and in the balance sheet causes a translation difference recognized as equity on the Balance Sheet. The change in this translation difference is presented under Other Comprehensive Income. Goodwill and fair value adjustments to the carrying amounts of the assets and liabilities that arise from the acquisition of a foreign entity are accounted for as part of the assets and liabilities of the foreign entity, and are translated into EUR at the rate quoted on the balance sheet date.

Translation differences in the loans granted to some foreign subsidiaries are treated as an increase or decrease in other comprehensive income. When the Group ceases to have control over a subsidiary, the accumulated translation difference is transferred into the Income Statement as part of the gain or loss on the sale.

In their day-to-day accounting, the Group companies translate foreign currency transactions into their functional currency at the exchange rates quoted on the transaction

date. In the Financial Statements, foreign currency denominated receivables and liabilities are measured at the exchange rates quoted on the balance sheet date. Non-monetary items are measured using the rates quoted on the transaction date. Any foreign exchange gains and losses related to business operations are treated as adjustments to sales and purchases. Exchange rate differences associated with financing transactions and the hedging of the Group's overall foreign currency position are stated in foreign exchange gains or losses under finance income and expenses.

THE ITEMS IN THE FINANCIAL STATEMENTS THAT INCLUDE ACCOUNTING ESTIMATES AND ACCOUNTING POLICIES THAT REQUIRE JUDGMENT

When preparing Consolidated Financial Statements in accordance with IFRS, the management is required to make accounting estimates and assumptions concerning the future. The resulting accounting estimate will seldom be equal to the actual results. In addition, management is required to exercise judgment when applying the accounting policies.

Estimates and assumptions are continuously evaluated, and are based on past experience and expectations of future events that may have financial implications and are considered to be reasonable under the circumstances.

The following table lists items in the financial statements that include significant accounting estimates and includes the notes related to them. Also included are the accounting policies and the sensitivity analysis applied to the items. The items that include accounting estimates are subject to a risk of changes in the carrying amount of assets and liabilities during the next financial period.

The items in the Financial Statements	Note in the Financial Statements
Goodwill	3.1. Goodwill
Fair value of shares in the PVO Group	3.5. Other shares
Deferred taxes and uncertain tax positions	2.6. Income taxes and 4.4. Deferred tax liabilities and assets
Defined benefit pension plans	4.5. Defined benefit pension plans and employee benefits
Provisions	4.6. Provisions

THE ASSESSMENT OF IMPACTS OF THE COVID-19 PANDEMIC IN THE FINANCIAL STATEMENTS

The Group has assessed the impact of the uncertainty caused by the COVID-19 pandemic on its financial position and considered the values of assets and liabilities containing significant accounting estimates that require judgment or that may have been particularly affected by the COVID-19 pandemic.

The Group has performed its annual goodwill impairment testing. The goodwill impairment testing calculation has been taken into account in, for example, the estimated effects of the COVID-19 pandemic on future cash flows. Based on these calculations, no indications of goodwill impairment were identified.

The value of Pohjolan Voima Group's shares was EUR 257 million (211). Current situation in energy market has been reflected into energy price forecasts used in the valuation of Pohjolan Voima Group shares, increasing the share values by EUR 47 million from the year end 2020.

The COVID-19 pandemic has been considered in the assessment of expected credit losses, and the model credit loss percentages have been updated to reflect the current situation. Based on the analysis, no indications of increased credit loss risk of trade receivables.

The discount rates and other assumptions have been updated annually into actuarial reports of defined benefit pension plans to reflect the economic environment. The Group's most significant pension plan is the Neliapila Pension Fund, whose net assets were EUR 73 million (52). Current situation in the financial markets has been reflected into assets of the Neliapila Pension Fund and has increased the value of the assets by EUR 14 million. Other obligations and assets in the Group's defined benefit plans have not changed materially from the year end 2020.

The Group's liquidity position has remained stable. The gearing ratio was 63% (63) and cash and cash equivalents were EUR 142 million (160). The Group's target for gearing is below 75%. In addition, the Group has a EUR 400 million revolving credit facility, which was undrawn on 31 December 2021.

2. FINANCIAL PERFORMANCE

2.1 SEGMENT INFORMATION

Kemira's organization consists of two segments: Pulp & Paper and Industry & Water.

PULP & PAPER

Pulp & Paper has expertise in applying chemicals and supporting pulp and paper producers in innovating and constantly improving their operational efficiency. The segment develops and sells products to meet the needs of its customers, thus ensuring a leading portfolio of products and services for the paper wet-end, focusing on packaging and board as well as tissue products.

INDUSTRY & WATER

Industry & Water supports municipalities and water intensive industries in the efficient and sustainable utilization of resources. In water treatment, the segment helps in the optimization of every stage of the water cycle. In the oil and gas industry, the segment helps to improve yield from existing reserves and reduce water and energy use.

ALTERNATIVE PERFORMANCE MEASURES

Kemira provides certain financial performance measures (alternative performance measures) that are not defined by IFRS. Kemira believes that alternative performance measures followed by capital markets and Kemira management, such as organic growth*, EBITDA, operative EBITDA, operative EBIT, cash flow after investing activities as well as gearing, provide useful information about Kemira's comparable business performance and financial position. Selected alternative performance measures are also used as performance criteria in remuneration.

Kemira's alternative performance measures should not be viewed in isolation from the equivalent IFRS measures and should instead be read in conjunction with the most directly comparable IFRS measures. Definitions of the key figures is disclosed in the section Definitions of key figures.

*Revenue growth in local currencies, excluding acquisitions and divestments.

INCOME STATEMENT ITEMS

2021, EUR million	Pulp & Paper	Industry & Water	Group
Revenue [1]	1,559.6	1,114.8	2,674.4
EBITDA [2]	198.3	174.9	373.2
Depreciation, amortization and impairments [2]	-120.6	-82.5	-203.1
Share of the results of associates	-0.8	0.0	-0.8
Operating profit (EBIT) [2]	77.7	92.4	170.1
Finance costs, net			-26.7
Profit before tax			143.3
Income taxes			-28.2
Net profit for the period			115.2

1) Revenue consists mainly of sales of products to external customers, and there is no internal sales between the segments.
2) Includes items affecting comparability.

ITEMS AFFECTING COMPARABILITY IN EBITDA AND EBIT

2021, EUR million	Pulp & Paper	Industry & Water	Group
Operative EBITDA	244.7	180.8	425.5
Restructuring and streamlining programs			-12.9
Transaction and integration expenses in acquisitions			-0.1
Divestment of businesses and other disposals			-28.3
Other items			-11.6
Total items affecting comparability	-46.5	-5.9	-52.4
EBITDA	198.3	174.9	373.2
Operative EBIT	124.3	101.2	225.4
Items affecting comparability in EBITDA	-46.5	-5.9	-52.4
Items affecting comparability in depreciation, amortization and impairments	-0.1	-2.9	-3.0
Operating profit (EBIT)	77.7	92.4	170.1

Quarterly information on items affecting comparability is disclosed in the section on Reconciliation of IFRS figures.

BALANCE SHEET ITEMS

2021, EUR million	Pulp & Paper	Industry & Water	Group
Segment assets	1,568.0	1,008.3	2,576.2
Reconciliation to total assets as reported in the Group balance sheet:			
Other shares			260.0
Deferred income tax assets			30.5
Other investments			7.3
Defined benefit pension receivables			73.2
Other assets			49.6
Cash and cash equivalents			142.4
Total assets			3,139.3
Segment liabilities	308.2	196.5	504.8
Reconciliation to total liabilities as reported in the Group balance sheet:			
Interest-bearing non-current financial liabilities			776.9
Interest-bearing current financial liabilities			215.3
Other liabilities			299.6
Total liabilities			1,796.5

OTHER ITEMS

2021, EUR million	Pulp & Paper	Industry & Water	Group
Capital employed by segments on Dec 31	1,259.7	811.8	2,071.5
Capital employed by segments [1]	1,227.4	767.6	1,995.0
Operative ROCE, %	10.1	13.2	11.3
Capital expenditure	89.5	80.3	169.8

1) 12-month rolling average

INCOME STATEMENT ITEMS

2020, EUR million	Pulp & Paper	Industry & Water	Group
Revenue [1]	1,457.6	969.5	2,427.2
EBITDA [2]	240.2	173.0	413.2
Depreciation, amortization and impairments	-122.2	-75.2	-197.4
Operating profit (EBIT) [3]	118.0	97.8	215.9
Finance costs, net			-34.9
Profit before tax			181.0
Income taxes			-43.0
Net profit for the period			138.0

1) Revenue consists mainly of sales of products to external customers, and there is no internal sales between the segments.
2) Includes items affecting comparability.

ITEMS AFFECTING COMPARABILITY IN EBITDA AND EBIT

2020, EUR million	Pulp & Paper	Industry & Water	Group
Operative EBITDA	260.2	174.8	435.1
Restructuring and streamlining programs			-8.4
Transaction and integration expenses in acquisitions			0.0
Divestment of businesses and other disposals			1.0
Other items			-14.4
Total items affecting comparability	-20.0	-1.8	-21.8
EBITDA	240.2	173.0	413.2
Operative EBIT	138.0	99.7	237.7
Items affecting comparability in EBITDA	-20.0	-1.8	-21.8
Items affecting comparability in depreciation, amortization and impairments	0.0	0.0	0.0
Operating profit (EBIT)	118.0	97.8	215.9

Quarterly information on items affecting comparability is disclosed in the section Reconciliation of IFRS figures.

BALANCE SHEET ITEMS

2020, EUR million	Pulp & Paper	Industry & Water	Group
Segment assets	1,430.7	876.5	2,307.2
Reconciliation to total assets as reported in the Group balance sheet:			
Other shares			212.3
Deferred income tax assets			27.5
Other investments			7.3
Defined benefit pension receivables			51.1
Other assets			30.8
Cash and cash equivalents			159.5
Total assets			2,795.7
Segment liabilities	228.3	162.1	390.4
Reconciliation to total liabilities as reported in the Group balance sheet:			
Interest-bearing non-current financial liabilities			724.1
Interest-bearing current financial liabilities			194.7
Other liabilities			281.2
Total liabilities			1,590.4

OTHER ITEMS

2020, EUR million	Pulp & Paper	Industry & Water	Group
Capital employed by segments on Dec 31	1,202.3	714.4	1,916.7
Capital employed by segments [1]	1,246.7	717.5	1,964.9
Operative ROCE, %	11.1	13.9	12.1
Capital expenditure	94.6	103.6	198.2

1) 12-month rolling average

INFORMATION ABOUT GEOGRAPHICAL AREAS:

REVENUE BY GEOGRAPHICAL AREA BASED ON CUSTOMER LOCATION

EUR million	2021	2020
Finland, domicile of the parent company	360.1	370.2
Other Europe, Middle East and Africa	1,014.5	935.0
Americas	1,010.0	862.4
Asia Pacific	289.8	259.5
Total	2,674.4	2,427.2

NON-CURRENT ASSETS BY GEOGRAPHICAL AREA

EUR million	2021	2020
Finland, domicile of the parent company	772.8	725.0
Other Europe, Middle East and Africa	526.7	522.4
Americas	551.3	499.5
Asia Pacific	200.8	192.5
Total	2,051.6	1,939.3

Information about major customers

The Group has several significant customers. No more than 10% of the Group's revenue was accumulated from any single external customer in 2021 or 2020.

The Group's accounting policies

Segment reporting

Segment information is presented in a manner consistent with the Group's internal organizational and reporting structure. Kemira's management evaluates the performance of the segments based on operative EBITDA and operative EBIT, among other factors. Assets and liabilities dedicated to a particular segment's operations are included in that segment's total assets and liabilities. Segment assets include property, plant and equipment, intangible assets, right-of-use assets, investments in associates, inventories, and certain current non-interest-bearing receivables. Segment liabilities include certain current non-interest-bearing liabilities. Geographically, Kemira's operations are divided into three business regions: Europe, the Middle East and Africa (EMEA), the Americas and the Asia Pacific (APAC).

Revenue recognition

IFRS 15 standard establishes a single comprehensive model for entities to use in accounting for revenue arising from contracts with customers. The core principle is that an entity should recognize revenue to depict the transfer of promised goods or services to customers to an amount that reflects the consideration to which the Group expects to be entitled in exchange for those goods or services. The Group recognizes revenue when (or as) a performance obligation is satisfied, i.e. when 'control' of the good or service underlying the particular performance obligation is transferred to the customer.

The Group's revenue consists mainly of contract types that include sales of chemical products as well as services and equipment which are related to sales of these chemical products. In 2021 and 2020, services have not formed a significant part of the Group's revenue.

Revenue recognition occurs at the point when the control of the products is transferred to the customer. Generally, in the Group's sales agreements, control is transferred to the customer based on delivery terms and the revenue is recognized at a point in time.

The Group provides delivery and handling services in conjunction with the sale of chemical products to customers. The delivery and handling services are recognized at the same time as revenue from products and are not treated as a separate performance obligation. Kemira recognizes the sale of products and the delivery and handling services for the same reporting period.

Discounts provided to customers are not a significant component of the sales price in Kemira's sales contracts.

2.2 OTHER OPERATING INCOME AND EXPENSES

OTHER OPERATING INCOME

EUR million	2021	2020
Gains on the sale of non-current assets	3.0	1.3
Rental income	0.6	0.5
Services	2.3	2.1
Other income from operations	0.2	0.1
Total	**6.9**	4.0

OPERATING EXPENSES

EUR million	2021	2020
Materials and supplies	1,440.1	1,192.0
Employee benefit expenses	370.5	376.5
External services and other expenses [1) 2)]	307.9	279.6
Freights and delivery expenses	188.3	169.8
Total	**2,306.7**	2,017.9

1) Includes equipment costs, travel expenses, leases, office related expenses, insurances, consulting and other operational expenses.

2) In 2021, other operating expenses included research and development expenses of EUR 28.3 million (28.9) including government grants received. Government grants received for R&D were EUR 0.5 million (0.3). The extent of the grants received reduces the research and development expenses.

EMPLOYEE BENEFIT EXPENSES

EUR million	Note	2021	2020
Wages, salaries and emoluments			
Wages and salaries [3)]		279.3	296.2
Share-based payments	2.3.	8.4	7.0
Total		287.7	303.1
Indirect employee benefit expenses			
Expenses for defined benefit pension plans and employee benefits	4.5.	2.9	3.3
Pension expenses for defined contribution plans		29.2	21.4
Other employee benefit costs [4)]		50.7	48.7
Total		82.8	73.4
Total employee benefit expenses		370.5	376.5

3) Includes emoluments of Kemira Oyj's CEO and the Board of Directors.

4) In 2020, government relief for employee benefit costs of EUR 1.7 million received in China due to the COVID-19 pandemic.

The salaries and fees of Kemira Oyj's CEO and members of the Board of Directors are disclosed in Note 6.1.

NUMBER OF PERSONNEL

	2021	2020
Average number of personnel by geographical area		
Europe, Middle East and Africa	**2,545**	2,573
Americas	**1,475**	1,529
Asia Pacific	**927**	936
Total	**4,947**	5,038
Personnel in Finland, average	**784**	790
Personnel outside Finland, average	**4,163**	4,248
Total	**4,947**	5,038
Number of personnel on Dec 31	**4,926**	4,921

AUDITOR'S FEES AND SERVICES

EUR million	2021	2020
Audit fees	**1.4**	1.4
Tax services	**0.1**	0.1
Other services	**0.1**	0.2
Total	**1.6**	1.7

Ernst & Young Oy is acting as the principal auditor for Kemira Group.

The Group's accounting policies

Government grants

Government grants for investments are recognized as a deduction from the carrying amount of PP&E. The grants are recognized in the income statement as smaller depreciation over the asset's useful life. Government grants for research activities are recognized as a deduction from expenses and certain other grants are recognized in other income from operations.

Research and developments costs

Research and development costs are recognized as an expense as incurred. Development costs are capitalized as intangible assets when it can be shown that a development project will generate a probable future economic benefit, and the costs attributable to the development project can reliably be measured. Capitalized development costs include material, labor, and testing costs, as well as any capitalized borrowing costs that are directly attributable to bringing the asset ready for its intended use. Other development costs that do not meet these criteria are recognized as an expense as incurred. Development costs previously recognized as an expense are not recognized as an asset in the subsequent periods.

2.3 SHARE-BASED PAYMENTS

Share incentive plans 2019–2023

In December 2018, Kemira's Board of Directors of Kemira Oyj decided to establish a long-term incentive plan for 2019–2023. Kemira has a long-term share incentive plan directed towards a group of key employees, which is composed of two one-year performance periods for the years 2019 and 2020, and three three-year performance periods for the years 2019–2021, 2020–2022 and 2021–2023.The Board has decided on the plan's performance criteria and the targets for each criterion at the beginning of each performance period.

The rewards for the performance periods have been paid partly in Kemira Oyj's shares and partly in cash. The cash proportion is intended to cover taxes and tax-related costs arising from the reward to the participant. As a rule, no reward has been paid if a participant's employment or service has ended before the reward payment. The shares paid as a reward may not be transferred during the restriction period, which ends two years after the end of the performance period. If a participant's employment or service has ended during the restriction period, the participant has, as a rule, gratuitously returned the shares given as a reward without consideration. The restriction period only applies to the one-year performance period.

Share incentive plan	2019	2019-2021	2020	2020-2022	2021-2023
Performance period (calendar year)	2019	2019-2021	2020	2020-2022	2021-2023
Restriction period of shares	2 years	1)	2 years	1)	1)
Issue year of shares	2020	2022	2021	2023	2024
Share price at the grant date	9.90	9.90	13.41	13.41	12.57
Number of transferred shares from the plans	263,175	—	194,097	—	—
Estimated number of shares on December 31, 2021	—	221,128	—	105,023	321,558
Number of participants on December 31, 2021	78	76	82	82	88
Performance criteria	Intrinsic value 2)	Intrinsic value 2)	Intrinsic value 2)	Intrinsic value 2) and organic growth-%	Intrinsic value 2) and organic growth-%

1) A restriction period is not applied to three-year performance periods.
2) The amount of the reward is based on the intrinsic value which is defined as follows: operative EBITDA * 8 - net debt.

Share incentive plans 2022–2026

In December 2021, the Board of Directors of Kemira Oyj decided to establish a long-term share incentive plan directed to a group of key employees in Kemira. The long-term share incentive plan includes three three-year performance periods: years 2022–2024, 2023–2025 and 2024–2026. The Board shall decide on the plan's performance criteria and on the required performance levels for each criterion at the beginning of each performance period. The Board shall decide on the plan's participants and share allocations at the beginning of each performance period.

The potential reward is paid partly in Kemira Oyj's shares and partly in cash. The cash portion covers taxes and tax-related costs arising from the reward to the participant. As a rule, no reward will be paid if a participants employment or service ends before the reward payment.

Share incentive plan 2022–2024

Participation in the long-term share incentive plan's performance period 2022–2024 is directed to approximately 90 people. The reward to be paid from the 2022–2024 performance period, if the criteria are fulfilled, will amount up to a maximum of 643,500 Kemira Oyj shares. In addition, a cash proportion covers the taxes and tax-related costs arising from the reward is included.

THE EFFECT OF SHARE-BASED PAYMENTS ON OPERATING PROFIT

EUR million	Note	2021	2020
Rewards provided in shares		3.9	3.3
Rewards provided in cash		4.5	3.7
Total	2.2.	8.4	7.0

The Group's accounting policies

Share-based payments

The Group has equity-settled share-based incentive plans under which the Group receives services from persons as consideration for the share-based rewards. The potential rewards for these services are provided to the person partly in shares and partly in cash. The Group's share incentive plan includes persons in several different countries where the Group is obliged under local tax laws or regulations to pay the tax liability to the tax authorities on

behalf of a person in cash. The Group's share-based incentive plans have been entirely classified as an equity-settled transaction.

The rewards granted on the basis of a share-based arrangement are recognized as personnel expenses in the income statement and in equity. The expense is recognized on a straight-line basis over the vesting period, which is the period over which the specified vesting conditions are to be satisfied.

The fair value of the share awards has been determined at the grant date and less the estimated expected dividends that will not be received during the vesting period. The fair value of the rewards is based on the Group's estimate of the number of shares to which the right is expected to vest at the end of the vesting period. An estimate of the number of shares is reviewed at each balance sheet date. The potential effect of revisions to estimates is recognized as a personnel expense in the income statement, with the corresponding fair value adjustment made to equity.

2.4 DEPRECIATION, AMORTIZATION AND IMPAIRMENTS

EUR million	2021	2020
Amortization of intangible assets and depreciation of property, plant and equipment		
Other intangible assets [1]	24.1	28.6
Buildings and constructions	21.5	19.4
Machinery and equipment	114.9	112.2
Other tangible assets	5.6	5.2
Total	166.2	165.4
Depreciations of right-of-use assets		
Land	1.8	1.2
Buildings and constructions	10.1	8.6
Machinery and equipment	21.8	21.4
Other tangible assets	0.6	0.7
Total	34.1	31.9
Impairments of intangible assets and property, plant and equipment [2]		
Goodwill	1.1	0.0
Buildings and constructions	0.4	0.0
Machinery and equipment	1.0	0.0
Other tangible assets	0.4	0.0
Total	2.9	0.0
Total depreciation, amortization and impairments	203.1	197.4

1) Amortization of intangible assets related to business acquisitions amounted to EUR 12.1 million (14.8) during the financial year 2021.
2) Impairment losses related to plant closure in France in 2021.

Goodwill impairment tests are disclosed in Note 3.1. Goodwill.

The Group's accounting policies

Depreciation/amortization

Depreciation/amortization is calculated on a straight-line basis over the asset's estimated useful life. Land is not depreciated. The most commonly applied depreciation/amortization periods according to the Group's accounting policies are presented in the following table.

Depreciation of property, plant and equipment and amortization of intangible assets in years	
Buildings and constructions	20-40
Machinery and equipment	3-15
Development costs	a maximum of 8 years
Customer relationships	5-7
Technologies	5-10
Non-compete agreements	3-5
Other intangible assets	5-10
Right-of-use assets	during a lease term

Depreciation/amortization of an asset begins when it is available for use and it ceases at the moment when the asset is classified under IFRS 5 as held for sale, or is included in the disposal group.

2.5 FINANCE INCOME AND EXPENSES

EUR million	2021	2020
Finance income		
Dividend income	**0.0**	0.0
Interest income		
Interest income from loans and receivables [1]	**6.1**	1.1
Interest income from financial assets at fair value through profit or loss	**0.7**	0.4
Other finance income	**0.0**	0.1
Total	**6.8**	1.5
Finance expense		
Interest expenses		
Interest expenses from other liabilities	**-19.4**	-19.5
Interest expenses from financial liabilities at fair value through profit or loss	**-3.6**	-3.2
Interest expenses from lease liabilities	**-6.2**	-6.5
Other finance expenses [2]	**-4.8**	-5.2
Total	**-34.1**	-34.4
Exchange differences		
Exchange differences from financial assets and liabilities at fair value through profit or loss	**9.2**	-9.8
Exchange differences, other	**-8.6**	7.9
Total	**0.6**	-1.9
Total finance income and expenses	**-26.7**	-34.9
Net finance expenses as a percentage of revenue, %	**1.0**	1.4
Net interest as a percentage of revenue, %	**0.8**	1.1

EUR million	2021	2020
Change in Consolidated Statement of Comprehensive Income from hedge accounting instruments		
Cash flow hedge accounting: amount recognized in the Consolidated Statement of Comprehensive Income [3]	**19.3**	-0.8
Total	**19.3**	-0.8
Exchange differences		
Realized	**-10.2**	9.1
Unrealized	**10.8**	-11.1
Total	**0.6**	-1.9

1) Includes a gain of EUR 5.6 million arising from bond liability management in March 2021, when EUR 97 million of outstanding notes maturing in 2022 were exchanged for a EUR 200 million issuance of new senior unsecured notes.
2) Includes EUR 1.8 million (1.9) of arrangement fees relating to loans in 2021.
3) Consists mostly from changes in fair value of derivatives under hedge accounting treatment.

2.6 INCOME TAXES

EUR million	2021	2020
Current taxes	-30.5	-38.2
Taxes for prior years	-1.9	-0.1
Change in deferred taxes	4.3	-4.7
Total	-28.2	-43.0

RECONCILIATION BETWEEN TAX EXPENSE AND TAX CALCULATED AT DOMESTIC TAX RATE

EUR million	2021	2020
Profit before tax	143.3	181.0
Tax at parent company's tax rate 20%	-28.7	-36.2
Foreign subsidiaries' different tax rate	-3.3	-1.9
Non-deductible expenses and tax-exempt profits	-1.8	-2.3
Share of profit or loss of associates	-0.1	0.0
Tax losses during the period without deferred tax	-0.9	-4.1
Tax for prior years	-1.9	-0.1
Effect of change in tax rates	0.0	0.1
Utilization of prior years' tax losses with no deferred tax	3.5	0.0
Changes in deferred taxes related to prior years	5.1	1.5
Income taxes in the Income Statement	-28.2	-43.0

In 2021, the effective tax rate of the Group was 19.6% (23.8%).

TAX LOSSES AND RELATED DEFERRED TAXES

	Tax losses carried forward		Recognized deferred taxes		Unrecognized deferred taxes	
EUR million	2021	2020	2021	2020	2021	2020
Expiry within 5 years	70.2	100.9	8.9	8.8	7.8	15.6
Expiry after 5 years	2.8	7.5	0.7	2.0	0.0	0.0
No expiry	73.0	86.5	1.6	2.9	16.7	24.8
Total	146.0	195.0	11.2	13.6	24.6	40.4

At the end of 2021, the subsidiaries had EUR 98.1 million (140.2) tax losses, of which no deferred tax benefits have been recognized. The subsidiaries' tax losses are incurred in different currencies and born mainly in Brazil and China.

The Group's accounting policies

Income taxes

The Group's tax expense for the period comprises current tax, adjustments prior tax periods and deferred tax. Tax is recognized in the income statement, except where it relates to items recognized in other comprehensive income or directly in equity. In this case, the tax is also recognized in other comprehensive income or directly in equity.

The current income tax charge is calculated based on tax laws enacted or substantively enacted on the balance sheet date in the countries where the company and its subsidiaries operate and generate taxable income.

The items in the financial statements that include significant accounting estimates and accounting policies that require judgment

Deferred taxes and uncertain tax positions

The management regularly evaluates the positions taken in the tax returns to identify situations where the applicable tax regulation may be subject to interpretation. The Management evaluates also other potential uncertainties related to the tax positions identified in the tax audits or tax disputes. The potential provisions are recorded based on estimated outcome and probability.

2.7 EARNINGS PER SHARE

	2021	2020
Earnings per share, basic		
Net profit attributable to equity owners of the parent company, EUR million	**108.1**	131.3
Weighted average number of shares [1]	**153,092,232**	152,878,743
Basic earnings per share, EUR	**0.71**	0.86
Earnings per share, diluted		
Net profit attributable to equity owners of the parent company, EUR million	**108.1**	131.3
Weighted average number of shares [1]	**153,092,232**	152,878,743
Adjustments:		
Average number of treasury shares it is possible to be issued on the basis of the share-based payments	**692,789**	494,455
Weighted average number of shares for diluted earnings per share	**153,785,021**	153,373,198
Diluted earnings per share, EUR	**0.70**	0.86

1) Weighted average number of shares outstanding, excluding the number of treasury shares held by Kemira Oyj.

The Group's accounting policies

Earnings per share

The basic earnings per share are calculated by dividing the profit attributable to the equity owners of the parent company by the weighted average number of shares issued during the period excluding treasury shares held by Kemira Oyj. The diluted earnings per share are calculated by adjusting the weighted average number of ordinary shares with the dilutive effect of all the potential dilutive shares, such as shares from share-based payments.

2.8 OTHER COMPREHENSIVE INCOME

EUR million	2021	2020
Items that may be reclassified subsequently to profit or loss		
Exchange differences on translating foreign operations	**35.7**	-52.1
Cash flow hedges	**24.2**	-1.0
Items that will not be reclassified subsequently to profit or loss		
Other shares	**50.2**	-32.9
Remeasurements of defined benefit plans	**26.8**	-1.4
Other comprehensive income for the period before taxes	**136.9**	-87.4
Tax effects relating to components of other comprehensive income	**-23.8**	12.0
Other comprehensive income for the period, net of tax	**113.3**	-75.3

THE TAX RELATING TO COMPONENTS OF OTHER COMPREHENSIVE INCOME

	2021			2020		
EUR million	Before tax	Tax charge (-) /credit (+)	After tax	Before tax	Tax charge (-) /credit (+)	After tax
Items that may be reclassified subsequently to profit or loss						
Exchange differences on translating foreign operations	**35.7**	**-3.5**	**32.2**	-52.1	5.0	-47.1
Cash flow hedges	**24.2**	**-4.9**	**19.3**	-1.0	0.2	-0.8
Items that will not be reclassified subsequently to profit or loss						
Other shares	**50.2**	**-10.0**	**40.2**	-32.9	6.6	-26.3
Remeasurements of defined benefit plans	**26.8**	**-5.4**	**21.5**	-1.4	0.2	-1.2
Total other comprehensive income	**136.9**	**-23.8**	**113.3**	-87.4	12.0	-75.3

3. CAPITAL EXPENDITURES AND ACQUISITIONS

3.1 GOODWILL

EUR Million	2021	2020
Net book value on Jan 1	**504.1**	515.8
Acquisition of subsidiaries and business acquisitions	**0.0**	0.0
Impairments [1]	**-1.1**	0.0
Exchange differences	**11.1**	-11.7
Net book value on Dec 31	**514.0**	504.1

1) Impairments related to plant closure in France in 2021.

The impact of the COVID-19 pandemic on goodwill and other balance sheet items is described in Note 1. The Group's Accounting Policies for the Consolidated Financial Statements.

Impairment testing of goodwill

Goodwill is allocated to the two individual cash-generating units that are the Group's reportable segments. The reportable segment represents the lowest level within the Group at which goodwill is monitored for internal management purposes. The Group's two reportable segments are Pulp & Paper and Industry & Water. A summary of the tested net book values and goodwill relating to the Group's reportable segments is presented in the following table.

EUR Million	2021 Net book value	2021 of which goodwill	2020 Net book value	2020 of which goodwill
Pulp & Paper	**1,260**	**357**	1,202	350
Industry & Water	**812**	**157**	714	154
Total	**2,071**	**514**	1,916	504

The Group carries out its impairment testing of goodwill annually, or whenever there is an indication that the recoverable amount may be less than its carrying amount. The recoverable amounts of cash-generating units have been determined based on value in use calculations which require the use of estimates and assumptions. The key assumptions in value in use calculations are the EBITDA margin and discount rate.

The long-term EBITDA margin assumption used for the impairment testing of goodwill is based on past experience about EBITDA margins and reflects the management's perception of developments in sales prices and sales volumes during the forecast period. The cash flow forecasts used in the impairment testing are based on cash flow forecasts approved by the management covering a five-year horizon. The expected growth used to extrapolate cash flows in the subsequent five-year forecast period was assumed to be 1% (2020: 1%) in both cash-generating units Pulp & Paper and Industry & Water.

The discount rates applied were based on the Group's adjusted Weighted Average Cost of Capital (WACC) before taxes. The risk-adjusted WACC rate was defined for both cash-generating units. The pre-tax discount rates used in performing the impairment tests of the Group's reportable segments are presented in the following table.

%	2021	2020
Pulp & Paper	**7.5**	7.9
Industry & Water	**7.5**	7.9

In addition, an impairment test based on market value has been carried out as part of impairment testing. The value in use calculation based on cash flow forecasts has been validated by comparing it against the quoted market value of Kemira Oyj.

During the financial years 2021 and 2020, impairment tests have not indicated any impairment, and no impairment loss has been recognized in the income statement.

Sensitivity analysis

In 2021, as part of the impairment testing, the Group carried out sensitivity analysis that assessed key changes in assumptions as follows: a decrease of 2 percentage points in EBITDA margin, a decrease of 10% in estimated cash flow during the forecast period, an increase of 1 and 2 percentage points in the discount rates or a decrease of 10% in cash flows and an increase of 2 percentage points in the discount rate.

Based on the sensitivity analyses carried out, the management has estimated that changes in the key assumptions of EBITDA margins, discount rates and cash flows would not result in the cash-generating units carrying amount exceeding the recoverable amount and therefore there would be no impairment losses recorded in either of the reportable segments.

The Group's accounting policies

Goodwill
Goodwill arises from business combinations. Goodwill represents the excess of the consideration transferred, the amount of any non-controlling interest in the acquiree and the acquisition-date fair value of any previous equity interest in the acquiree over the fair value of the identifiable net assets acquired. Goodwill is measured at cost less the accumulated impairment losses.

Impairment testing
On each balance sheet date, the Group assesses whether there is any indication of an asset's impairment. If any indication of impairment exists, the recoverable amount of the asset or the cash-generating unit is calculated on the basis of the value in use or the net selling price.

For the purpose of impairment testing goodwill, a cash-generating unit has been defined as an operating segment. Two or more operating segments are not combined into one reportable segment. The recoverable amount of a reportable segment is defined as its value in use, which consists of the discounted future cash flows to the unit. Estimates of future cash flows are based on the continuing use of an asset and forecasts by the management. Cash flow estimates do not include the effects of improved asset performance, investments or future reorganizations.

Goodwill impairment is tested by comparing the recoverable amount with the carrying amount for the reportable segments Pulp & Paper and Industry & Water. The carrying amount includes goodwill, intangible assets and PP&E, right-of-use assets and working capital. The Group does not have intangible assets with indefinite useful lives other than goodwill. All goodwill has been allocated to the reportable segments.

An impairment loss is recognized whenever the carrying amount of an asset or a cash-generating unit exceeds its recoverable amount. An impairment loss is recognized in the income statement. If there has been a positive change in the estimates used to determine an asset's recoverable amount since the last impairment loss was recognized, an impairment loss recognized for previous years is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined if no impairment loss had been recognized for the previous years. An impairment loss for goodwill is never reversed.

The items in the financial statements that include significant accounting estimates and accounting policies that require judgment

Impairment test of goodwill
The impairment tests of goodwill and other assets include determining future cash flows which, with regard to the most significant assumptions, are based on EBITDA margin and discount rates. Significant adverse developments in cash flows and interest rates may necessitate the recognition of an impairment loss.

3.2 OTHER INTANGIBLE ASSETS

2021, EUR million	Other intangible assets	Prepayments	Total
Acquisition cost on Jan 1	317.7	3.5	321.2
Additions	9.3	0.6	9.9
Purchases of subsidiaries and business acquisitions	0.0	0.0	0.0
Decreases	-3.2	0.0	-3.2
Reclassifications	0.0	-0.1	-0.1
Exchange rate differences and other changes	6.7	0.1	6.8
Acquisition cost on Dec 31	330.5	4.1	334.6
Accumulated amortization on Jan 1	-243.2		-243.2
Accumulated amortization relating to decreases and transfers	3.2		3.2
Amortization during the financial year	-24.1		-24.1
Impairments	0.0		0.0
Exchange rate differences	-3.8		-3.8
Accumulated amortization on Dec 31	-267.9		-267.9
Net book value on Dec 31	62.6	4.1	66.7

2020, EUR million	Other intangible assets	Prepayments	Total
Acquisition cost on Jan 1	326.0	3.2	329.2
Additions	10.2	0.4	10.6
Purchases of subsidiaries and business acquisitions	0.0	0.0	0.0
Decreases	-15.9	0.0	-15.9
Reclassifications	1.4	0.0	1.4
Exchange rate differences and other changes	-4.0	-0.1	-4.1
Acquisition cost on Dec 31	317.7	3.5	321.2
Accumulated amortization on Jan 1	-233.8		-233.8
Accumulated amortization relating to decreases and transfers	15.9		15.9
Amortization during the financial year	-28.6		-28.6
Impairments	0.0		0.0
Exchange rate differences	3.2		3.2
Accumulated amortization on Dec 31	-243.2		-243.2
Net book value on Dec 31	74.5	3.5	78.0

The Group holds assigned emissions allowances under the EU Emissions Trading System at its Helsingborg site in Sweden and UK Emission Trading System at its Bradford site in the UK. At the Group level, the allowances showed a surplus of 35,386 tons of carbon dioxide in 2021 (a surplus of 106,568 tons). In 2021, 35,000 tons of allowances were sold and the income from them was EUR 2.9 million.

The Group's accounting policies

Other intangible assets

Other intangible assets include, for instance, software and software licenses and patents, technologies, non-compete agreements and customer relationships acquired in business combinations. On the contrary, cloud-based software as service acquisitions do not, by their nature, meet the characteristics of an intangible asset and are therefore recognized as an expense. Intangible assets are measured at cost less accumulated amortization and any impairment losses. The Group has no intangible assets that have an indefinite useful life other than goodwill.

Emissions allowances

Carbon dioxide allowances are accounted for as intangible assets measured at cost. Carbon dioxide allowances received free of charge are measured at their nominal value (zero). A provision for the fulfillment of the obligation to return allowances is recognized if the free-of-charge allowances are not sufficient to cover actual emissions. The Group's consolidated balance sheet shows no items related to emissions allowances when the volume of actual emissions is lower than that of the free-of-charge emissions allowances and the Group has not bought allowances on the market.

3.3 PROPERTY, PLANT AND EQUIPMENT

2021, EUR million	Land	Buildings and constructions	Machinery and equipment	Other property, plant and equipment	Prepayments and assets under construction [1]	Total
Acquisition cost on Jan 1	49.8	499.2	1,709.5	82.5	100.8	2,441.8
Additions	0.1	43.1	99.4	7.5	9.8	159.9
Acquisitions of subsidiaries and business acquisitions	—	—	—	—	—	—
Decreases	—	-7.8	-47.9	-1.4	—	-57.1
Disposed of subsidiaries	—	—	—	—	—	—
Reclassifications	—	0.2	6.5	—	-6.5	0.1
Exchange rate differences and other changes	0.3	17.1	59.7	4.2	3.6	84.9
Acquisition cost on Dec 31	50.1	551.8	1,827.1	92.7	106.7	2,628.5
Accumulated depreciation on Jan 1	-9.9	-256.2	-1,117.0	-47.3		-1,430.4
Accumulated depreciation related to decreases and transfers	—	7.8	47.7	1.4		57.0
Depreciation during the financial year	—	-21.5	-114.9	-5.6		-142.1
Impairments	—	-0.4	-1.6	-0.4		-1.8
Exchange rate differences	—	-6.8	-36.2	-3.2		-48.1
Accumulated depreciation on Dec 31	-10.0	-277.0	-1,223.4	-55.0		-1,565.4
Net book value on Dec 31	40.2	274.8	603.7	37.7	106.7	1,063.0

1) Prepayment and non-current assets under construction are mainly comprised of plant investments.

2020, EUR million	Land	Buildings and constructions	Machinery and equipment	Other property, plant and equipment	Prepayments and assets under construction [1]	Total
Acquisition cost on Jan 1	49.8	503.6	1,695.6	77.4	137.7	2,464.0
Additions	0.0	54.2	153.2	10.5	-32.9	185.0
Acquisitions of subsidiaries and business acquisitions [1]	0.0	0.0	0.0	0.0	0.0	0.0
Decreases	0.1	-42.2	-79.7	-2.2	0.0	-124.0
Disposed of subsidiaries	0.0	0.0	0.0	0.0	0.0	0.0
Reclassifications	0.0	2.1	-2.6	0.3	0.0	-0.1
Exchange rate differences and other changes	-0.1	-18.5	-57.0	-3.6	-4.0	-83.2
Acquisition cost on Dec 31	49.8	499.2	1,709.5	82.5	100.8	2,441.8
Accumulated depreciation on Jan 1	-9.9	-284.5	-1,117.9	-46.7		-1,458.9
Accumulated depreciation related to decreases and transfers	-0.1	41.2	79.3	2.2		122.6
Depreciation during the financial year	0.0	-19.4	-112.2	-5.2		-136.8
Impairments	0.0	0.0	0.0	0.0		0.0
Exchange rate differences	0.0	6.4	33.8	2.4		42.7
Accumulated depreciation on Dec 31	-9.9	-256.2	-1,117.0	-47.3		-1,430.4
Net book value on Dec 31	39.9	243.0	592.5	35.2	100.8	1,011.4

1) Prepayment and non-current assets under construction are mainly comprised of plant investments.

The Group's accounting policies

Property, plant and equipment

Property, plant and equipment are measured at cost less accumulated depreciation and any impairment losses. The residual values and useful lives of the assets are reviewed at least at the end of each financial year. Gains and losses on the sale of non-current assets are included in other operating income and expenses. Borrowing costs directly attributable to the acquisition or construction of a qualifying asset are capitalized as part of the cost of the asset in question when it is probable that they will generate future economic benefits and the costs can be reliably measured. The costs of major inspections or the overhaul of an asset performed at regular intervals and identified as separate components are capitalized and depreciated over their useful lives.

3.4 LEASES

CHANGE IN RIGHT-OF-USE ASSETS

2021, EUR million	Land	Buildings and constructions	Machinery and equipment	Other property, plant and equipment	Total
Net book value Jan 1	**32.5**	**27.7**	**59.4**	**1.5**	**121.0**
Additions	1.0	11.0	28.3	1.3	42.5
Depreciation and impairments	-1.6	-10.1	-21.8	-0.6	-34.1
Reclassifications	0.0	0.0	0.0	0.0	0.0
Exchange rate differences and other changes	1.2	0.9	4.3	0.0	6.4
Net book value Dec 31	**33.1**	**29.5**	**71.1**	**2.1**	**135.8**

2020, EUR million	Land	Buildings and constructions	Machinery and equipment	Other property, plant and equipment	Total
Net book value Jan 1	28.7	31.9	73.7	2.0	136.2
Additions	7.0	5.7	11.9	0.3	25.0
Depreciation and impairments	-1.2	-8.6	-21.4	-0.7	-31.9
Reclassifications	-1.5	0.0	0.0	0.0	-1.5
Exchange rate differences and other changes	-0.6	-1.4	-4.8	-0.1	-6.9
Net book value Dec 31	32.5	27.7	59.4	1.5	121.0

Maturity of lease liabilities has been presented in Note 5.3. Interest-bearing liabilities. Changes in lease liabilities and payments related to lease liabilities has been presented in Note 5.1. Capital Structure.

In 2021, the amount of lease expenses recognized in the income statement for leases of short-term or low-value assets is EUR 4 million (3).

The Group's accounting policies

Leases

At the time of entering into an agreement, the Group assesses whether it is a lease or whether it contains a lease. An agreement is a lease in accordance with IFRS 16 if the agreement gives the Group, as lessee, the right to control the asset and control its use for a specified period, against consideration. The Group's leases are mainly for land, buildings and transport equipment.

The lease is recognized as a right-of-use asset and a corresponding liability when the leased asset is available to the Group. The rent paid is divided into debt and interest expenses. Interest expenses are recognized in the income statement over the lease term and the asset is amortized over the lease term. Assets and liabilities arising from leases are initially measured at present value. Lease liabilities include the net fair value of rentals, consisting of a fixed payment and a variable rent that are index- or price-level dependent. The lease liability is discounted to its present value using an interest rate on the additional loan, consisting of the reference interest rate and the lessee's credit margin, which the lessee would pay on the acquisition of the corresponding asset by debt financing. This additional loan rate will vary depending on the duration of the lease and the currency.

The lease term is the period during which the lease cannot be canceled. The Group leases typically have a fixed term, and some contracts have options for renewal. The option is included in the lease liability if it is reasonably certain that the option will be exercised. If there is a change in the estimate of the exercise of the option, the lease liability and the related asset are reassessed.

A right-of-use asset is measured at cost, which includes the original amount of the lease liability. In building leases, lease and non-lease components are treated separately wherever they can be identified and distinguished from the right-of-use asset. In subsequent periods, the accumulated depreciation and impairment losses are deducted from the asset. Fixed assets are tested for impairment in accordance with IAS 36 Impairment of Assets.

Payments for short-term and low-value leases are recognized as an expense in the income statement on a straight-line basis over the lease term. Leases with a maximum term of 12 months are regarded as short-term. Low value assets include IT equipment, office furniture and other low value machines.

3.5 OTHER SHARES

2021, EUR million	The shares of Pohjolan Voima Group	Other non-listed shares	Total
Net book value on Jan 1	**210.6**	**1.7**	**212.3**
Additions [1]	—	1.0	1.0
Decreases [2]	-3.5	—	-3.5
Change in fair value	50.2	—	50.2
Net book value on Dec 31	**257.3**	**2.7**	**260.0**

2020, EUR million			
Net book value on Jan 1	243.4	1.7	245.2
Additions	—	—	—
Decreases	—	—	—
Change in fair value	-32.9	—	-32.9
Net book value on Dec 31	210.6	1.7	212.3

1) Kemira acquired a minority interest in SimAnalytics Oy.
2) Capital repayment of PVO's G5 series shares.

The impacts of the COVID-19 pandemic on the shares of Pohjolan Voima Group and other balance sheet items are described in Note 1. The Group's Accounting Policies for the Consolidated Financial Statements.

SHARES IN THE POHJOLAN VOIMA GROUP

EUR million	Class of shares	Holding, %	Class of assets	2021	2020
Pohjolan Voima Oyj	A	5	hydro power	**106.4**	89.0
Pohjolan Voima Oyj	B	2	nuclear power	**43.3**	32.8
Pohjolan Voima Oyj [1]	B2	7	nuclear power	**21.3**	21.3
Teollisuuden Voima Oyj	A	2	nuclear power	**83.4**	63.2
Other Pohjolan Voima Oyj	C2, G5, G6, M	several	several	**0.8**	4.3
Total				**257.3**	210.6

1) The plant supplier (AREVA-Siemens consortium) is building the Olkiluoto 3 nuclear power plant (OL 3) in Finland with fixed-price turnkey contracts. In spring 2005, the plant supplier started construction work with a contractual obligation to start the electricity production in OL 3 in spring 2009. However, OL 3 has been delayed several times from its original start-up schedule. TVO's release on 16 December 2021 states that the reactor at the OL3 regular electricity production will start in June 2022. On 21 December 2021, the reactor at the OL3 nuclear power plant was started up for the first time.

Kemira Oyj owns 5% of Pohjolan Voima Oyj, a company of the Pohjolan Voima Group, and 1% of its joint venture Teollisuuden Voima Oyj.

Discounted cash flow assumptions and sensitives

	2021	2020
Short-term discount rate	**3.6%**	3.7%
Long-term discount rate	**3.7%**	3.7%
Electricity price estimate EUR/MWh	**42.63–48.80**	34.26–52.35
Forward electricity prices EUR/MWh	**37.20–82.49**	32.20–44.25

A 10% decrease or increase in the electricity market price in the future would negatively or positively impact on the fair value of the shares by approximately EUR +/- 37 million (+/- 32). An increase or decrease of one percentage point in the discount rate would negatively or positively impact on the fair value of the shares by approximately EUR -38 million (-34) or approximately EUR 63 million (57).

The Group's accounting policies

Other shares

Other shares are classified at fair value through other comprehensive income. Changes in the fair value of other shares are recognized in other comprehensive income under equity in the fair value reserve taking the tax effect into account and including gains and losses from sales. The dividends are recognized in the profit or loss statement. Other shares include non-listed companies, the shareholdings in Pohjolan Voima Oyj (PVO) and Teollisuuden Voima Oyj (TVO) representing the largest investments.

PVO and its subsidiary TVO comprise a private electricity-generating group owned by Finnish manufacturing and power companies, to which it supplies electricity at cost. The PVO Group owns and operates two nuclear power plant units in Olkiluoto in the municipality of Eurajoki. Kemira Group has A series shares in TVO and A, B, C, G and M series shares in PVO. Different share series entitle the shareholder to electricity generated by different power plants. The owners of each share series are responsible for the fixed costs of the series in question in proportion to the number of the shares, regardless of whether they use their power/energy share or not, and for variable costs in proportion to the amount of energy used.

Kemira Oyj's holding in the PVO Group entitling Kemira to the electricity from completed power plants is measured at the fair value based on the discounted cash flow resulting from the difference between the market price of the electricity and the cost price. The forward electricity price quotations for the Finnish price area published by the Nordic Electricity Exchange have been used as the basis for the market price for the electricity for the first five years, and after this, the development of the prices is based on a fundamental simulation model of the Nordic electricity market. The impact of inflation in the coming years is taken into account in the price of the electricity and the cost prices. The cost prices are determined by each share series. Future cash flows have been discounted based on the estimated useful lifecycles of the plants related to each share series, and hydro power also includes terminal value. The discount rate has been calculated using the annually determined average weighted cost of capital.

The items in the financial statements that include significant accounting estimates and accounting policies that require judgment

Estimated fair value of shares in the PVO Group

The Group's shareholding in the unlisted PVO Group is measured at fair value, based on the discounted cash flow resulting from the difference between the market price of electricity and the cost price using the valuation model. Developments in the actual fair value may differ from the estimated value due to factors, such as electricity prices, inflation, the forecast period or the discount rate.

4. WORKING CAPITAL AND OTHER BALANCE SHEET ITEMS

NET WORKING CAPITAL

EUR million	Note	2021	2020
Inventories	4.1.	352.1	242.3
Trade receivables and other receivables	4.2.	475.2	362.0
Excluding financing items in other receivables [1]		-35.4	-16.9
Trade payables and other liabilities	4.3.	536.3	422.2
Excluding financing items in other liabilities [1]		-33.5	-31.8
Total		**287.2**	197.0

1) Includes mainly interest income and expenses, exchange gains and losses and hedging related items.

Quarterly information on net working capital is disclosed in the section on Reconciliation to IFRS figures.

4.1 INVENTORIES

EUR million	2021	2020
Materials and supplies	111.3	70.5
Finished goods	208.8	157.7
Prepayments	32.0	14.1
Total	**352.1**	242.3

In 2021, EUR 2.6 million (2.9) of the inventory value was recognized as an expense in order to decrease the book values of the inventories to correspond with their net realizable value.

The Group's accounting policies

Inventories

Inventories are measured at the lower of cost and net realizable value. Costs are determined on a first-in first-out (FIFO) basis or by using a weighted average cost formula, depending on the nature of the inventory. The cost of finished goods and work in progress include the proportion of production overheads at normal capacity. The net realizable value is the sales price received in the ordinary course of business less the estimated costs for completing the asset and the sales costs.

4.2 TRADE RECEIVABLES AND OTHER RECEIVABLES

EUR million	2021	2020
Trade and other receivables		
Trade receivables	373.0	288.5
Prepayments	6.9	3.0
Prepaid expenses and accrued income	62.3	42.4
Other receivables	32.9	28.1
Total	**475.2**	362.0

AGING OF OUTSTANDING TRADE RECEIVABLES

	2021		
EUR million	Receivables, gross amount	Expected credit losses	Receivables, net amount
Not due trade receivables	334.6	-0.3	334.3
Trade receivables 1-90 days overdue	38.1	-0.1	38.0
Trade receivables more than 91 days overdue	3.7	-3.0	0.7
Total	**376.4**	**-3.3**	**373.0**

	2020		
EUR million	Receivables, gross amount	Expected credit losses	Receivables, net amount
Not due trade receivables	258.9	-0.2	258.7
Trade receivables 1-90 days overdue	30.1	-0.4	29.7
Trade receivables more than 91 days overdue	4.6	-4.5	0.1
Total	293.7	-5.2	288.5

During 2020 COVID-19 pandemic caused increased uncertainty to collection of trade receivables within certain customers and expected credit losses were increased. In 2021, these COVID-19 related increases were released. The impact of the COVID-19 pandemic on trade receivables and other balance sheet items are described in Note 1. The Group's Accounting Policies for the Consolidated Financial Statements. In 2021, the impairment loss (+) /gain(-) of trade receivables amounted to EUR -0.7 million (0.3).

In 2021, items that were due in a time period longer than one year included trade receivables of EUR 0.3 million (0.2), prepaid expenses and an accrued income of EUR 10.3 (4.4), other receivables of EUR 0.4 (2.4) and prepayments of EUR 0.4 (0.5)

The Group's accounting policies

Trade receivables, loan receivables, and other receivables

Trade receivables, loan receivables, and other receivables are initially recognized at fair value and subsequently measured at amortized cost, taking impairment into account. These items are subject to a simplified impairment model in accordance with the IFRS 9 standard, where the estimated amount of credit losses is based on the expected credit losses over their expected life.

The expected credit loss rates for the impairment model vary for trade receivables in EMEA, Americas and APAC according to age distribution and geographical area. Credit loss rates are based on sales payment profiles and historical credit losses.

The expected credit losses for trade receivables are recognized using the simplified impairment model in accordance with IFRS 9. The expected credit losses are calculated by multiplying the book value of unpaid trade receivables by the expected credit loss rate according to geographical area, and any overdue trade receivables over 180 days are assessed based on a specific risk assessment. In addition, an estimate of a credit loss is recognized for individual trade receivables when there is objective evidence that the receivables will not be recovered on all the original terms.

Trade receivables, loan receivables and other receivables do not include a significant financial component.

4.3 TRADE PAYABLES AND OTHER CURRENT LIABILITIES

EUR million	2021	2020
Trade payables and other liabilities		
Prepayments received	2.5	7.4
Trade payables	285.5	180.2
Accrued expenses	208.8	215.0
Other non-interest-bearing current liabilities	41.4	19.6
Total	538.3	422.2
Accrued expenses		
Employee benefits	73.9	85.4
Items related to revenue and purchases	104.0	74.1
Interest	7.2	6.6
Exchange rate differences	0.8	16.1
Other	22.9	32.8
Total	208.8	215.0

The Group's accounting policies

Trade payables and other liabilities

Trade and other payables are presented as current liabilities if payment is due within 12 months after the financial period. Trade payables are initially recognized at fair value and subsequently measured at amortized cost.

4.4 DEFERRED TAX LIABILITIES AND ASSETS

EUR million	Jan 1, 2021	Recognized in the income statement	Recognized in other comprehensive income	Recognized in equity	Acquired and disposed subsidiaries	Exchange differences and reclassifications	Dec 31, 2021
Deferred tax liabilities							
Depreciations and untaxed reserves	51.6	3.1	0.0	0.0	0.0	2.6	57.3
Other shares	18.0	0.0	10.0	0.0	0.0	0.0	28.0
Defined benefit pensions	10.2	-0.7	5.1	0.0	0.0	0.0	14.6
Fair value adjustments of net assets acquired	1.7	-0.6	0.0	0.0	0.0	0.0	1.1
Other accruals	5.1	-3.2	5.6	0.7	0.0	0.2	11.4
Total	86.5	-1.4	20.8	0.7	0.0	2.7	112.4
Deducted from deferred tax assets	-34.6						-56.3
Deferred tax liabilities in the balance sheet	52.0						77.1
Deferred tax assets							
Provisions	17.9	2.6	0.0	0.0	0.0	-0.1	20.3
Tax losses	13.6	-2.9	0.0	0.0	0.0	0.5	11.2
Defined benefit pensions	11.6	-0.3	-0.4	0.0	0.0	-0.1	10.9
Other accruals	19.0	3.4	0.3	0.0	0.0	0.6	23.3
Total	62.1	2.9	-0.1	0.0	0.0	0.9	65.8
Deducted from deferred tax liabilities	-34.6						-35.3
Deferred tax assets in the balance sheet	27.6						30.5

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EUR million	Jan 1, 2020	Recognized in the income statement	Recognized in other comprehensive income	Recognized in equity	Acquired and disposed subsidiaries	Exchange differences and reclassifications	Dec 31, 2020
Deferred tax liabilities							
Depreciations and untaxed reserves	44.3	11.6	0.0	0.0	0.0	-4.3	51.6
Other shares	24.5	0.0	-6.6	0.0	0.0	0.0	18.0
Defined benefit pensions	10.4	0.0	-0.1	0.0	0.0	-0.1	10.2
Fair value adjustments of net assets acquired	2.8	-0.7	0.0	0.0	0.0	-0.4	1.7
Other accruals	9.5	1.9	-5.2	0.3	0.0	-1.5	5.1
Total	91.5	12.7	-11.8	0.3	0.0	-6.1	86.5
Deducted from deferred tax assets	-23.7						-34.6
Deferred tax liabilities in the balance sheet	67.8						52.0
Deferred tax assets							
Provisions	17.7	3.6	0.0	0.0	0.0	-3.4	17.9
Tax losses	12.2	0.6	0.0	0.0	0.0	0.8	13.6
Defined benefit pensions	11.5	-0.5	0.2	0.0	0.0	0.4	11.6
Other accruals	18.0	4.3	0.0	0.0	0.0	-3.4	18.9
Total	59.4	8.0	0.2	0.0	0.0	-5.5	62.1
Deducted from deferred tax liabilities	-23.7						-34.6
Deferred tax assets in the balance sheet	35.7						27.5

The Group's accounting policies

Deferred taxes

Deferred tax is recognized, using the liability method, on temporary differences arising between the tax bases of the assets and liabilities and their carrying amounts in the Consolidated Financial Statements. However, deferred tax liabilities are not recognized if they arise from the initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting profit nor taxable profit or loss. Deferred income tax is determined using tax rates (and laws) that have been enacted or substantially enacted by the balance sheet date and are expected to apply when the related deferred income tax asset is realized or the deferred income tax liability is settled.

Deferred income tax assets are recognized only to the extent that it is probable that a future taxable profit will be available against which the temporary differences can be utilized.

Deferred income tax is provided on temporary differences arising on investments in subsidiaries and associates, except for deferred income tax liability where the timing of the reversal of the temporary difference is controlled by the Group and it is probable that the temporary difference will not reverse in the foreseeable future.

Deferred income tax assets and liabilities are offset when there is a legally enforceable right to offset the current tax assets against current tax liabilities, and when the deferred income taxes assets and liabilities relate to the income taxes levied by the same taxation authority on either the same tax entity or different taxable entities where there is an intention to settle the balances on a net basis.

The items in the financial statements that include significant accounting estimates and accounting policies that require judgment

Deferred taxes

For the recognition of deferred tax assets for tax losses and other items, the management assesses the amount of a probable future taxable profit against which unused tax assets can be utilized. Actual profits may differ from the forecasts and in such cases, the change will affect taxes in future periods.

4.5 DEFINED BENEFIT PENSION PLANS AND EMPLOYEE BENEFITS

The Group has several defined benefit pension plans and other employee benefit obligations. The main defined benefit pension plans are in Finland, Sweden, Germany, the UK, and Norway.

Finland

The Group's most significant defined benefit plan is in Finland, through Pension Fund Neliapila, which takes care of part of some employees' supplementary pension benefits. The Pension Fund Neliapila covers employees whose employment with Kemira began before January 1, 1991, meaning that the fund is closed to new employees. Currently the majority of the members of Pension Fund Neliapila are pensioners. At the end of 2021, the obligations of Pension Fund Neliapila totaled EUR 203.9 million (212.5) and assets of the plan totaled EUR 277.1 million (263.5).

Pension Fund Neliapila's supplementary benefit includes old-age pensions, disability pensions, survivors' pensions and funeral grants. The aggregated pension benefit is 66 percent of the pension salary. To qualify for a full pension, an employee must have accrued a pensionable service of 25 years. The supplementary pension benefits is the difference between the aggregated and compulsory pension benefits.

The Board of Directors of Pension Fund Neliapila decided in December 2021 to return the fund's surplus of EUR 10 million to Kemira Group companies. The return of surplus will be paid by Pension Fund Neliapila when an approval is obtained from the Financial Supervisory Authority. The approval is required by the Pension Fund Act. The surplus payment is expected to be paid during the first half of 2022. The return of surplus of the pension plan assets will be recognized as a re-classification to financial assets in the Group's consolidated balance sheet.

Sweden

In Sweden, there is a defined benefit pension plan called the ITP 2 plan for white-collar employees. To qualify for a full pension, an employee must have a projected period of pensionable service, from the date of entry until retirement age, of at least 30 years. The pension arrangements comprise the normal retirement pension, complementary retirement pensions and a survivors' pension. In addition, Kemira must have credit insurance from PRI Pensionsgaranti Mutual Insurance Company for the ITP 2 plan pension liability. At the end of 2021, the defined benefit obligations in Sweden totaled EUR 53.7 million (55.1).

ASSETS AND LIABILITIES OF DEFINED BENEFIT PLANS RECOGNIZED IN THE BALANCE SHEET

EUR million	2021	2020
Present value of defined benefit obligations	312.0	321.6
Fair value of plans' assets	-292.0	-276.4
Surplus (-) / Deficit (+)	20.0	45.1
The effect of asset ceiling	0.8	0.0
Net receivables (-) / liabilities (+) of defined benefit plans recognized in the Balance Sheet	20.9	45.1
Liabilities of defined benefit plans	94.1	96.3
Receivables of defined benefit plans	-73.2	-51.1
Net receivables (-) / liabilities (+) of defined benefit plans recognized in the Balance Sheet	20.9	45.1
AMOUNTS OF DEFINED BENEFIT PLANS RECOGNISED IN THE INCOME STATEMENT		
Service costs	2.9	3.3
Net interest cost [1]	0.7	0.8
Defined benefit plans' expenses (+) / income (-) in the Income Statement	3.6	4.1

1) Net interest costs are presented in net finance costs, in the Consolidated Income Statement.

The assessment of impact of the COVID-19 pandemic on defined benefit plans and other balance sheet items are described in Note 1. The Group's Accounting Policies for the Consolidated Financial Statements.

DEFINED BENEFIT PLANS RECOGNIZED IN THE OTHER COMPREHENSIVE INCOME

EUR million	2021	2020
Items resulting from remeasurements of defined benefit plans [2]		
Actuarial gains (-) / losses (+) in defined benefit obligations arising from changes in demographic assumptions	6.0	0.1
Actuarial gains (-) / losses (+) in defined benefit obligations arising from changes in financial assumptions [3]	1.2	13.5
Actuarial gains (-) / losses (+) in defined benefit obligations arising from experience based assumptions	1.6	-3.2
Actuarial gains (-) / losses (+) in plan assets [3]	-30.3	-8.2
Effect from asset ceiling	0.8	-0.8
Defined benefit plans' expenses (+) / income (-) in the other comprehensive income	**-26.6**	1.4

2) The remeasurements of defined benefit plans are included in the Statement of Comprehensive Income as part of Other comprehensive income. The item has been disclosed net of tax and the related income tax is disclosed in Note 2.8. Other comprehensive income.

3) In 2021 and 2020, the actuarial gains and losses are mainly due to return on assets, change in the discount rate and inflation in Pension Fund Neliapila.

CHANGES IN PLAN ASSETS OVER THE PERIOD IN DEFINED BENEFIT PLANS

EUR million	2021	2020
Defined benefit obligation on Jan 1	**321.6**	323.5
Current service costs	2.8	2.9
Interest costs	1.7	3.1
Actuarial losses (+) / gains (-)	2.8	10.3
Exchange differences on foreign plans	-0.2	1.0
Benefits paid	-16.7	-17.6
Transfers to DC component [4]	—	-1.8
Curtailments and settlements	-0.3	—
Other items	0.4	0.2
Present value of defined benefit obligations on Dec 31	**312.0**	321.6

4) In Canada, the defined benefit (DB) pension plan has been converted to a defined contribution plan. DB pension obligations have been transferred to an insurance company.

CHANGES IN PLAN ASSETS OVER THE PERIOD IN DEFINED BENEFIT PLANS

EUR million	2021	2020
Fair value on Jan 1	**276.4**	282.9
Interest income	0.9	2.3
Contributions	0.3	0.3
Return of surplus assets [5]	-3.0	—
Actuarial losses (-) / gains (+)	30.3	8.2
Exchange differences on foreign plans	0.6	-0.7
Benefits paid	-13.4	-14.3
Transfers to DC component [4]	—	-1.8
Other items	-0.2	-0.6
Fair value of plan assets on Dec 31	**292.0**	276.4

5) In 2021, Pension Fund Neliapila paid to a surplus return of EUR 3 million to Kemira Group companies.

PLAN ASSETS BY ASSET CATEGORY IN DEFINED BENEFIT PLANS

EUR million	2021	2020
Interest rate investments and other assets	178.1	163.4
Shares and share funds	90.0	87.2
Properties occupied by the Group	24.3	24.3
Kemira Oyj's shares	1.5	1.5
Total assets	**292.0**	276.4

The Finnish Pension Fund Neliapila has most of the defined benefit plan's assets. At the end of 2021, the Pension Fund Neliapila's assets amounted to EUR 277.1 million (263.5), which consisted of interest rate investments and other assets of EUR 163.9 million (154.1), shares and share funds of EUR 87.3 million (83.6), properties of EUR 24.3 million (24.3) and Kemira Oyj's shares of EUR 1.5 million (1.5). In the Pension Fund Neliapila, the investment position is managed within an asset-liability matching (ALM) framework that has been developed to combine long-term investments in line with the obligations under the pension plan. In Pension Fund Neliapila, a market risk can be considered a significant investment risk. The market risk arising from cyclical fluctuations of the financial market, is managed by ensuring that the investment position is sufficiently diversified.

The income (+) / expense (-) of the actual returns on the plan assets of the Group's defined benefit plan were EUR 31.3 million (10.5).

SIGNIFICANT ACTUARIAL ASSUMPTIONS

%	2021	2020
Discount rate	1.0–1.8	0.3–3.1
Inflation rate	1.5–3.3	1.1–3.0
Future salary increases	2.0–2.7	1.1–2.5
Future pension increases	1.8–2.3	1.4–2.0

The significant assumptions used in calculating the obligations of the Finnish Pension Fund Neliapila were as follows: discount rate 1.0% (0.3%), inflation rate 2.0% (1.1%), future salary increases 2.0% (1.1%) and future pension increases 2.3% (1.4%).

Sensitivity analysis

The sensitivity analysis is based on keeping other assumptions constant when one assumption is changed. In practice, this is unlikely to occur and changes in some of the assumptions may correlate with each other. When calculating the sensitivity of the defined benefit obligation to significant actuarial assumptions, the same method has been applied as when calculating the pension liability recognized within the balance sheet.

If the discount rate would be 0.5 percentage points lower in all of the significant countries, the defined benefit obligation would increase by EUR 20.2 million (6.9%), if all other assumptions were held constant.

SENSITIVITY ANALYSIS - PENSION FUND NELIAPILA IN FINLAND

EUR million	Defined benefit obligation 2021	Defined benefit obligation 2020	Impact on defined benefit obligation 2021	Impact on defined benefit obligation 2020
Discount rate 1.0% (0.3%)	203.9	212.5		
Discount rate +0.5%	192.6	200.5	-5.6%	-5.7%
Discount rate -0.5%	216.5	225.8	6.1%	6.3%
Future pension increases 2.3% (1.4%)	203.9	212.5		
Future pension increases +0.5%	215.1	224.4	5.5%	5.6%
Future pension increases -0.5%	193.7	201.6	-5.0%	-5.1%

A change in mortality assumption in which life expectancy is increased by one year will increase the defined benefit obligation by EUR 10.1 million (4.9%).

SENSITIVITY ANALYSIS - ITP 2 PENSION PLAN IN SWEDEN

EUR million	Defined benefit obligation 2021	Defined benefit obligation 2020	Impact on defined benefit obligation 2021	Impact on defined benefit obligation 2020
Discount rate 1.7% (1.0%)	53.7	55.1		
Discount rate +0.5%	49.7	50.9	-7.4%	-7.6%
Discount rate -0.5%	58.1	59.8	8.2%	8.6%
Future salary increases 2.7% (2.0%)	53.7	55.1		
Future salary increases +0.5%	55.0	56.4	2.4%	2.4%
Future salary increases -0.5%	52.5	53.9	-2.2%	-2.2%

A change in mortality assumption in which life expectancy is increased by one year will increase the defined benefit obligation by EUR 2.5 million (4.7%).

Expected contributions to the defined benefit plans for the year ending on December 31, 2022, are EUR 3.2 million. In addition, Pension Fund Neliapila is expected to pay a surplus return of EUR 10 million to Kemira Group companies during the first half of 2022.

The Group's accounting policies

Defined benefit pension plans and employee benefits
The Group has different post-employment schemes, including both defined contribution and defined benefit pension plans in accordance with the local legislation and practices of the countries in which it operates. Pension plans are generally funded through contributions to pension insurance companies or a separate pension fund.

A defined contribution plan is a pension plan under which the Group pays fixed contributions into a separate entity. The Group has no legal or constructive obligations to pay further contributions if the fund does not hold sufficient assets to pay all employees the benefits relating to employee service in the current and prior periods. A defined benefit plan is a pension plan that is not a defined contribution plan.

Typically, defined benefit plans define an amount of pension benefit that an employee will receive on retirement, usually dependent on one or more factors such as their compensation level and years of service.

The liability recognized in the balance sheet in respect to the defined benefit pension plans is the present value of the defined benefit obligation at the end of the reporting period less the fair value of plan assets. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid, and with their terms to maturity approximating to the terms of the related pension obligation. In countries where there is no deep market in such bonds, the market rates for government bonds are used.

Actuarial gains and losses arising from experience adjustments and changes in actuarial assumptions are charged or credited to equity in other comprehensive income in the period in which they arise.

Current service costs are included in the Consolidated Income Statement in the employee benefit expenses and net interest costs on finance income and finance expense. Past service costs are recognized immediately in profit or loss.

For defined contribution plans, the Group pays contributions to publicly or privately administered pension insurance plans on a mandatory, contractual or voluntary basis. The Group has no further payment obligations once the contributions have been paid. The contributions are recognized as employee benefit expenses when they are due. Prepaid contributions are recognized as an asset to the extent that a cash refund or a reduction in the future payments is available.

The items in the financial statements that include significant accounting estimates and accounting policies that require judgment

Defined benefit pension plans
Determining pension liabilities under defined benefit pension plans includes a number of actuarial assumptions, and significant changes in these assumptions may affect the amounts of pension liabilities and expenses. Actuarial calculations include assumptions by the management, such as the discount rate and assumptions of salary increases and the termination of employment contracts. The pension liability is calculated by independent actuaries.

4.6 PROVISIONS

EUR million	Personnel related provisions	Restructuring provisions	Environmental provisions [1]	Other provisions [2] [3]	Total
Non-current provisions					
On January 1, 2021	0.8	0.4	21.1	13.2	35.6
Exchange rate differences	0.0	0.0	0.2	0.0	0.2
Additional provisions and increases in existing provisions	0.0	0.0	4.0	26.9	31.0
Used during the financial year	-0.1	0.0	-0.4	-0.2	-0.7
Unused provisions reversed	-0.1	-0.5	-1.0	0.0	-1.6
Reclassification	-0.3	0.0	-4.7	-11.5	-16.5
On December 31, 2021	0.4	0.0	19.2	28.4	48.0
Current provisions					
On January 1,2021	3.5	0.2	11.7	16.4	31.7
Exchange rate differences	0.3	0.0	0.1	0.0	0.5
Additional provisions and increases in existing provisions	3.7	0.3	5.5	15.8	25.4
Used during the financial year	-4.8	0.0	-6.8	-35.8	-47.4
Unused provisions reversed	-0.1	-0.1	0.0	-3.0	-3.3
Reclassification	0.2	0.0	4.7	11.5	16.3
On December 31, 2021	2.7	0.4	15.2	4.9	23.1

1) The Group's operations in the chemical industry are governed by numerous international agreements as well as regional and national legislation all over the world. The Group treats its environmental liabilities and risks according to established internal principles and procedures. In 2021, provisions for environmental remediation totaled EUR 34.4 million (32.8). The biggest provisions relate to site closures and reconditioning of the sediment of a lake in Vaasa, Finland.

2) In 2021, Kemira compensated EUR 22.75 million as a damage claim settlement in costs and damages to the CDC. In 2019, Kemira had recognized a provision of EUR 11.5 million related to CDC's claim.

3) In 2021, Kemira recognized a provision for expected liabilities of 29 million euro regarding energy company producing steam in Pori, Finland, owned via Pohjolan Voima. Provision amount is based on the estimated low utilization period.

EUR million	2021	2020
Breakdown of the total amount of provisions		
Non-current provisions	48.0	35.6
Current provisions	23.1	31.7
Total	71.1	67.3

The Group's accounting policies

Provisions

Provisions for restructuring costs, personnel related costs, environmental obligations, legal claims, and onerous contracts are recognized when the Group has a present legal or constructive obligation as a result of past events, and it is probable that an outflow of resources will be required to settle the obligation, and a reliable estimate of the amount of this obligation can be made. A restructuring provision is recognized when there is a detailed and appropriate plan prepared for it and the implementation of the plan has begun or has been notified to those whom the restructuring concerns.

The amount recognized as a provision is the present value of the expenditure expected to be required to settle the obligation on the balance sheet date using a pre-tax interest rate that reflects current market assessments of the time value of money and the risks specific to the obligation.

The items in the financial statements that include significant accounting estimates and accounting policies that require judgment

Provisions

Recognizing provisions requires the management's estimates, since the precise amount of obligations related to the provisions is not known when preparing the Financial Statements.

5. CAPITAL STRUCTURE AND FINANCIAL RISKS

5.1 CAPITAL STRUCTURE

EUR million	2021	2020
Equity	1,342.7	1,205.3
Total assets	3,139.3	2,795.7
Gearing, % [1]	63	63
Equity ratio, % [2]	43	43

1) The definition of the key figure for Gearing is 100 x Interest-bearing net liabilities / Total equity.
2) The definition of the key figure for the Equity ratio is 100 x Total equity / (Total assets - prepayments received).

INTEREST-BEARING NET LIABILITIES

EUR million	Note	2021	2020
Non-current interest-bearing liabilities	5.3.	776.9	724.1
Current interest-bearing liabilities	5.3.	215.3	194.7
Interest-bearing liabilities		992.2	918.8
Cash and cash equivalents	5.4.	142.4	159.5
Interest-bearing net liabilities		849.8	759.3

Quarterly information on interest-bearing net liabilities is disclosed in the section on the Reconciliation of IFRS figures.

Kemira aims at above-the-market revenue growth with an operative EBITDA margin of 15–18%. The gearing target is below 75%. The revolving credit facility agreement contains a covenant according to which company gearing must be below 115%.

The Board of Directors proposes a per-share dividend of EUR 0.58 for 2021 (0.58), corresponding to a dividend payout ratio of 82% (68%). Kemira's dividend policy aims at a competitive dividend that increase over-time.

The Group's accounting policies

Interest-bearing liabilities and cash and cash equivalents
The accounting policies for interest-bearing liabilities and cash and cash equivalents are described in Note 5.4. Financial assets and liabilities by measurement category.

Dividend distribution
Any dividend proposed by the Board of Directors is not deducted from distributable equity until it has been approved by the Annual General Meeting.

INTEREST-BEARING NET LIABILITIES CONNECTED IN CASH FLOW STATEMENTS

EUR million	Non-current interest-bearing liabilities including payments of non-current portion	Current interest-bearing liabilities	Interest-bearing liabilities total	Cash and cash equivalents	Interest-bearing net liabilities
Net book value on Jan 1, 2021	**751.1**	**167.7**	**918.8**	**159.5**	**759.3**
Change in net liabilities with cash flows					
Proceeds from non-current liabilities (+)	**200.0**		**200.0**		**200.0**
Payments of non-current liabilities (-)	**-97.3**		**-97.3**		**-97.3**
Payments of lease liabilities (-)	**-33.1**		**-33.1**		**-33.1**
Proceeds from current liabilities (+) and payments (-)		**-53.9**	**-53.9**		**-53.9**
Change in cash and cash equivalents				**-22.2**	**22.2**
Change in net liabilities without cash flows					
Increases in lease liabilities (+)	**42.1**		**42.1**		**42.1**
Effect on change in exchange gains and losses	**10.1**	**13.2**	**23.3**	**5.1**	**18.2**
Other changes without cash flows	**-8.0**	**0.1**	**-7.9**	**—**	**-7.9**
Net book value on Dec 31, 2021	**865.0**	**127.1**	**992.2**	**142.4**	**849.8**

EUR million	Non-current interest-bearing liabilities including payments of non-current portion	Current interest-bearing liabilities	Interest-bearing liabilities total	Cash and cash equivalents	Interest-bearing net liabilities
Net book value on Jan 1, 2020	821.3	133.2	954.6	143.1	811.4
Change in net liabilities with cash flows					
Proceeds from non-current liabilities (+)	—		—		—
Payments of non-current liabilities (-)	-55.0		-55.0		-55.0
Payments of lease liabilities (-)	-30.6		-30.6		-30.6
Proceeds from current liabilities (+) and payments (-)		37.2	37.2		37.2
Change in cash and cash equivalents				22.4	-22.4
Change in net liabilities without cash flows					
Increases in lease liabilities (+)	24.2		24.2		24.2
Effect on change in exchange gains and losses	-10.4	-3.0	-13.4	-6.0	-7.4
Other changes without cash flows	1.6	0.3	1.9	—	1.9
Net book value on Dec 31, 2020	751.1	167.7	918.8	159.5	759.3

5.2 SHAREHOLDERS' EQUITY

SHARE CAPITAL AND TREASURY SHARES

EUR million	Number of shares outstanding (1,000)	Number of treasury shares (1,000)	Number of shares (1,000)	Book value of share capital	Book value of treasury shares
January 1, 2021	**152,924**	**2,418**	**155,343**	**221.8**	**16.3**
Treasury shares issued to the participants in the share incentive plan 2020	185	-185	—	—	-1.3
Treasury shares issued to the Board of Directors	11	-11	—	—	-0.1
The shares returned by the participants from the share incentive plans	-3	3	—	—	0.0
December 31, 2021	**153,127**	**2,215**	**155,343**	**221.8**	**14.9**

January 1, 2020	152,649	2,693	155,343	221.8	18.1
Treasury shares issued to the participants in the share incentive plan 2019	269	-269	—	—	-1.8
Treasury shares issued to the Board of Directors	14	-14	—	—	-0.1
The shares returned by the participants from the share incentive plans	-8	8	—	—	0.1
December 31, 2020	152,924	2,418	155,343	221.8	16.3

Kemira Oyj has one class of shares. Each share entitles its holder to one vote at the Annual General Meeting. On December 31, 2021, the share capital was EUR 221.8 million and the number of shares was 155,342,557 including 2,215,073 treasury shares. Under the Articles of Association of Kemira Oyj, the company does not have a minimum or maximum share capital or a par value for a share. All issued shares have been fully paid.

Kemira had possession of 2,215,073 (2,418,440) treasury shares on December 31, 2021. The average share price of the treasury shares was EUR 6.73, and they represented 1.4% (1.6%) of the share capital, and the aggregate number of votes conferred by all shares. The aggregate par value of the treasury shares is EUR 3.2 million (3.5).

Share premium
The share premium is a reserve accumulated through subscriptions entitled by the management stock option program of 2001. This reserve is based on the old Finnish Companies Act (734/1978), and the value of the reserve will no longer change.

Fair value reserves
The fair value reserve is a reserve accumulated based on other shares measured at fair value and hedge accounting.

Other reserves
Other reserves originate from local legal requirements. On December 31, 2021, other reserves were EUR 4.0 million (3.8).

Unrestricted equity reserve
The unrestricted equity reserve includes other equity-type investments and the subscription price of shares to the extent that they will not, based on a specific decision, be recognized in share capital.

Exchange differences
The foreign currency exchange differences arise from the translation of foreign subsidiaries' financial statements. Additionally, loans have been granted to some foreign subsidiaries, and the exchange differences of these have been included in foreign currency exchange differences.

The Group's accounting policies

Treasury shares
Purchases of own shares (treasury shares), including the related costs, are deducted directly from equity in the Consolidated Financial Statements.

5.3. INTEREST-BEARING LIABILITIES

MATURITY OF INTEREST-BEARING LIABILITIES

2021, EUR million	2022	2023	2024	2025	2026	2027–	Book value, total
Loans from financial institutions	–	149.3	–	129.8	–	–	279.1
Bonds	52.8	–	197.3	–	–	191.3	441.4
Lease liabilities	28.7	24.4	17.8	11.8	9.0	45.1	136.8
Other non-current liabilities	–	1.0	–	–	–	–	1.0
Other current liabilities	133.8	–	–	–	–	–	133.8
Total amortizations of interest-bearing liabilities	215.3	174.7	215.1	141.6	9.0	236.4	992.2

2020, EUR million	2021	2022	2023	2024	2025	2026–	Book value, total
Loans from financial institutions	–	–	148.9	–	126.8	–	275.7
Bonds	–	150.0	–	196.7	–	–	346.7
Lease liabilities	27.0	19.9	15.6	10.4	6.9	41.7	121.4
Other non-current liabilities	–	1.3	6.0	–	–	–	7.3
Other current liabilities	167.7	–	–	–	–	–	167.7
Total amortizations of interest-bearing liabilities	194.7	171.2	170.4	207.1	133.7	41.7	918.8

At year-end 2021, the Group's interest-bearing net liabilities were EUR 849.8 million (759.3). For more information, see Note 5.1. Capital structure.

MATURITY OF NON-CURRENT INTEREST-BEARING LIABILITIES BY CURRENCIES

2021 Currency, EUR million	2022	2023	2024	2025	2026	2027–	Book value, total
EUR	60.5	156.0	201.6	92.2	1.9	208.1	720.3
USD	14.6	13.8	9.3	46.7	5.6	13.8	103.8
GBP	0.5	0.5	0.5	0.4	0.1	10.7	12.7
Other	12.6	4.3	3.8	2.4	1.4	3.7	28.2
Total	88.2	174.7	215.1	141.6	9.0	236.4	865.0

2020 Currency, EUR million	2021	2022	2023	2024	2025	2026–	Book value, total
EUR	8.5	155.8	151.8	198.7	91.6	17.0	623.4
USD	13.1	11.4	10.5	6.6	40.9	10.9	93.4
GBP	0.3	0.2	0.1	0.1	0.1	9.9	10.7
Other	5.1	3.7	8.1	1.7	1.1	3.8	23.5
Total	27.0	171.2	170.4	207.1	133.7	41.7	751.1

5.4. FINANCIAL ASSETS AND LIABILITIES BY MEASUREMENT CATEGORIES

FINANCIAL ASSETS

		2021					2020				
			Fair values					Fair values			
EUR million	Note	Book values	Level 1	Level 2	Level 3	Total	Book value	Level 1	Level 2	Level 3	Total
Fair value through profit and loss	5.6.										
Derivatives not qualifying for hedge accounting		1.3	—	1.3	—	1.3	3.5	—	3.5	—	3.5
Fair value through other comprehensive income	5.6.										
Derivatives qualifying for hedge accounting											
Cash flow hedges		32.7	—	32.7	—	32.7	12.2	—	12.2	—	12.2
Other shares	3.5.										
The shares of Pohjolan Voima Group		257.3	—	—	257.3	257.3	210.6	—	—	210.6	210.6
Other non-listed shares		2.7	—	—	2.7	2.7	1.7	—	—	1.7	1.7
Amortized cost											
Other non-current assets [1]		7.3	—	7.3	—	7.3	7.3	—	7.3	—	7.3
Other current receivables [1]		0.3	—	0.3	—	0.3	0.4	—	0.4	—	0.4
Trade receivables [1]	4.2.	373.0	—	373.0	—	373.0	288.5	—	288.5	—	288.5
Cash and cash equivalents											
Cash in hand and at bank accounts		138.7	—	138.7	—	138.7	154.6	—	154.6	—	154.6
Deposits and money market investments [2]		3.7	—	3.7	—	3.7	4.9	—	4.9	—	4.9
Total financial assets		817.0	—	557.0	260.0	817.0	683.7	—	471.4	212.3	683.7

1) In 2021, other non-current assets and Other current receivables include expected credit losses of EUR 0.4 million (0.6) in accordance with the IFRS 9 standard. Trade receivables include expected credit losses of EUR 3.3 million (5.2).
Trade receivables are disclosed in more detail in Note 4.2. Trade receivables and other receivables.
2) Deposits and money market investments comprise bank deposits and other liquid investments with a maximum original maturity of three months.

FINANCIAL LIABILITIES

EUR million	Note	2021 Book values	2021 Fair values Level 1	2021 Fair values Level 2	2021 Fair values Level 3	2021 Fair values Total	2020 Book values	2020 Fair values Level 1	2020 Fair values Level 2	2020 Fair values Level 3	2020 Fair values Total
Fair value through profit and loss	5.6.										
Derivatives not qualifying for hedge accounting		6.9	—	6.9	—	6.9	4.4	—	4.4	—	4.4
Fair value through other comprehensive income	5.6.										
Derivatives qualifying for hedge accounting											
Cash flow hedges		1.6	—	1.6	—	1.6	5.3	—	5.3	—	5.3
Amortized cost											
Interest-bearing liabilities	5.3.										
Non-current loans from financial institutions		279.1	—	290.5	—	290.5	275.7	—	289.5	—	289.5
Bonds		388.6	—	415.2	—	415.2	346.7	—	366.0	—	366.0
Current portion		52.8	—	54.7	—	54.7	—	—	—	—	—
Non-current leasing liabilities		108.1	—	108.1	—	108.1	94.4	—	94.4	—	94.4
Current portion		28.7	—	28.7	—	28.7	27.0	—	27.0	—	27.0
Other non-current liabilities		1.0	—	1.0	—	1.0	7.3	—	7.7	—	7.7
Current portion		6.7	—	6.9	—	6.9	—	—	—	—	—
Current loans from financial institutions		127.1	—	131.9	—	131.9	167.7	—	175.4	—	175.4
Non-interest-bearing liabilities											
Other non-current liabilities		9.4	—	9.4	—	9.4	8.1	—	8.1	—	8.1
Other current liabilities		23.5	—	23.5	—	23.5	19.6	—	19.6	—	19.6
Trade payables	4.3.	285.5	—	285.5	—	285.5	180.2	—	180.2	—	180.2
Total financial liabilities		1,319.1	—	1,364.1	—	1,364.1	1,136.4	—	1,177.5	—	1,177.5

There were no transfers between levels 1–3 during the financial year.

Level 3 specification, financial assets EUR million	2021	2020
Net book value on Jan 1	**212.3**	245.2
Effect on other comprehensive income	**50.2**	-32.9
Increases	**1.0**	—
Decreases	**-3.5**	—
Net book value on Dec 31	**260.0**	212.3

The Group's accounting policies

When a financial asset or financial liability is initially recognized on the trade date, it is measured at cost, which equals the fair value of the consideration given or received.

Financial Assets
The Group's financial assets are classified for subsequent measurement as financial assets at fair value through profit or loss, at amortized cost and at fair value through other comprehensive income.

Category	Financial instrument
Fair value through profit or loss	Currency forward contracts, currency swaps, interest rate swaps, electricity forwards, electricity futures, electricity options, certificates of deposit and commercial papers
Amortized cost	Non-current loan receivables, cash at bank and in hand, bank deposits, trade receivables and other receivables
Fair value through other comprehensive income	Other investments: shares; derivatives qualifying for hedge accounting (cash flow or fair value hedging)

Financial assets at fair value through income statements
All derivatives are recognized at fair value on the balance sheet. Fair value is the amount for which an asset could be exchanged or loans paid between knowledgeable, willing parties in an arm's length transaction. These derivative contracts to which hedge accounting in accordance with IFRS 9 is not applied are classified as financial assets at fair value through profit or loss. In the balance sheet, these derivative contracts are shown under prepaid expenses and accrued income and accrued expenses and prepaid income. Any gains or losses arising from changes in fair value are recognized through profit or loss on the transaction date.

Financial assets at amortized cost
Financial assets at amortized cost include non-current receivables carried at amortized cost using the effective interest rate method and accounting for any impairment.

Cash and cash equivalents
Cash and cash equivalents consist of cash at bank and in hand, demand deposits and other short-term, highly liquid investments. Items classified as cash and cash equivalents have a maximum maturity of three months from the date of purchase. Credit facilities in use are included in current interest-bearing liabilities.

Financial assets at fair value through other comprehensive income
The accounting policy of Other shares is described in Notes 3.5. Other shares. The accounting treatment of change in the fair value of the derivatives qualifying for hedge accounting is presented in 5.6. Derivatives.

Impairment of financial assets
The Group assesses any impairment losses on its financial instruments on each balance sheet date. An impairment of a financial asset is recognized in accordance with the requirements of expected credit loss model of the IFRS 9 standard. For items measured at an amortized cost, the amount of the impairment loss equals the difference between the asset's carrying amount and the present value of estimated future cash flows from the receivable. This is discounted at the financial asset's original effective interest rate. For items measured at fair value, the fair value determines the amount of impairment. Impairment charges are recognized in the income statement.

The Group sells certain trade receivables to finance companies within the framework of limits stipulated in the agreement. The credit risk associated with these sold receivables and contractual rights to the financial assets in question are transferred from the Group on the selling date. The related expenses are recognized in the financial expenses.

Financial liabilities

Financial liabilities are classified as financial liabilities accounted at fair value through profit or loss, at amortized cost and at fair value through other comprehensive income. Financial liabilities at fair value through profit or loss include derivatives to which hedge accounting is not applied, whereas derivatives which are qualified for hedge accounting are booked at fair value through other comprehensive income.

Other financial liabilities are initially recognized in the balance sheet at the initial value of received net assets with direct costs deducted. Later, these financial liabilities are measured at amortized cost, and the difference between the received net assets and amortizations is recognized as an interest cost over the loan term. Changes in the fair value of loans under fair value hedge accounting are booked in the income statement together with the changes in the fair value of derivatives under fair value hedge accounting.

If the terms of a loan measured at amortized cost are modified and the loan is not derecognized, the gain or loss of the modification is booked in the income statement at the point of modification and amortized over the life of the modified loan. Profit or loss is equal to the difference between the present value of the cash flows under the original and modified terms discounted at the original effective interest rate.

Category	Financial instrument
Financial liabilities at fair value through profit or loss	Currency forward contracts and currency swaps, interest rate swaps, electricity forwards, electricity futures and electricity options
Amortized cost	Current and non-current loans, pension loans, bonds, lease liabilities and trade payables
Financial liabilities at fair value through other comprehensive income	Derivatives qualifying for hedge accounting (cash flow hedging)

The following levels are used to measure fair value:

Level 1: Fair value is determined based on quoted market prices.

Level 2: Fair value is determined with valuation techniques. Fair value refers either to the value that is observable from the market value of elements of the financial instrument or the market value of corresponding financial instruments, or to the value that is observable by using commonly accepted valuation models and techniques if the market value can be reliably measured with them.

Level 3: Fair value is determined by using valuation techniques, which use inputs that have a significant effect on the recorded fair value and the inputs are not based on observable market data. Level 3 mainly includes the shares of Pohjolan Voima Group.

5.5 MANAGEMENT OF FINANCIAL RISKS

Kemira Group Treasury's objective is to ensure sufficient funding in the most cost efficient way, and to manage financial risks. Approved by the Board of Directors, treasury policy defines the principles of treasury management. The Board of Directors approves the annual Treasury plan and the maximum permissible financial risk levels.

Financial risk management aims to protect the Company from unfavorable changes in financial markets, thereby contributing to safeguarding the Company's profit performance and shareholders' equity and to ensure sufficient sources of finance. Management of financial risks is centralized in the Group Treasury, which uses for hedging purposes derivative instruments whose market values and risks can be monitored continuously and reliably.

Foreign exchange risk

Foreign currency transaction risk arises from currency flows, assets, and liabilities denominated in currencies other than the domestic currency. Transaction risks arise from cash flows and balance sheet items where changes in exchange rates will have an impact on earnings and cash flows. Translation risk arises when the currency denominated income and balance sheet items of group companies located outside the euro area are consolidated into euro. The transaction risk is hedged mainly using foreign currency forwards.

The Group's most significant transaction currency risks arise from the Chinese renminbi (CNY), U.S. dollar (USD), Swedish krona (SEK) and Canadian dollar (CAD). At the end of the year, the Chinese renminbi's denominated exchange rate risk against the euro had an equivalent value of approximately EUR 67 million (19), the average hedging rate and hedging ratio being 7.37 and 36% (0%), respectively. The U.S. dollar denominated exchange rate risk was approximately EUR 64 million (86), the average hedging rate and hedging ratio being 1.18 and 53% (41%), respectively. The denominated exchange rate risk of the Swedish krona against the euro had an equivalent value of approximately EUR 31 million (28), the average hedging rate and hedging ratio being 10.21 and 62% (68%), respectively. The Canadian dollar denominated exchange rate risk was approximately EUR 26 million (22), the average hedging rate and hedging ratio being 1.47 and 51% (46%), respectively.

In addition, Kemira is exposed to smaller transaction risks against the euro mainly in relation to the Norwegian krona, Polish zloty, Danish krona, Russian ruble and Thai baht and against the U.S. dollar mainly in relation to the Brazilian real and the Canadian dollar with the annual exposure in those currencies being approximately EUR 103 million.

Transaction exposure, the most significant currencies, EUR million	2021 CNY against EUR	2021 USD against EUR	2021 SEK against EUR	2021 CAD against EUR	2020 CNY against EUR	2020 USD against EUR	2020 SEK against EUR	2020 CAD against EUR
Operative cash flow forecast, net [1]	-67.0	64.3	-30.9	26.4	18.7	85.7	-27.7	22.2
Loans, net	1.0	370.0	-10.7	8.3	1.1	290.1	-12.1	3.8
Derivatives, operative cash flow hedging, net	40.1	-40.8	19.0	-13.5	—	-35.0	18.6	-11.2
Derivatives, hedging of loans, net	-2.7	-142.2	10.7	-8.3	-1.2	-81.5	10.6	-3.8
Total	**-28.6**	**251.6**	**-11.9**	**12.9**	18.6	259.3	-10.6	11.0

1) Based on a 12-month foreign currency operative cash flow forecast.

At the end of 2021, the foreign currency operative cash flow forecast for 2022 was EUR 331 million of which 54% was hedged (47%). The hedge ratio is monitored daily. A minimum of 40% and a maximum of 100% of the forecast flow must always be hedged. A 10 percent strengthening of the euro against Swedish krona, based on the exchange rates as of December 31, 2021 and without hedging, would increase EBITDA by approximately EUR 3 million, and a 10 percent strengthening of the euro against Chinese renminbi without hedging would increase EBITDA approximately EUR 7 million, whereas a 10 percent strengthening of euro against Canadian Dollar and the U.S. Dollar without hedging would cause a EUR 3 and 6 million negative impact to EBITDA, respectively. A corresponding increase in the exchange rates would have an equal opposite impact.

On the balance sheet date, the market value of currency derivatives included in cash flow hedge accounting was EUR -1.4 million (2.1). Cash flow hedge accounting deals have been done to hedge highly probable currency flows. In 2021, no ineffectiveness in derivatives under hedge accounting was recognized in the income statement (-0.7).

The most significant translation risk currencies are the U.S. dollar, the Canadian dollar, the Swedish krona and Chinese renminbi.

Kemira's main equity items denominated in foreign currencies are in the Canadian dollar, the Swedish krona and U.S. dollar. The objective is to hedge the balance sheet risk by maintaining a balance between foreign currency denominated liabilities and assets, currency by currency. In hedging the net investment in its units abroad, Kemira monitors the equity ratio. Long-term loans and currency derivatives can be used for hedging net investments in foreign subsidiaries. These hedges do not apply to hedge accounting. Loans in U.S. dollars have been granted to some foreign subsidiaries and currency differences have been included in foreign currency translation differences.

Interest rate risk

Kemira is exposed to interest rate risks when fixing interest rates of floating rate loans and through fair value changes of bonds and derivatives. A total of 80% (74%) of the Group's entire net debt portfolio including lease liabilities was fixed at the end of 2021. The net financing cost of the Group was 3.4% (4.1%). The net financing cost is attained by dividing yearly net interest and other financing expenses, excluding exchange rate differences and dividends by the average interest bearing net debt figure for the corresponding period. The most significant impact on the net financing cost arises from variation in the interest rate levels of the euro, the U.S. dollar and the Chinese renminbi.

In accordance with treasury policy, the Group's interest rate risk is measured with the duration which describes the average repricing moment of the loan portfolio excluding lease liabilities. The duration must be in the range of 6–60 months. The Kemira Group Treasury manages duration by borrowing with fixed and floating rate loans in addition to the interest rate derivatives. The duration of the Group's interest-bearing loan portfolio excluding lease liabilities was 29 months at the end of 2021 (20).

The table below shows the time for interest rate fixing of the loan portfolio.

2021 Time to interest rate fixing, EUR million	<1 year	1–5 years	> 5 years	Total
Floating net liabilities	170.2	—	—	170.2
Fixed net liabilities [1]	52.8	290.0	200.0	542.8
Total	222.9	290.0	200.0	712.9

2020 Time to interest rate fixing, EUR million	<1 year	1–5 years	> 5 years	Total
Floating net liabilities	197.9	—	—	197.9
Fixed net liabilities [1]	—	440.0	—	440.0
Total	197.9	440.0	—	637.9

1) Excluding lease liabilities

On the balance sheet date, the average interest rate of the loan portfolio was approximately 1.7% (1.9%). If interest rates rose by one percentage point on January 1, 2022, the resulting interest expenses before taxes incurred by the Group over the next 12 months would increase by approximately EUR 0.7 million (0.6). Consequently, a decrease of one percentage point would decrease interest expenses by EUR 0.0 million. During 2022, Kemira will reprice 32% (31%) of the Group's net debt portfolio. On the balance sheet date, the Group had no outstanding interest rate derivatives.

Electricity price risk

The price of electricity varies greatly according to the market situation. Kemira Group takes hedging measures with respect to its electricity purchases in order to even out its raw material costs. In line with its hedging policy, the Group hedges its existing sales agreements in such a way that the hedges cover the commitments made. The company primarily uses electricity derivatives on the power exchange as hedging instruments. Currency and regional price risks connected with hedges are hedged by making agreements in Finland mainly in HELEUR amounts and in Sweden mainly in MALSEK amounts. The outstanding electricity derivatives are treated in accordance with cash flow hedge accounting. The forecast for physical deliveries of the underlying assets, or purchases, are not recorded until the delivery period. A +/- 10% change in the market price of electricity hedging contracts would impact the valuation of these contracts EUR +/- 7.7 million (+/- 6.3). This impact would be mainly in equity.

Credit risk

The Group is exposed to credit risks through commercial accounts receivables, as bank account balances, deposits, short-term investments, and derivatives.

The Group's treasury policy defines the credit rating requirements for counterparties of investment activities and derivative agreements as well as the related investment policy. The Group seeks to minimize its counterparty risk by dealing solely with counterparties that are financial institutions with a solid credit rating, as well as by spreading agreements among them.

The counterparty risk in treasury operations is due to the fact that a contractual party to a financing transaction is not necessarily able to fulfill its contractual obligations. Risks are mainly related to investment activities and the counterparty risks associated with derivative contracts.

The Group Treasury approves the new banking relationships of subsidiaries. Financial institution counterparties, used by the Group Treasury, have a credit rating of at least an investment grade based on Standard & Poor's credit rating information. The maximum risk assignable to the Group's financial institution counterparties on the balance sheet date amounted to EUR 174.9 million (167.1). Kemira monitors its counterparty risk on a monthly basis by defining the maximum risk associated with each counterparty based on the market value of receivables. Kemira has defined an approved limit for each financial institution.

No material changes related to Group's credit risk were associated with financing transactions in the year 2021 and these transactions did not result in credit losses during the financial year.

Kemira has a group-wide credit policy related to commercial activities. According to the policy, each customer has a pre-defined risk category and credit limit. These are constantly monitored. Based on the customer evaluation, Kemira decides the applicable payment terms to minimize credit risks. Pre-approved payment terms have been defined at the group level. If necessary, securities and documentary credit, such as letters of credit, are applied. The group does not have any significant credit risk concentrations due to its extensive customer base across the world. The credit losses related to trade receivables are described in Note 4.2.

In the USA, Kemira has an accounts receivable purchase facility worth USD 60 million, enabling Group companies in the USA to sell certain account receivables to the counterparty. The credit risk of the accounts receivables is transferred to the financial institutions and 97.7% of the receivables transferred are derecognized from the balance sheet. The amount of outstanding receivables transferred, which also reflects the fair value of the receivables before the transfer was EUR 48.2 million (40.2) on December 31, 2021. The amounts recognized in the balance sheet are EUR 2.1 million (1.5) in assets and EUR 0.1 million (0.1) in liabilities.

Liquidity and refinancing risks

Kemira's liquidity is secured with cash and cash equivalents, account overdrafts and a revolving credit facility. At the end of 2021, the Group's cash and cash equivalents stood at EUR 142.4 million (159.5), of which cash in bank accounts accounted for EUR 138.7 million (154.6) and bank deposits EUR 3.7 million (4.9). In addition, the Group has a revolving credit facility of EUR 400 million which will mature on April 17, 2026. At the turn of the year 2021/2022, the revolving credit facility was undrawn.

The Group has a EUR 600 million domestic commercial paper program enabling it to issue commercial papers with a maximum maturity of one year. At the end of 2021, the Group had no commercial papers outstanding on the market (50).

Kemira manages its refinancing risk with a diversified loan portfolio. Long-term financing consists of bonds and bilateral loan agreements with several financial institutions. In addition, the Group had leasing liabilities in accordance with the IFRS 16 standard of EUR 136.8 million (121.4) at the end of the year.

According to Group treasury policy, the Group must have committed credit facilities to cover planned funding needs, the current portion of long term debt, commercial paper borrowings, and other uncommitted short-term loans in the next 12 months. The average maturity of outstanding loans excluding lease liabilities may temporarily be under the 3-year minimum target. The average maturity of debt excluding lease liabilities at the end of 2021 was 3.0 years (2.5).

LOAN REPAYMENTS

2021 Loan type, EUR million [1]	Undrawn	2022	2023	2024	2025	2026	2027–	Total drawn
Loans from financial institutions	—	—	150.0	—	129.8	—	—	279.8
Bonds	—	52.8	—	200.0	—	—	200.0	452.8
Revolving credit facility	400.0	—	—	—	—	—	—	—
Lease liabilities	—	35.9	28.9	21.3	14.6	10.9	73.7	185.3
Commercial paper program	600.0	—	—	—	—	—	—	—
Other interest-bearing non-current liabilities	—	—	1.0	—	—	—	—	1.0
Other interest-bearing current liabilities	—	133.8	—	—	—	—	—	133.8
Total interest-bearing liabilities	1,000.0	222.4	179.9	221.3	144.4	10.9	273.7	1,052.6

2020 Loan type, EUR million [1]	Undrawn	2021	2022	2023	2024	2025	2026–	Total drawn
Loans from financial institutions	—	—	—	150.0	—	126.8	—	276.8
Bonds	—	—	150.0	—	200.0	—	—	350.0
Revolving credit facility	400.0	—	—	—	—	—	—	—
Lease liabilities	—	32.6	24.4	19.3	13.4	9.3	81.3	180.3
Commercial paper program	550.0	50.0	—	—	—	—	—	50.0
Other interest-bearing non-current liabilities	—	—	1.3	6.0	—	—	—	7.3
Other interest-bearing current liabilities	—	117.7	—	—	—	—	—	117.7
Total interest-bearing liabilities	950.0	200.3	175.8	175.3	213.4	136.1	81.3	982.0

1) Loan structure presented by type and maturity using contractual undiscounted payments.

5.6 DERIVATIVE INSTRUMENTS

Nominal values, EUR million	Maturity structure 2022	2023	2024	2025	2026	2021 Total	2020 Total
Currency derivatives							
Forward contracts	496.3	—	—	—	—	496.3	372.3
Inflow	288.8	—	—	—	—	288.8	210.6
of which cash flow hedges	19.7	—	—	—	—	19.7	21.1
Outflow	207.5	—	—	—	—	207.5	161.7
of which cash flow hedges	42.4	—	—	—	—	42.4	43.1
Other derivatives							
Electricity contracts, bought (GWh)	688.0	586.9	272.3	78.8	—	1,626.1	2,325.7
Electricity forward contracts	688.0	586.9	272.3	78.8	—	1,626.1	2,325.7
of which cash flow hedges	688.0	586.9	272.3	78.8	—	1,626.1	2,325.7

The nominal values of the financial instruments do not necessarily correspond to the actual cash flows between the counterparties, and therefore individual items do not give a fair view of the Group's risk position.

Fair values, EUR million	2021 Positive	Negative	Net	2020 Positive	Negative	Net
Currency derivatives						
Forward contracts	1.4	-8.8	-7.1	6.0	-4.8	1.2
of which cash flow hedges	0.1	-1.8	-1.4	2.5	-0.4	2.1
Other derivatives						
Electricity forward contracts, bought [1]	32.5	0.0	32.5	9.7	-4.9	4.8
of which cash flow hedges	32.5	0.0	32.5	9.7	-4.9	4.8

1) Includes fair value of electricity forward contracts of EUR 7.7 million (3.2) and EUR -0.0 million (-2.8) maturing after the year 2022.

The Group has ISDA or EFET Master netting agreements with the counterparties of derivative contracts. They allow the net settlement of outstanding market value within the scope of the agreement in case of non-payment defined in the agreement. At the end of the reporting period, counterparty risk according to master netting agreements was EUR 32.5 million (7.9) to Kemira and EUR 7.1 million (1.9) to counterparties.

The Group's accounting policies

Derivatives

The fair values of currency, interest rate, and commodity derivatives, as well as publicly traded shares are based on prices quoted in active markets on the balance sheet date. The value of other financial instruments measured at fair value is determined on the basis of valuation models using information available in the financial market.

All the derivatives are measured at their fair values on the balance sheet date. Changes in the value of forward contracts are calculated by measuring the contracts against the forward exchange rates on the balance sheet date and comparing them with the counter values calculated through the forward exchange rates on the date of entry into the forward contracts. The fair value of interest rate derivatives is determined using the market value of similar instruments on the balance sheet date. Other derivatives are measured at the market price on the balance sheet date.

Derivative assets are presented in the balance sheet as part of line item Trade receivables and other receivables. Derivative liabilities are presented in the balance sheet as part of line item Trade payables and other liabilities.

Hedge accounting

Hedge accounting is applied according to IFRS 9. This refers to a method of accounting aimed at allocating one or more hedging instruments in such a way that their fair value offsets, in full or in part, the changes in the fair value or cash flows of the hedged item. Hedged items must be highly probable. The Group applies hedge accounting for hedging interest rate risk, currency risk, commodity risk, and fair value if interest rate swaps, electricity derivatives and foreign exchange derivatives meet hedge accounting criteria.

Hedge effectiveness is monitored as required by IFRS 9. Effectiveness refers to the capacity of a hedging instrument to offset changes in the fair value of the hedged item or cash flows from a hedged transaction, which are due to the realization of the risk being hedged. A hedging relationship is considered to be highly effective when the change in the fair value of the hedging instrument offsets changes in the cash flows attributable to the hedged items. Hedge effectiveness is assessed prospectively. Hedge effectiveness testing is repeated on each balance sheet date.

Hedge accounting is discontinued when the criteria for hedge accounting are no longer fulfilled. Gains or losses recognized in other comprehensive income and presented under equity are derecognized and transferred immediately in the income statement, if the hedged item is sold or falls due. However, gains or losses arising from changes in the fair value of those derivatives not fulfilling the hedge accounting criteria are recognized directly in the income statement.

At the inception of a hedge, the Group documents the existence of the economic relationship of the hedged item and hedging instrument, including the identification of the hedging instrument, the hedged item or transaction, the nature of the risk being hedged, the objectives of risk management and the strategy for undertaking hedging, as well as the description of how hedge effectiveness is assessed.

Cash flow hedging

Cash flow hedging is used to hedge against variability in cash flows attributable to a particular risk associated with a recognized asset or liability in the balance sheet or a highly probable forecast transaction. Currency, interest rate, and commodity derivatives are used as hedging instruments in cash flow hedging. Cash flow hedge accounting, specified in IFRS 9, is applied by the Group to selected hedging items only. Changes in the fair value of derivative instruments associated with cash flow hedge are recognized in other comprehensive income (including the tax effect) and presented under equity, providing that they fulfill the criteria set for hedge accounting and are based on effective hedging. The ineffective portion of the gain or loss on the hedging instrument is recognized under financial items in the income statement. Derivatives not fulfilling the hedge accounting criteria are recognized in financial items through profit or loss.

6. GROUP STRUCTURE

6.1 RELATED PARTIES

Parties are considered to be related if one party has the ability to control or exercise significant influence on the other party, or if the parties exercise joint control in making financial and operating decisions. The Group's related parties include the parent company, subsidiaries, associates, joint-ventures, and the Pension Fund Neliapila. Related parties also include the members of the Board of Directors and the Group's Management Board, the CEO and his Deputy, and their immediate family members.

EMPLOYEE BENEFITS PAID TO THE CEO, DEPUTY CEO AND MEMBERS OF MANAGEMENT BOARD

EUR	Salaries and other benefits	Bonuses	Share-based payments [1]	2021 Total	2020 Total
CEO Jari Rosendal	724,189 [4]	318,901	493,058	1,537,148	1,713,058
Deputy CEO Jukka Hakkila [2]	187,193	84,181	172,670	443,843	500,506
Other members of Management Board [3]	1,553,372	757,889	1,260,652	3,571,893	3,929,403
Total	2,464,754	1,161,971	1,926,259	5,552,984	6,142,967

1) Includes share and cash portions. Share-based incentive plans for the management and key personnel are disclosed in Note 2.3. Share-based payments.

2) No remuneration was paid to the Deputy CEO based on CEO substitution.

3) Other members of the Management Board on December 31, 2021 are CFO Petri Castrén, CTO Matthew R. Pixton, President Pulp & Paper Kim Poulsen, EVP Operational Excellence Esa-Matti Puputti, President Industry & Water Antti Salminen and EVP Human Resources Eeva Salonen. Other members of the Management Board who are employed by a Finnish Kemira company do not have any supplementary pension arrangements in addition to their statutory pensions. The members of the Management Board who are employed by a foreign Kemira company participate in the pension systems based on statutory pension arrangements and market practices in their local countries. The Kemira policy is that all new supplementary pension arrangements are defined contribution plans.

4) Includes supplementary defined contribution pension.

Employment terms and conditions of the CEO

Remuneration of the CEO comprises a monthly salary including a car benefit and a mobile phone benefit as well as supplementary defined contribution pension and performance-based incentives. The performance-based incentives consist of an annual short-term bonus plan and a long-term share incentive plan. The annual short-term bonus plan is based on terms approved by the Board of Directors and the maximum bonus is 70% of the annual base salary.

The long-term share incentive plan is based on the terms of the plan. The maximum reward is determined as a number of shares and a cash portion intended to cover taxes and the tax-related costs arising from the reward.

The retirement age of the CEO is 63 years. The CEO belongs to the Finnish Employees' Pension Act (TyEL) scheme, which provides pension security based on the years of service and earnings as stipulated by law. The CEO is also entitled to a supplementary defined contribution pension plan. The supplementary pension is defined as 20% of annual base salary.

A mutual termination notice period of six months applies to the CEO. The CEO is entitled to an additional severance pay of 12 months' salary, if the company terminates his service.

The Board of Directors' emoluments

On March 24, 2021, the Annual General Meeting decided that the Board of Directors' annual fee shall be paid as a combination of the company's shares and cash in such a manner that 40% of the annual fee is paid with the Kemira shares owned by the company or, if this is not possible, then with Kemira shares acquired from the securities market, and 60% is paid in cash. On May 7, 2021 the 10,920 shares owned by the company were distributed to the members of the Board of Directors.

There are no special terms or conditions associated with owning the shares received as the annual fee. The members of the Board of Directors are not eligible for any short-term bonus plans, long-term share incentive plans or supplementary pension plans of Kemira Oyj.

The meeting fees are paid in cash and travel expenses are paid according to Kemira's travel policy.

MEMBERS OF THE BOARD OF DIRECTORS

	Number of shares	Share value, EUR	Cash compensation, EUR [5]	2021 Total, EUR	2020 Total, EUR
Jari Paasikivi, Chairman	2,658	36,727	67,273	104,000	106,400
Matti Kähkönen, Vice Chairman (since March 24, 2021)	1,589	21,956	39,644	61,600	—
Wolfgang Büchele	1,271	17,562	38,438	56,000	60,800
Shirley Cunningham	1,271	17,562	50,438	68,000	77,600
Werner Fuhrmann	1,271	17,562	38,438	56,000	53,600
Timo Lappalainen	1,589	21,956	45,044	67,000	69,400
Kristian Pullola (since March 24, 2021)	1,271	17,562	33,038	50,600	—
Kaisa Hietala (until March 24, 2021)	—	—	2,400	2,400	56,000
Kerttu Tuomas (until March 24, 2021)	—	—	2,400	2,400	65,200
Total	10,920	150,887	317,113	468,000	489,000

5) Includes both annual fees and meeting fees.

TRANSACTIONS CARRIED OUT WITH RELATED PARTIES

EUR million	2021	2020
Revenue		
Associated companies	0.0	0.0
Leases, purchases of goods and services		
Associated companies	8.2	0.0
Pension Fund Neliapila	1.2	1.3
Total	9.4	1.3
Receivables		
Associated companies	0.0	0.0
Liabilities		
Associated companies	7.3	—
Pension Fund Neliapila	1.9	1.3

Real estate owned by Pension Fund Neliapila are leased to the Group. Commitments for these real estate leases are treated in accordance with IFRS 16 Leases.

Related parties include Pension Fund Neliapila, which is a separate legal entity. Neliapila manages Kemira's voluntarily organized additional pension fund. It also manages part of the pension assets of the Group's personnel in Finland. The assets include Kemira Oyj's shares representing 0.07% of the company's outstanding shares. Supplementary benefit in Neliapila and surplus return are disclosed in more detail in Note 4.5. Defined benefit pension plans and employee benefits.

The amount of contingent liabilities on behalf of the associates are presented in Note 7.1. Commitments and contingent liabilities.

No loans had been granted to the key persons of the management at the year-end of 2021 or 2020, nor were there contingency items or commitments on behalf of key management personnel. Persons close to key management personnel with the related parties do not have any significant business relationship with the Group.

6.2 THE GROUP'S SUBSIDIARIES AND INVESTMENTS IN ASSOCIATES

SUBSIDIARIES

	City	Country	Kemira Group's holding, %	Kemira Oyj's holding, %	Non-controlling interest's holding, %
Kemira Oyj (parent company)	Helsinki	Finland			
Aliada Quimica de Portugal Lda.	Estarreja	Portugal	50.1	0.0	49.9
AS Kemivesi	Lehmja Külа	Estonia	100.0	100.0	0.0
JSC "Kemira HIM"	St. Petersburg	Russia	100.0	0.0	0.0
Corporación Kemira Chemicals de Venezuela, C.A.	Caracas	Venezuela	100.0	0.0	0.0
Industry Park i Helsingborg Förvaltning AB	Helsingborg	Sweden	100.0	0.0	0.0
Kemifloc a.s.	Přerov	Czech Republic	51.0	0.0	49.0
Kemifloc Slovakia s.r.o.	Prešov	Slovakia	51.0	0.0	49.0
Kemipol Sp. z.o.o.	Police	Poland	51.0	0.0	49.0
Kemira (Asia) Co., Ltd.	Shanghai	China	100.0	0.0	0.0
Kemira Argentina S.A.	Buenos Aires	Argentina	100.0	15.8	0.0
Kemira Australia Pty Ltd	Hallam	Australia	100.0	0.0	0.0
Kemira Cell Sp. z.o.o.	Ostroleka	Poland	55.0	55.0	45.0
Kemira (Jining) Environmental Engineering Co., Ltd.	Jining	China	100.0	0.0	0.0
Kemira Chemicals (Nanjing) Co., Ltd.	Nanjing	China	100.0	100.0	0.0
Kemira Chemicals (Shanghai) Co., Ltd.	Shanghai	China	100.0	100.0	0.0
Kemira Chemicals (UK) Ltd.	Bradford	United Kingdom	100.0	100.0	0.0
Kemira Chemicals (Yanzhou) Co., Ltd.	Yanzhou City	China	100.0	100.0	0.0
Kemira Chemicals AS	Gamle Fredrikstad	Norway	100.0	0.0	0.0
Kemira Chemicals Brasil Ltda.	São Paulo	Brazil	100.0	99.9	0.0
Kemira Chemicals Canada Inc.	St. Catharines	Canada	100.0	100.0	0.0
Kemira Chemicals Germany GmbH	Frankfurt am Main	Germany	100.0	0.0	0.0
Kemira Chemicals Korea Corporation	Gunsan-City	South Korea	100.0	100.0	0.0
Kemira Chemicals NV	Aartselaar	Belgium	100.0	0.0	0.0
Kemira Chemicals Oy	Helsinki	Finland	100.0	0.0	0.0
Kemira Chemicals, Inc.	Atlanta, GA	United States	100.0	0.0	0.0
Kemira Chemie Ges.mbH	Krems	Austria	100.0	100.0	0.0
Kemira Chile Comercial Limitada	Santiago	Chile	100.0	99.0	0.0
Kemira Chimie S.A.S.U.	Strasbourg	France	100.0	0.0	0.0
Kemira Europe Oy	Helsinki	Finland	100.0	100.0	0.0
Kemira Gdańsk Sp. z o.o.	Gdańsk	Poland	100.0	0.0	0.0
Kemira Germany GmbH	Frankfurt am Main	Germany	100.0	100.0	0.0
Kemira Hong Kong Company Limited	Hong Kong	China	100.0	100.0	0.0
Kemira Ibérica S.A.	Barcelona	Spain	100.0	0.0	0.0
Kemira International Finance B.V.	Rotterdam	Netherlands	100.0	100.0	0.0
Kemira Italy S.p.A.	San Giorgio di Nogaro	Italy	100.0	0.0	0.0
Kemira Japan Co., Ltd.	Tokyo	Japan	100.0	0.0	0.0
Kemira Kemi AB	Helsingborg	Sweden	100.0	0.0	0.0
Kemira Kopparverket KB	Helsingborg	Sweden	100.0	0.0	0.0
Kemira KTM d.o.o.	Ljubljana	Slovenia	100.0	100.0	0.0
Kemira Research Center Shanghai Co., Ltd.	Shanghai	China	100.0	0.0	0.0
Kemira Rotterdam B.V.	Rotterdam	Netherlands	100.0	0.0	0.0

	City	Country	Kemira Group's holding, %	Kemira Oyj's holding, %	Non-controlling interest's holding, %
Kemira South Africa (Pty) Ltd.	Weltevreden park	South Africa	100.0	0.0	0.0
Kemira Świecie Sp. z.o.o.	Swiecie	Poland	100.0	100.0	0.0
Kemira Taiwan Corporation	Taipei	Taiwan	100.0	0.0	0.0
Kemira TC Wanfeng Chemicals (Yanzhou) Co., Ltd.	Yanzhou City	China	80.0	0.0	20.0
Kemira (Thailand) Co., Ltd.	Bangkok	Thailand	100.0	0.0	0.0
Kemira Uruguay S.A.	Fray Bentos	Uruguay	100.0	0.0	0.0
Kemira (Vietnam) Company Limited	Long Thanh	Vietnam	100.0	0.0	0.0
Kemira Water Danmark A/S	Copenhagen	Denmark	100.0	100.0	0.0
Kemira Water Solutions Brasil - Produtos para Tratamento de Água Ltda.	São Paulo	Brazil	100.0	100.0	0.0
Kemira Water Solutions Canada Inc.	Varennes	Canada	100.0	0.0	0.0
Kemira Water Solutions, Inc.	Atlanta, GA	United States	100.0	0.0	0.0
Kemwater Brasil Ltda.	Camaçari	Brazil	100.0	0.0	0.0
Kemwater ProChemie s.r.o.	Bradlec	Czech Republic	95.1	0.0	4.9
PT Kemira Indonesia	Surabaya	Indonesia	100.0	74.8	0.0
PT Kemira Chemicals Indonesia	Pasuruan	Indonesia	99.8	99.8	0.2
Scandinavian Tanking System A/S	Copenhagen	Denmark	100.0	0.0	0.0

ASSOCIATES

	City	Country	Kemira Group's holding, %	Kemira Oyj's holding, %
Honkalahden Teollisuuslaituri Oy	Lappeenranta	Finland	50.0	0.0
Kemira Yongsan Chemicals Co., Ltd	Seoul	South Korea	35.0	0.0

INVESTMENTS IN ASSOCIATES

EUR million	2021	2020
Net book value on Jan 1	5.3	2.8
Additions	0.0	2.6
Decreases	0.0	0.0
Share of the profit/loss for the period	-0.5	0.0
Exchange rate differences	0.0	-0.1
Net book value on Dec 31	4.8	5.3

A summary of the associates financial information is presented in the following table. The presented figures equal the figures in the financial statements of the each associate, not the portion of Kemira Group.

EUR million	2021	2020
Assets	57.5	38.2
Liabilities	44.2	23.4
Revenue	8.1	0.0
Profit (+) / loss (-) for the period	-1.3	0.0

Related party transactions carried out with associates are disclosed in Note 6.1. Related parties.

NON-CONTROLLING INTERESTS

EUR million	2021	2020
Net book value on Jan 1	13.2	13.3
Dividends	-6.5	-6.1
Share of the profit for the period	7.1	6.7
Exchange rate differences	0.1	-0.8
Net book value on Dec 31	13.9	13.2

7. OFF-BALANCE SHEET ITEMS

7.1 COMMITMENTS AND CONTINGENT LIABILITIES

COMMITMENTS

EUR million	2021	2020
Assets pledged		
On behalf of own commitments	–	6.2
Guarantees		
On behalf of own commitments	95.1	44.5
On behalf of associates	12.5	12.6
On behalf of others	1.8	2.0
Other obligations		
On behalf of own commitments	0.9	0.9
On behalf of others	16.3	16.3

The most significant off-balance sheet investments commitments

On December 31, 2021, major amounts of contractual commitments for the acquisition of property, plant, and equipment were EUR 22.1 million (17.9) for plant investments.

In addition, the Group has a lease commitment related to the R&D Center to be constructed in Finland with value of EUR 46.5 million.

Litigation

As announced on July 8, 2021, Kemira Chemicals Oy and CDC Project 13 SA and CDC Holding SA (together "CDC") reached a settlement agreement in a damage litigation at the Court of Amsterdam concerning alleged damages relating to the alleged old infringement of competition law in the sodium chlorate business during 1994–2000. Kemira acquired Kemira Chemicals Oy (formerly Finnish Chemicals Oy) in 2005. Kemira Chemicals Oy paid compensation and costs to CDC thereunder in the amount of EUR 22.75 million in Q3/2021.

Besides, due to its extensive international operations, the Group is involved in a number of other legal proceedings incidental to these operations and it does not expect the outcome of these other currently pending legal proceedings to have a materially adverse effect upon its consolidated results or financial position.

The Group's accounting policies

Contingent liabilities

A contingent liability is a possible obligation that arises from past events and whose existence will be confirmed by the occurrence of uncertain future events not wholly within the control of the Group, or concerns a present obligation which will most probably not require an outflow of resources embodying economic benefits to settle the obligation; or when the amount of the obligation cannot be measured with sufficient reliability. Contingent liability is disclosed in the notes.

7.2 EVENTS AFTER THE BALANCE SHEET DATE

The Group has no significant events after the balance sheet date.

Kemira Oyj's income statement

Thousand EUR	Note	1.1.-31.12.2021	1.1.-31.12.2020
Revenue	2	**1,572,450**	1,459,942
Change in inventory of finished goods and in work in progress +/-	4	**23,328**	-11,306
Other operating income	3	**1,003**	2,216
Materials and services	4	**-902,075**	-748,729
Personnel expenses	5	**-50,947**	-52,133
Depreciation, amortization and impairments	6	**-25,568**	-26,024
Other operating expenses	4	**-572,917**	-523,477
Operating profit		**45,275**	100,490
Financial income and expenses	7	**26,455**	-205,918
Profit before appropriations and taxes		**71,730**	-105,428
Appropriations	8	**-74,702**	-94,841
Income taxes	9	**121**	667
Profit (loss) for the financial year		**-2,851**	-199,603

Kemira Oyj's balance sheet

Thousand EUR	Note	31.12.2021	31.12.2020
ASSETS			
NON-CURRENT ASSETS			
Intangible assets	10	59,286	42,342
Tangible assets	11	33,471	34,207
Investments	12		
Holdings in Group undertakings		1,049,503	1,228,799
Receivables from Group companies		396,549	618,587
Other shares and holdings		98,606	102,108
Other receivables		6,127	6,127
Total investments		1,644,521	2,032,170
CURRENT ASSETS			
Inventories	13	140,004	99,626
Non-current receivables	14		
Deferred tax assets		18,814	12,877
Loan and other receivables		6,488	3,295
Current receivables	14	623,679	235,352
Cash and cash equivalents		74,107	97,209
Total current assets		861,091	448,359
Total assets		2,505,613	2,480,529

Thousand EUR	Note	31.12.2021	31.12.2020
EQUITY AND LIABILITIES			
CAPITAL AND RESERVES	15		
Share capital		221,762	221,762
Share premium account		257,878	257,878
Fair value reserve		19,387	5,216
Unrestricted equity reserve		199,964	199,964
Retained earnings		276,295	565,261
Profit (loss) for the financial year		-2,851	-199,603
Total equity		974,433	1,050,477
APPROPRIATIONS	16	9,795	5,593
PROVISIONS	17	57,066	38,213
LIABILITIES			
Non-current liabilities	18		
Deferred tax liabilities		5,151	1,304
Other non-current liabilities		677,148	628,670
Current liabilities	19	782,019	756,271
Total liabilities		1,464,318	1,386,245
Total equity and liabilities		2,505,613	2,480,529

Kemira Oyj's cash flow statement

Thousand EUR	2021	2020
CASH FLOWS FROM OPERATING ACTIVITIES		
Net profit for the period	**-2,851**	-199,603
Adjustments for		
Depreciation according to plan	**25,568**	26,024
Unrealized exchange differences (net)	**27,300**	-19,132
Financial income and expenses (+/-)	**-26,455**	205,918
Income taxes	**-121**	-667
Other adjustments (+/-)	**98,687**	104,630
Operating profit before change in working capital	**122,128**	117,171
Change in working capital		
Increase (-) / decrease (+) in non-interest-bearing current receivables	**-58,724**	-5,828
Increase (-) / decrease (+) in inventories	**-40,378**	11,204
Increase (+) / decrease (-) in short-term interest-free debts	**227,187**	15,648
Change in working capital	**128,085**	21,023
Cash generated from operations before financial items and taxes	**250,213**	138,194
Interest and other finance costs paid	**-21,491**	-18,845
Interest and other finance income received	**22,884**	17,647
Realized exchange differences (net)	**-9,972**	8,626
Dividends received	**5,876**	44,295
Income taxes paid	**-2,154**	-1,254
Net cash from operating activities	**245,356**	188,664

Thousand EUR	2021	2020
CASH FLOWS FROM INVESTING ACTIVITIES		
Acquisitions of other investments	**-1,000**	0
Purchases of intangible assets	**-34,459**	-8,587
Purchases of tangible assets	**-7,447**	-10,227
Proceeds from sale of investments	**3,500**	0
Proceeds from sale of tangible and intangible assets	**227**	2,403
Increase (-) / decrease (+) in loan receivables	**-94,814**	-121,198
Net cash used in investing activities	**-133,993**	-137,609
Cash flows before financing	**111,363**	51,055
CASH FLOWS FROM FINANCING ACTIVITIES		
Proceeds from non-current liabilities (+)	**200,000**	0
Repayment of non-current liabilities (-)	**-97,500**	-10,712
Short-term financing, net increase (+) / decrease (-)	**-53,436**	147,631
Dividends paid	**-88,809**	-85,635
Group contribution paid	**-94,500**	-96,000
Net cash used in financing activities	**-134,245**	-44,716
Net increase (+) / decrease (-) in cash and cash equivalents	**-22,883**	6,339
Cash and cash equivalents on Dec 31	**74,107**	97,209
Exchange gains (+) / losses (-) on cash and cash equivalents	**-220**	1,528
Cash and cash equivalents on Jan 1	**97,209**	89,342
Net increase (+) / decrease (-) in cash and cash equivalents	**-22,883**	6,339

Notes to the parent company financial statements

1. THE PARENT COMPANY'S ACCOUNTING POLICIES FOR THE FINANCIAL STATEMENTS

BASIS OF PREPARATION

The parent company's financial statements have been prepared in compliance with the relevant acts and regulations in force in Finland (FAS). Kemira Group's financial statements have been prepared in accordance with the International Financial Reporting Standards (IFRS), and the parent company applies the Group's accounting policies whenever it has been possible according to FAS.

ADJUSTMENTS FOR PRIOR PERIOD DISCLOSURES

The presentation of shareholder loans has been changed during the financial year to be in line with their presentation in the Group. Earlier they were presented in Loan receivables. Now they are presented in the Investment group Other receivables. The change in presentation has been applied also to comparison year 2020.

Receivables and liabilities from electricity derivative in 2020 have been presented in Current receivables and liabilities. Now, in 2021, the non-current receivable from the electricity derivative of EUR 6,1 million are presented in Non-current receivables. In 2021, there were no non-current liabilities in the electricity derivative. The change in classification has been applied also to comparison information in 2020.

VALUATION AND ALLOCATION PRINCIPLES

Valuation of non-current assets

Planned depreciation and any impairment losses have been deducted from the acquisition cost of the intangible and tangible assets entered in the balance sheet. The acquisition cost includes the variable costs of acquisition and manufacturing. Government grants received are recognized as a deduction from the carrying amount of property, plant, and equipment. Planned depreciation is calculated on a straight-line basis over the estimated intangible and tangible asset's useful life. Depreciation starts from the month of commencement of use.

Depreciation periods:
Other intangible assets 5–10 years
Buildings and constructions 20–40 years
Machinery and equipment 3–15 years

Shares of non-current assets are valued at their acquisition cost or less impairment.

VALUATION OF INVENTORY

Inventories are stated at cost or at the lower of replacement cost or probable selling price. In addition to variable costs, the cost of inventories includes a portion of the fixed costs of acquisition and manufacturing. Costs are determined using a weighted average cost formula. The net realizable value is the sales price received in the ordinary course of business less the estimated costs for completing the asset and the sales costs.

VALUATION OF FINANCIAL INSTRUMENTS

The financial risk management of Kemira Group is concentrated in Kemira Oyj, which enters into currency, interest rate and electricity derivatives with third parties. Changes in the fair value of currency derivatives that are applicable for hedge accounting in the Group, but not in the parent company (as underlying hedged items are with group companies) are entered in to the profit and loss statement. Also, changes in the fair value of other currency derivatives not qualifying for hedge accounting in the Group, hedging commercial purchases or sales or financial items in foreign currencies are entered in the profit and loss. Changes in the fair value of interest rate derivatives are recorded as financial items in both hedge accounting and non-hedge accounting.

The fair value of Electricity Derivatives hedging the parent company's electricity purchases and qualifying for hedge accounting is posted to the hedging reserve under equity as well as the change in the fair value of currency derivatives that qualify for hedge accounting in the parent company. These currency derivatives are hedging estimated currency flows in Kemira Oyj for the next 12-month period. When the hedging instrument is maturing or the hedging relationship is discontinued due to inefficiency, the hedging reserve is is adjusted by the value of the derivative by booking the value to Income Statement.

Valuation of Fair value derivative instruments is done according to the Finnish Accounting Act Chapter 5 Section 2a.

The valuation methods of derivative instruments are described in Notes 5.4 and 5.6 in the Consolidated Financial Statements.

Defining the fair value of financial assets and liabilities is described in Group Note 5.4. Financial Risk management principles is illustrated in Group note 5.5. Hedge accounting principles and valuation of derivative instrument are described in Group note 5.6.

Reductions in the capital of other non-current loans as well as loan transaction costs have been capitalized in a manner allowed by the Finnish Accounting Act in the parent company's financial statement. The non-expensed portion of these expenses, EUR 2.7 million (2.1), is included in the balance sheet.

OBLIGATORY PROVISIONS

Obligatory provisions are recognized from pensions, personnel-related costs, environmental and restructuring obligations.

REVENUE

Kemira Oyj's revenue consists mainly of revenues from the sale of goods and services. Revenue also includes intercompany service charges on a gross basis.

PENSION ARRANGEMENTS

The company's statutory pensions are handled by pension insurance companies and supplemental pensions mainly by Kemira's own pension fund. Pension costs consist of payments to pension insurance companies and possible contributions to the pension fund and are recognized in the income statement.

SHARE-BASED INCENTIVE PLANS

The treatment of share-based plans is described in the Group's accounting policies. In the parent company, the cash proportion of share-based incentive plans is recognized as an expense in the performance year, and the share proportion is recognized in the year the shares are given using the average share price.

FOREIGN CURRENCY TRANSLATION

In day-to-day bookkeeping, foreign currency transactions are translated into their functional currency at the exchange rates quoted on the transaction date. In the Financial Statements, foreign currency denominated receivables and liabilities are measured at the exchange rates quoted on the balance sheet date. Business-related exchange rate differences and business related foreign currency exchange rate hedges are treated as sales and purchase adjustments. Any foreign exchange gains and losses related to financial items and respective hedging instruments are booked into financial income and expenses.

DEFERRED TAXES

Deferred tax liabilities or receivables are recognized for temporary differences between tax and financial statements using the tax rate for the year following as determined on the balance sheet date. The balance sheet includes the deferred tax liability in its entirety and the deferred tax asset at the estimated probable amount as assessed by the management. The efficient part of changes in the value of the electricity and currency derivatives qualifying for hedge accounting is recorded as a fair value reserve less deferred taxes.

LEASE

Lease payments are treated as rental expenses.

CASH FLOW STATEMENT

The parent company's cash flow statement has been prepared in accordance with the general guidelines on cash flow by the Finnish Board of Accounting.

2. REVENUE

Thousand EUR	2021	2020
Revenue by segments		
Pulp & Paper	716,079	678,946
Industry & Water	416,308	411,152
Intercompany revenue	440,092	369,844
Total	1,572,480	1,459,942
Distribution of revenue by geographical area as a percentage of total revenue		
Finland, domicile of the parent company	27	29
Other Europe, Middle East and Africa	59	57
Americas	10	8
Asia Pacific	4	5
Total	100	100

3. OTHER OPERATING INCOME

Thousand EUR	2021	2020
Gains on the sale of property, plant and equipment	77	1,151
Rent income	11	107
Insurance compensation received	11	74
Other income from operations	904	883
Total	1,003	2,216

4. EXPENSES

Thousand EUR	2021	2020
Change in stocks of finished goods and in work in progress	-23,328	11,306
Materials and services		
Materials and supplies		
Purchases during the financial year	903,266	736,734
Change in inventories (increase - / decrease +)	-9,112	3,505
External services	7,918	8,490
Total	902,075	748,729
Other operating expenses		
Rents	10,710	10,362
Intercompany tolling manufacturing charges	226,190	217,166
Other intercompany charges	140,066	128,763
Freights and delivery expenses	115,590	104,117
External services	16,111	18,344
Other operating expenses [1]	64,261	44,725
Total	572,917	523,477
Total expenses	1,451,664	1,283,512

1) In 2021, the operating expenses included a net increase of EUR 18,948 thousand in the obligatory provisions (a change of EUR 0 in personnel expenses and an increase of EUR 18,948 thousand in other expenses). In 2020, the operating expenses included a net increase of EUR 13,292 thousand in the obligatory provisions (a decrease of EUR 568 thousand in personnel expenses and an increase EUR 13,860 thousand in other expenses).

AUDIT FEES AND SERVICES

Thousand EUR	2021	2020
Audit fees	455	480
Tax services	129	79
Other services	51	151
Total	635	710

Ernst & Young Oy acts as the principal auditor for Kemira Oyj.

5. PERSONNEL EXPENSES AND NUMBER OF PERSONNEL

Thousand EUR	2021	2020
Emoluments of the Board of Directors, the CEOs and his Deputy [1]	2,449	2,703
Other wages and salaries	43,699	42,631
Pension expenses [2]	3,637	6,355
Other personnel expenses	1,161	445
Total	**50,947**	52,133

In 2019 , salaries and bonuses totaled EUR 38,033 thousand.

1) In 2021, the emolument of the Kemira Oyj's CEO was EUR 1,537 thousand (1,713) including bonuses and share-based payments of EUR 813 thousand (999). The emolument of the Kemira Oyj's Deputy CEO was EUR 444 thousand (501) including bonuses and share-based payments of EUR 257 thousand (316).
2) In 2021, the pension expenses includes a return of EUR 3.0 million from Pension Fund Neliapila.

Other transactions between related parties are presented in Note 6.1 in the Notes to the Consolidated Financial Statements.

Number of personnel on Dec 31	2021	2020
Pulp & Paper segment	104	103
Industry & Water segment	36	35
Other, of which	364	360
R&D and Technology	172	166
Total	**504**	498
Average number of personnel	**502**	501

6. DEPRECIATION, AMORTIZATION AND IMPAIRMENTS

Thousand EUR	2021	2020
Depreciation according to plan and impairment		
Intangible rights	15,466	13,689
Depreciation of goodwill	6	0
Other intangible assets	2,062	3,362
Buildings and constructions	539	613
Machinery and equipment	7,493	8,326
Other tangible assets	0	33
Total	**25,568**	26,024

7. FINANCE INCOME AND EXPENSES

Thousand EUR	2021	2020
Dividend income		
From Group companies	5,876	44,294
Total	5,876	44,295
Other interest and finance income		
Interest income from Group companies	21,349	16,786
Interest income from others	738	372
Other finance income from Group companies	638	534
Other finance income from others	6	5
Exchange gains from Group companies (net)	37,152	0
Exchange gains from others (net)	0	15,276
Total	59,880	32,973
Total finance income	65,756	77,268
Change in value on non-current assets		
Group companies	0	-240,000
Others	0	1,396
Total	0	-238,604
Interest expenses and other finance expenses		
Interest expenses to Group companies	-217	-694
Interest expenses to others	-16,768	-14,693
Other finance expenses to Group companies	0	-968
Other finance expenses to others	-2,493	-2,446
Exchange losses from Group companies (net)	0	-25,782
Exchange losses from others (net)	-19,823	0
Total	-39,301	-44,582
Total finance expenses	-39,301	-283,186
Total finance income and expenses	26,455	-205,918

Thousand EUR	2021	2020
Exchange gains and losses		
Realized	-9,972	8,626
Unrealized	27,300	-19,132
Total	17,329	-10,506

8. APPROPRIATIONS

Thousand EUR	2021	2020
Change in accumulated depreciation difference (increase - / decrease +)		
Intangible rights	394	-1,259
Other intangible assets	-456	844
Goodwill	-2	0
Buildings and structures	-612	482
Machinery and equipment	-3,512	-418
Other tangible assets	-3	10
Total	-4,202	-341
Group contribution		
Group contributions given	-70,500	-94,500
Total	-70,500	-94,500
Total appropriations	-74,702	-94,841

9. INCOME TAXES

Thousand EUR	2021	2020
Income taxes on ordinary activities	-1,866	-1,029
Income taxes for prior years	-476	343
Change in deferred taxes	3,634	2,440
Other taxes and parafiscal charges	-1,171	-1,088
Total	**121**	667

10. INTANGIBLE ASSETS

2021, Thousand EUR	Intangible rights	Goodwill	Advance payments and construction in progress	Other intangible assets	Total
Acquisition cost on Jan 1	266,555	7,263	2,274	39,878	315,970
Additions	6,484	25,100	2,874	0	34,458
Decreases	-96	0	0	0	-96
Transfers	2,088	0	-2,088	0	0
Acquisition cost on Dec 31	275,030	32,364	3,061	39,878	350,333
Accumulated amortization on Jan 1	-229,237	-7,263	0	-37,128	-273,628
Accumulated amortization relating to decreases	29	0	0	0	29
Amortization during the financial year	-11,821	-3,584	0	-2,062	-17,467
Accumulated amortization on Dec 31	-241,030	-10,847	0	-39,191	-291,067
Net book value on Dec 31	34,000	21,517	3,061	687	59,266

2020, Thousand EUR	Intangible rights	Goodwill	Advance payments and construction in progress	Other intangible assets	Total
Acquisition cost on Jan 1	260,605	7,263	2,634	39,878	310,380
Additions	6,367	0	2,220	0	8,587
Decreases	-3,007	0	0	0	-3,007
Transfers	2,590	0	-2,580	0	10
Acquisition cost on Dec 31	266,555	7,263	2,274	39,878	315,970
Accumulated amortization on Jan 1	-218,556	-7,263	0	-33,766	-259,584
Accumulated amortization relating to decreases	1,643	0	0	0	1,643
Amortization during the financial year	-12,324	0	0	-3,362	-15,687
Accumulated amortization on Dec 31	-229,237	-7,263	0	-37,128	-273,628
Net book value on Dec 31	37,318	0	2,274	2,750	42,342

11. TANGIBLE ASSETS

2021, Thousand EUR	Land and water areas	Buildings and constructions	Machinery and equipment	Other tangible assets	Advance payments and construction in progress	Total
Acquisition cost on Jan 1	1,071	9,959	87,750	343	11,415	110,539
Additions	0	739	5,122	0	1,586	7,447
Decreases	0	-332	-640	0	0	-973
Transfers	0	5,144	5,897	0	-11,041	0
Acquisition cost on Dec 31	1,071	15,509	98,130	343	1,960	117,014
Accumulated depreciation on Jan 1	-110	-6,726	-69,156	-340	0	-76,332
Accumulated depreciation relating to decreases	0	282	298	0	0	580
Depreciation during the financial year	0	-489	-7,301	0	0	-7,790
Accumulated depreciation on Dec 31	-110	-6,933	-76,159	-341	0	-83,543
Net book value at 31 Dec	962	8,576	21,970	3	1,960	33,471

2020, Thousand EUR	Land and water areas	Buildings and constructions	Machinery and equipment	Other tangible assets	Advance payments and construction in progress	Total
Acquisition cost on Jan 1	1,051	13,016	83,015	553	8,640	106,276
Additions	0	179	2,558	0	7,490	10,227
Decreases	0	-3,760	-1,984	-210	0	-5,954
Transfers	20	524	4,161	0	-4,716	-10
Acquisition cost on Dec 31	1,071	9,959	87,750	343	11,415	110,539
Accumulated depreciation on Jan 1	-110	-8,921	-62,411	-517	0	-71,959
Accumulated depreciation relating to decreases	0	2,716	1,427	184	0	4,327
Depreciation during the financial year	0	-521	-8,172	-8	0	-8,700
Accumulated depreciation on Dec 31	-110	-6,726	-69,156	-340	0	-76,332
Net book value on Dec 31	962	3,233	18,594	3	11,415	34,207

12. INVESTMENTS

2021, Thousand EUR	Holdings in Group companies	Receivables from Group companies	Other shares and holdings	Other receivables	Total
Net book value on Jan 1	**1,228,799**	**618,587**	**102,108**	**6,127**	**1,955,622**
Additions	**0**	**69,106**	**1,000**	**0**	**70,106**
Decreases	**-179,296**	**-291,146**	**-3,500**	**0**	**-473,943**
Net book value on Dec 31	**1,049,503**	**396,546**	**99,608**	**6,127**	**1,551,785**

2020, Thousand EUR	Holdings in Group companies	Receivables from Group companies	Other shares and holdings	Other receivables	Total
Net book value on Jan 1	1,468,799	414,761	100,712	0	1,984,272
Additions	0	211,514	0	6,127	217,641
Decreases	0	-7,688	0	0	-7,688
Revaluations	0	0	1,396	0	1,396
Impairments	-240,000	0	0	0	-240,000
Net book value on Dec 31	1,228,799	618,587	102,108	6,127	1,955,622

13. INVENTORIES

Thousand EUR	2021	2020
Raw materials and consumables	**37,573**	28,461
Finished goods	**90,731**	67,403
Advance payments	**11,700**	3,761
Total	**140,004**	99,626

14. RECEIVABLES

Thousand EUR	2021	2020
Non-current receivables		
Loan and other receivables		
Loan and other receivables from others	**6,488**	3,295
Total	**6,488**	3,295
Deferred tax assets		
From appropriations	**473**	949
From reservations	**10,685**	6,556
From foreign currency and electricity hedging	**304**	0
From revaluations	**4,285**	4,285
From other deferred tax receivables	**1,068**	1,086
Total	**16,814**	12,877
Total non-current receivables	**23,302**	16,172
Current receivables		
Receivables from Group companies		
Trade receivables	**68,501**	46,215
Loan receivables	**368,724**	52,164
Advances paid	**18,836**	18,836
Other current receivables	**42**	268
Prepayments and accrued income	**12,060**	6,529
Total	**468,164**	124,013

Thousand EUR	2021	2020
Accrued income from others		
Trade receivables	**116,386**	88,330
Loan receivables	**0**	6
Advances paid	**41**	467
Other current receivables	**7,078**	4,753
Prepayments and accrued income	**32,010**	17,782
Total	**155,515**	111,339
Total current receivables	**623,679**	235,352
Total receivables	**646,981**	251,524
Accrued income from others		
Interest	**-40**	-162
Taxes	**73**	678
Exchange rate differences	**21,149**	12,001
Other	**10,829**	5,265
Total	**32,010**	17,782

15. CAPITAL AND RESERVES

Thousand EUR	2021	2020
Restricted equity		
Share capital on Jan 1	221,762	221,762
Share capital on Dec 31	221,762	221,762
Share premium account on Jan 1	257,878	257,878
Share premium account on Dec 31	257,878	257,878
Fair value reserve on Jan 1	5,216	5,749
Cash flow hedges	14,170	-532
Fair value reserve on Dec 31	19,387	5,216
Total restricted equity on Dec 31	498,026	484,856
Unrestricted equity		
Unrestricted equity reserve on Jan 1	199,964	199,964
Unrestricted equity reserve on Dec 31	199,964	199,964
Retained earnings on Jan 1	365,658	648,985
Dividend distributions	-86,309	-85,635
Share-based incentive plan		
Shares given	1,465	1,965
Shares returned	-19	-55
Retained earnings on Dec 31	278,795	565,261
Profit (loss) for the financial period	-2,851	-199,603
Total unrestricted equity on Dec 31	475,407	565,622
Total capital and reserves on Dec 31	974,433	1,050,477
Total distributable funds on Dec 31	475,407	565,622

Change in treasury shares

Thousand	EUR	Number of shares
Acquisition value / number on Jan 1, 2021	16,279	2,418
Change	-1,369	-203
Acquisition value/number on Dec 31, 2021	14,911	2,215

16. ACCUMULATED APPROPRIATIONS

Thousand EUR	2021	2020
Appropriations		
Accumulated depreciation difference	9,795	5,593
Deferred tax liabilities on accumulated appropriations	1,959	1,119

17. OBLIGATORY PROVISIONS

Thousand EUR	2021	2020
Non-current provisions		
Pension provisions	**5,338**	5,432
Environmental provisions	**15,414**	16,182
Restructuring	**26,700**	0
Total non-current provisions	**47,452**	21,615
Current provisions		
Environmental provisions	**5,462**	1,400
Restructuring	**4,153**	15,198
Total current provisions	**9,615**	16,598
Total provisions	**57,066**	38,213
Change in obligatory provisions		
Obligatory provisions on Jan 1	**38,213**	24,922
Utilised during the year	**-12,982**	-670
Cancellation of unused reservations	**-998**	-339
Increase during the year	**32,833**	14,300
Obligatory provisions on Dec 31	**57,066**	38,213

Environmental risks and liabilities are disclosed in Note 4.6 in the Notes to the Consolidated Financial Statements.

18. NON-CURRENT LIABILITIES

Thousand EUR	2021	2020
Loans from financial institutions	**279,891**	276,819
Corporate bonds	**397,258**	349,130
Other liabilities	**0**	2,721
Total	**677,148**	628,670
Maturity later than five years		
Corporate bonds	**200,000**	0
Total	**200,000**	0
Deferred tax liabilities		
From foreign currency and electricity hedging	**5,151**	1,304
Total	**5,151**	1,304
Total non-current liabilities	**682,299**	629,974

19. CURRENT LIABILITIES

Thousand EUR	2021	2020
Liabilities to Group companies		
Loan liabilities	5,843	188,620
Prepayments received	0	219
Trade payables	137,097	45,355
Other liabilities	395,643	321,648
Accrued expenses	40	246
Total	538,594	556,087
Liabilities to others		
Corporate Bonds	52,750	0
Commercial papers	0	49,956
Prepayments received	1,536	1,091
Trade payables	121,168	82,870
Other liabilities	7,528	8,469
Accrued expenses	60,455	57,798
Total	243,425	200,184
Total current liabilities	782,019	756,271
Accrued expenses and deferred income		
Personnel expenses	18,565	18,026
Interest expenses and exchange rate differences	13,660	11,955
Cost accruals	28,658	20,171
Other	3,582	7,646
Total	60,455	57,798

20. DERIVATIVES

Nominal values, thousand EUR	2021 Total	2020 Total
Currency derivatives		
Forward contracts	520,161	407,665
of which cash flow hedges	62,044	64,271
Other derivatives		
Electricity contracts, bought (MWh)	1,518,286	2,201,498
Electricity forward contracts	1,518,286	2,201,498
of which cash flow hedges	1,518,286	2,201,498

Fair values, thousand EUR	2021 Positive	Negative	Net
Currency derivatives			
Forward contracts	2,752	8,554	-5,802
of which cash flow hedges	144	1,577	-1,434
Other derivatives			
Electricity forward contracts, bought [1]	25,753	–	25,753
of which cash flow hedges	25,753	–	25,753

1) Includes fair value of electricity forward contracts of EUR 6,088 thousand maturing after the year 2022 (3,195 and -2,721).

Fair values, thousand EUR	2020 Positive	Negative	Net
Currency derivatives			
Forward contracts	6,624	4,836	1,787
of which cash flow hedges	2,502	365	2,137
Other derivatives			
Electricity forward contracts, bought	8,598	4,618	3,980
of which cash flow hedges	8,598	4,618	3,980

21. COLLATERAL AND CONTINGENT LIABILITIES

Thousand EUR	2021	2020
Given guarantees		
On behalf of own commitments		
Business related delivery-, environmental and other guarantees	**15,545**	15,131
On behalf of companies belonging to the same Group		
Business and financing guarantees	**522,446**	451,750
On behalf of associated companies		
Business and financing guarantees	**12,467**	12,576
On behalf of others		
Guarantees	**1,543**	1,782
Other obligations		
Loan commitments	**16,339**	16,339
Rent liabilities		
Maturity within one year	**2,221**	2,442
Maturity after one year	**7,511**	6,093
Total	**9,732**	8,535
Leasing liabilities		
Maturity within one year	**2,052**	2,145
Maturity after one year	**3,354**	1,905
Total	**5,407**	4,050
Pledges given		
On behalf of own commitments	**359**	240

22. SHARES AND HOLDINGS OWNED BY KEMIRA OYJ

SHARES IN GROUP COMPANIES

	Group holding, %	Kemira Oyj holding, %
AS Kemivesi	100.00	100.00
Kemira Argentina S.A.	100.00	15.80
Kemira Cell Sp. z.o.o.	55.00	55.00
Kemira Chemicals (Nanjing) Co.,Ltd.	100.00	100.00
Kemira Chemicals (Shanghai) Co.,Ltd.	100.00	100.00
Kemira Chemicals (UK) Ltd.	100.00	100.00
Kemira Chemicals (Yanzhou) Co.,Ltd.	100.00	100.00
Kemira Chemicals Brasil Ltda	100.00	99.87
Kemira Chemicals Canada Inc.	100.00	100.00
Kemira Chemicals Korea Corporation	100.00	100.00
Kemira Chemie Ges.mbH	100.00	100.00
Kemira Chile Comercial Limitada	100.00	99.00
Kemira Europe Oy	100.00	100.00
Kemira Germany GmbH	100.00	100.00
Kemira Hong Kong Company Limited	100.00	100.00
Kemira International Finance B.V.	100.00	100.00
Kemira KTM d.o.o.	100.00	100.00
Kemira Świecie Sp. z o.o.	100.00	100.00
Kemira Water Danmark A/S	100.00	100.00
Kemira Water Solutions Brasil	100.00	100.00
PT Kemira Indonesia	100.00	74.80
PT Kemira Chemicals Indonesia	99.77	99.77

The Group's subsidiaries and investment in associates are presented in Note 6.2. in the Consolidated Financial Statements.

KEMIRA OYJ'S BOARD OF DIRECTORS' PROPOSAL TO THE ANNUAL GENERAL MEETING FOR THE DISTRIBUTION OF DISTRIBUTABLE FUNDS AND SIGNING OF THE FINANCIAL STATEMENTS AND BOARD OF DIRECTORS' REVIEW

On December 31, 2021, Kemira Oyj's distributable funds are EUR 475,407,339 of which the net profit for the period amounts to EUR -2,851,325.

The Board of Directors proposes to the Annual General Meeting to be held on March 24, 2022 that a dividend of EUR 0.58 per share be distributed. No dividend will be paid on own shares held by the company as treasury shares on the dividend record date.

On the date of this proposal for the distribution of profits, a total of 153,127,484 shares are held outside the company, the total dividends paid would amount to EUR 88,813,941. The distributable funds of EUR 386,593,398 to be retained as equity.

There have been no material changes in the company's financial position since December 31, 2021. The liquidity of the company remains good, and the proposed dividend payment does not risk the solvency of the company.

Helsinki, February 10, 2022

Jari Paasikivi
Chairman

Matti Kähkönen
Vice Chairman

Wolfgang Büchele

Shirley Cunningham

Werner Fuhrmann

Timo Lappalainen

Kristian Pullola

Jari Rosendal
CEO

kemira

KEMIRA is a global leader in sustainable chemical solutions for water intensive industries. We provide best suited products and expertise to improve our customers' product quality, process and resource efficiency. Our focus is on pulp & paper, water treatment and energy industry. In 2021, Kemira had annual revenue of around EUR 2.7 billion and around 5,000 employees. Kemira shares are listed on the Nasdaq Helsinki Ltd.

WWW.KEMIRA.COM

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Auditor's report (Translation of the Finnish original)

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To the Annual General Meeting of Kemira Oyj

REPORT ON THE AUDIT OF FINANCIAL STATEMENT

OPINION

We have audited the financial statements of Kemira Oyj (business identity code 0109823-0) for the year ended 31 December 2021. The financial statements comprise the consolidated balance sheet, income statement, statement of comprehensive income, statement of changes in equity, statement of cash flows and notes, including a summary of significant accounting policies, as well as the parent company's balance sheet, income statement, statement of cash flows and notes.

In our opinion

- the consolidated financial statements give a true and fair view of the group's financial position as well as its financial performance and its cash flows in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU.
- the financial statements give a true and fair view of the parent company's financial performance and financial position in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements.

Our opinion is consistent with the additional report submitted to the Audit Committee.

BASIS FOR OPINION

We conducted our audit in accordance with good auditing practice in Finland. Our responsibilities under good auditing practice are further described in the *Auditor's Responsibilities for the Audit of Financial Statements section* of our report.

We are independent of the parent company and of the group companies in accordance with the ethical requirements that are applicable in Finland and are relevant to our audit, and we have fulfilled our other ethical responsibilities in accordance with these requirements.

In our best knowledge and understanding, the non-audit services that we have provided to the parent company and group companies are in compliance with laws and regulations applicable in Finland regarding these services, and we have not provided any prohibited non-audit services referred to in Article 5 (1) of regulation (EU) 537/2014. The non-audit services that we have provided have been disclosed in note 2.2 to the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

KEY AUDIT MATTERS

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the financial statements of the current period. These matters were addressed in the context of our audit of the financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

We have fulfilled the responsibilities described in the Auditor's responsibilities for the audit of the financial statements section of our report, including in relation to these matters. Accordingly, our audit included the performance of procedures designed to respond to our assessment of the risks of material misstatement of the financial statements. The results of our audit procedures, including the procedures performed to address the matters below, provide the basis for our audit opinion on the accompanying financial statements.

We have also addressed the risk of management override of internal controls. This includes consideration of whether there was evidence of management bias that represented a risk of material misstatement due to fraud.

Key audit matter	How our audit addressed the Key Audit Matter
Revenue recognition ***The accounting principles and disclosures concerning revenues are disclosed in Note 2.1.*** **Revenue recognition is considered as a key audit matter because revenues are a key financial performance measure which could create an incentive for revenues to be recognized prematurely. Relevant areas from the revenue recognition perspective are accuracy of the recognized amounts and timing of revenue recognition.** **Revenue recognition was determined to be a key audit matter and a significant risk of material misstatement referred to in EU Regulation No 537/2014, point (c) of Article 10 (2).**	Our audit procedures to address the risk of material misstatement included: • Assessment of Kemira's accounting policies over revenue recognition from IFRS standards' perspective. • Analytical procedures over revenue transactions throughout the financial year to identify potential abnormal entries. • Effectiveness testing of revenue recognition related application controls in the enterprise resource planning system used by Kemira. • Effectiveness testing of management's internal controls in sales process as well as analysis of identified control exceptions and their root cause. • On a sample basis an analysis of current sales contracts and evaluation of appropriateness of recognized revenue and its timing.

Key audit matter	How our audit addressed the Key Audit Matter
Valuation of goodwill ***The accounting principles and disclosures concerning goodwill are disclosed in Note 3.1.*** **Valuation of goodwill was a key audit matter because** • **the assessment process is judgmental,** • **it is based on assumptions relating to market or economic conditions extending to the future, and** • **because of the significance of the goodwill to the financial statements.** **As of balance sheet date 31 December 2021, the value of goodwill amounted to 814 million euro representing 16 % of the total assets and 38 % of the total equity.** **The valuation of goodwill is based on management's estimate about the value-in-use calculations of the cash generating units. There are number of underlying assumptions used to determine the value-in-use, including the revenue growth, EBITDA and discount rate applied on net cash-flows.** **Estimated value-in-use may vary significantly when the underlying assumptions are changed and the changes in above-mentioned individual assumptions may result in an impairment of goodwill.**	Our audit procedures regarding the valuation of goodwill included involving EY valuation specialists to assist us in evaluating methodologies, impairment calculations and underlying assumptions applied by the management in the impairment testing. In evaluation of methodologies, we compared the principles applied by the management in the impairment tests to the requirements set in IAS 36 Impairment of assets standard and ensured the mathematical accuracy of the impairment calculations. The key assumptions applied by the management in impairment tests were compared to • approved budgets and long-term forecasts, • information available in external sources, as well as • our independently calculated industry averages such as weighted average cost of capital used in discounting the cashflows. In addition, we compared the sum of discounted cash flows in impairment tests to Kemira's market capitalization. We also assessed the sufficiency and appropriateness of the disclosures given in respect of goodwill and its sensitivity.

Key audit matter	How our audit addressed the Key Audit Matter
Fair value measurement of other shares ***The accounting principles and disclosures concerning other shares are disclosed in Note 3.5.*** **Fair value measurement of other shares was a key audit matter because** • **the value of other shares is material to the financial statements, and because** • **the fair value assessment process requires significant management judgment.** **As of balance sheet date 31 December 2021, the value of PVO / TVO shares included in other shares amounted to 257 million euro representing 8 % of the total assets and 19 % of the total equity. PVO / TVO shares represent majority of the balance sheet value of other shares.** **In determining the fair value of PVO / TVO shares, the management must make among other things an assessment regarding** • **future electricity production cost for PVO and TVO,** • **future electricity market prices applicable for Finland, and** • **discount rate applied on discounting the cashflows.** **Fair values of PVO and TVO shares may vary significantly when above-mentioned assumptions are changed.**	**Our audit procedures regarding the fair values of other shares included involving EY valuation specialists to assist us in evaluating appropriateness of methodologies, fair value calculations and underlying assumptions applied by the management.** **The key assumptions made by the management were compared to** • **estimates of future electricity production costs available on external sources,** • **estimates of future electricity market prices in Finland available on external sources, and** • **our independently calculated discount rate applicable for discounting of expected cashflows.** **In addition, we assessed the overall reasonableness of management's judgments.** **We also assessed the sufficiency and appropriateness of the disclosures regarding the other shares.**

RESPONSIBILITIES OF THE BOARD OF DIRECTORS AND THE MANAGING DIRECTOR FOR THE FINANCIAL STATEMENTS

The Board of Directors and the Managing Director are responsible for the preparation of consolidated financial statements that give a true and fair view in accordance with International Financial Reporting Standards (IFRS) as adopted by the EU, and of financial statements that give a true and fair view in accordance with the laws and regulations governing the preparation of financial statements in Finland and comply with statutory requirements. The Board of Directors and the Managing Director are also responsible for such internal control as they determine is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, the Board of Directors and the Managing Director are responsible for assessing the parent company's and the group's ability to continue as going concern, disclosing, as applicable, matters relating to going concern and using the going concern basis of accounting. The financial statements are prepared using the going concern basis of accounting unless there is an intention to liquidate the parent company or the group or cease operations, or there is no realistic alternative but to do so.

AUDITOR'S RESPONSIBILITIES FOR THE AUDIT OF FINANCIAL STATEMENETS

Our objectives are to obtain reasonable assurance on whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with good auditing practice will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of the financial statements.

As part of an audit in accordance with good auditing practice, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the parent company's or the group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of the Board of Directors' and the Managing Director's use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or

conditions that may cast significant doubt on the parent company's or the group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the parent company or the group to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events so that the financial statements give a true and fair view.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

OTHER REPORTING REQUIREMENTS

INFORMATION ON OUR AUDIT ENGAGEMENT

We were first appointed as auditors by the Annual General Meeting on 21 March 2019 and our appointment represents a total period of uninterrupted engagement of three years.

OTHER INFORMATION

The Board of Directors and the Managing Director are responsible for the other information. The other information comprises the report of the Board of Directors and the information included in the Annual Report, but does not include the financial statements and our auditor's report thereon. We have obtained the report of the Board of Directors prior to the date of this auditor's report, and the Annual Report is expected to be made available to us after that date.

Our opinion on the financial statements does not cover the other information.

In connection with our audit of the financial statements, our responsibility is to read the other information identified above and, in doing so, consider whether the other information is materially inconsistent with the financial statements or our knowledge obtained in the audit, or otherwise appears to be materially misstated. With respect to report of the Board of Directors, our responsibility also includes considering whether the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

In our opinion, the information in the report of the Board of Directors is consistent with the information in the financial statements and the report of the Board of Directors has been prepared in accordance with the applicable laws and regulations.

If, based on the work we have performed on the other information that we obtained prior to the date of this auditor's report, we conclude that there is a material misstatement of this other information, we are required to report that fact. We have nothing to report in this regard.

OTHER OPINIONS ON ASSIGNMENT OF THE BOARD OF DIRECTORS

We support that the financial statements should be adopted. The proposal by the Board of Directors regarding the use of the profit shown on the balance sheet is in compliance with the Limited Liability Companies Act. We support that the Board of Directors of the parent company and the Chief Executive Officer should be discharged from liability for the financial period audited by us.

Helsinki, 10 February 2022

Ernst & Young Oy
Authorized Public Accountant Firm

Mikko Rytilahti
Authorized Public Accountant

Group key figures

Kemira provides certain financial performance measures (alternative performance measures), which are not defined by IFRS. Kemira believes that alternative performance measures followed by capital markets and Kemira management, such as organic growth*, EBITDA, operative EBITDA, cash flow after investing activities as well as gearing, provide useful information about Kemira's comparable business performance and financial position. Selected alternative performance measures are also used as performance criteria concerning remuneration.

Kemira's alternative performance measures should not be viewed in isolation to the equivalent IFRS measures and alternative performance measures should be read in conjunction with the most directly comparable IFRS measures. Definitions of the alternative performance measures can be found in the Definitions of the key figures in these Financial Statements, as well as at **www.kemira.com** > Investors > Financial information.

Kemira adopted the IFRS 16 Leases standard on January 1, 2019. The comparative figures were not restated on the date of transition to IFRS 16. In 2019, the key figures (except revenue and capital expenditure) of the Income Statements, Balance Sheet and cash flow have been impacted by the adoption of IFRS 16.

*Revenue growth in local currencies, excluding acquisitions and divestments.

	2021	2020	2019	2018	2017
INCOME STATEMENT AND PROFITABILITY					
Revenue, EUR million	2,674	2,427	2,659	2,593	2,486
Operative EBITDA, EUR million	426	435	410	323	311
Operative EBITDA, %	15.9	17.9	15.4	12.5	12.5
EBITDA, EUR million	373	413	382	315	283
EBITDA, %	14.0	17.0	14.4	12.1	11.4
Operative EBIT, EUR million	226	238	224	174	170
Operative EBIT, %	8.4	9.8	8.4	6.7	6.9
Operating profit (EBIT), EUR million	170	216	194	148	141
Operating profit (EBIT), %	6.4	8.9	7.3	5.7	5.7
Finance costs (net), EUR million	27	35	40	25	29
% of revenue	1.0	1.4	1.5	1.0	1.2
Profit before tax, EUR million	143	181	155	123	113
% of revenue	5.4	7.5	5.8	4.8	4.5
Net profit for the period (attributable to equity owners of the parent company), EUR million	108	131	110	89	79
% of revenue	4.0	5.4	4.1	3.4	3.2
Return on investment (ROI), %	7.2	9.1	8.4	7.0	6.5
Return of equity (ROE), %	8.6	10.9	9.2	7.6	6.7
Capital employed, EUR million [1]	1,995	1,965	1,998	1,781	1,763
Operative return on capital employed (ROCE), % [1]	11.3	12.1	11.2	9.8	9.7
Return on capital employed (ROCE), % [1]	8.5	11.0	9.7	8.3	8.0
Research and development expenses, EUR million	28	29	30	30	30
% of revenue	1.1	1.2	1.1	1.2	1.2
Organic growth, %	11	-7	0	7	6

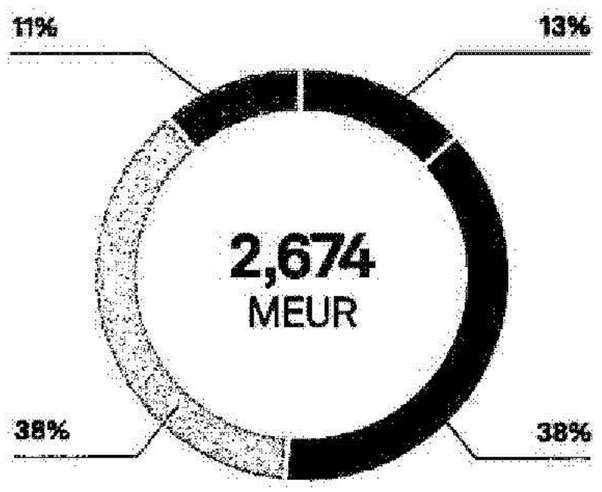
	2021	2020	2019	2018	2017
CASH FLOW					
Net cash generated from operating activities, EUR million	**220**	375	386	210	205
Proceeds from sale of subsidiaries and property, plant and equipment and intangible assets, EUR million	**7**	2	8	7	3
Capital expenditure, EUR million	**170**	198	204	194	190
% of revenue	**6.3**	8.2	7.7	7.5	7.6
Capital expenditure excl. acquisitions, EUR million	**169**	196	201	150	190
% of revenue	**6.3**	8.1	7.6	5.8	7.6
Cash flow after investing activities, EUR million	**57**	173	190	29	13
BALANCE SHEET AND SOLVENCY					
Non-current assets, EUR million	**2,155**	2,018	2,090	1,901	1,842
Shareholders' equity (Equity attributable to equity owners of the parent company), EUR million	**1,329**	1,192	1,218	1,190	1,159
Total equity including non-controlling interests, EUR million	**1,343**	1,205	1,231	1,203	1,173
Total liabilities, EUR million	**1,797**	1,590	1,660	1,561	1,502
Total assets, EUR million	**3,139**	2,796	2,891	2,764	2,675
Net working capital	**287**	197	211	260	211
Interest-bearing net liabilities, EUR million	**850**	759	811	741	694
Equity ratio, %	**43**	43	43	44	44
Gearing, %	**63**	63	66	62	59
Interest-bearing net liabilities per EBITDA	**2.3**	1.8	2.1	2.4	2.5

	2021	2020	2019	2018	2017
PERSONNEL					
Personnel at period-end	**4,926**	4,921	5,062	4,915	4,732
Personnel (average)	**4,947**	5,038	5,020	4,810	4,781
of whom in Finland	**784**	790	812	821	822
Wages and salaries, EUR million	**288**	303	304	278	284
EXCHANGE RATES					
Key exchange rates on Dec 31					
USD	**1.133**	1.227	1.123	1.145	1.199
CAD	**1.439**	1.563	1.460	1.561	1.504
SEK	**10.250**	10.034	10.447	10.255	9.844
CNY	**7.195**	8.023	7.821	7.875	7.804
BRL	**6.310**	6.374	4.516	4.444	3.973
PER SHARE FIGURES					
Earnings per share (EPS), basic, EUR [2]	**0.71**	0.86	0.72	0.58	0.52
Earnings per share (EPS), diluted, EUR [2]	**0.70**	0.86	0.72	0.58	0.52
Net cash generated from operating activities per share, EUR [2]	**1.44**	2.45	2.53	1.38	1.35
Dividend per share, EUR [2] [3]	**0.58**	0.58	0.56	0.53	0.53
Dividend payout ratio, % [2] [3]	**82.2**	67.5	77.6	90.7	102.7
Dividend yield, % [2] [3]	**4.4**	4.5	4.2	5.4	4.6
Equity per share, EUR [2]	**8.68**	7.80	7.98	7.80	7.61
Price per earnings per share (P/E ratio) [2]	**18.88**	15.07	18.37	16.85	22.29
Price per equity per share [2]	**1.54**	1.66	1.66	1.26	1.51
Price per cash flow from operations per share [2]	**9.27**	5.28	5.24	7.14	8.54
Dividend paid, EUR million [3]	**88.8**	88.7	85.5	80.8	80.7

	2021	2020	2019	2018	2017
SHARE PRICE AND TRADING					
Share price, high, EUR	**14.66**	14.24	14.99	12.03	12.44
Share price, low, EUR	**12.64**	8.02	9.77	9.34	10.33
Share price, average, EUR	**13.67**	11.55	12.56	11.00	11.47
Share price on Dec 31, EUR	**13.33**	12.94	13.26	9.85	11.50
Number of shares traded (1,000) [4]	**57,478**	75,885	53,048	43,837	54,169
% on number of shares	**38**	50	35	29	36
Market capitalization on Dec 31, EUR million [2]	**2,041**	1,979	2,024	1,502	1,752
NUMBER OF SHARES AND SHARE CAPITAL					
Average number of shares, basic (1,000) [2]	**153,092**	152,879	152,630	152,484	152,359
Average number of shares, diluted (1,000) [2]	**153,786**	153,373	153,071	152,768	152,594
Number of shares on Dec 31, basic (1,000) [2]	**153,127**	152,924	152,649	152,510	152,354
Number of shares on Dec 31, diluted (1,000) [2]	**154,068**	153,744	153,385	152,927	152,512
Increase (+) / decrease (-) in number of shares outstanding (1,000)	**203**	275	139	156	-14
Share capital, EUR million	**221.8**	221.8	221.8	221.8	221.8

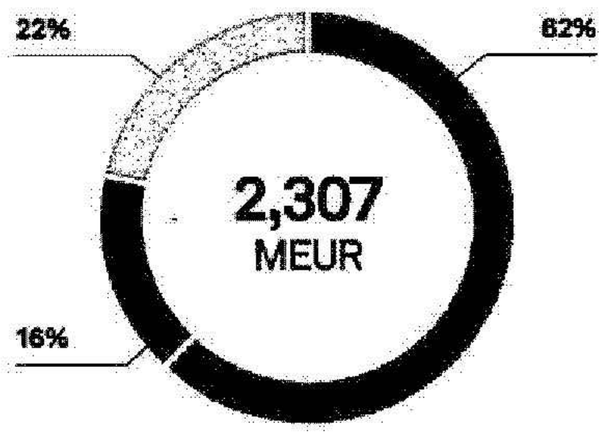
1) 12-month rolling average
2) Number of shares outstanding, excluding the number of treasury shares.
3) The dividend for 2021 is the Board of Directors' proposal to the Annual General Meeting.
4) Shares traded in Nasdaq Helsinki only

REVENUE BY GEOGRAPHICAL AREAS



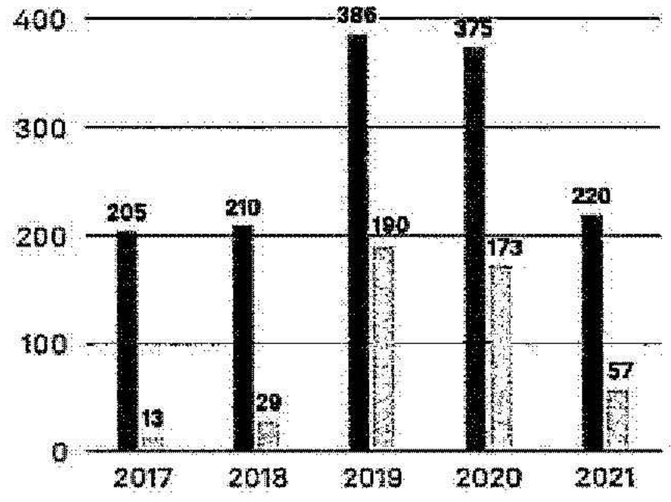
- Finland, domicile of the parent company
- Other Europe, Middle-East and Africa
- Americas
- Asia Pacific

OPERATING EXPENSES



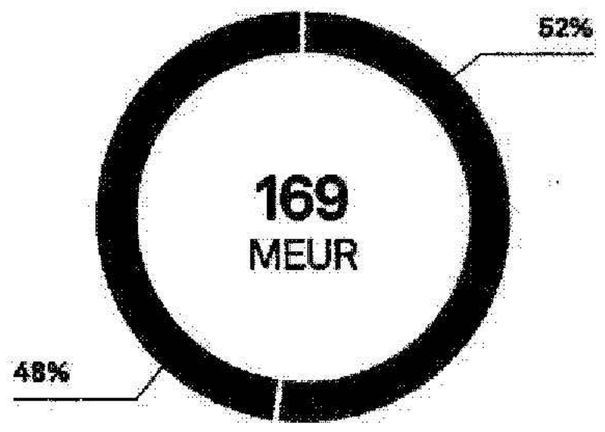
- Material and services
- Employee benefit expenses
- Other operating expenses

CASH FLOW
EUR MILLION



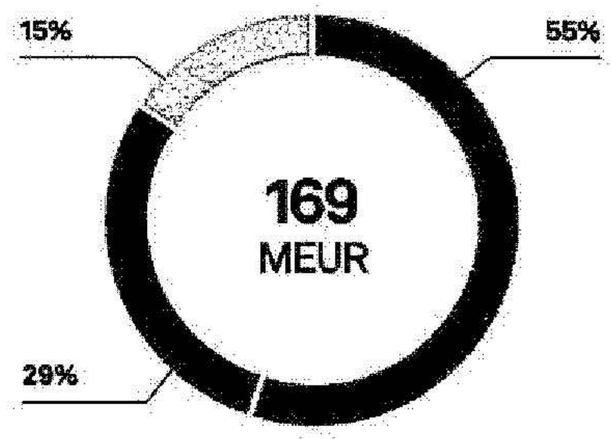
- Net cash generated from operating activities
- Cash flow after investing activities

CAPITAL EXPENDITURE BY SEGMENT EXCLUDING ACQUISITIONS



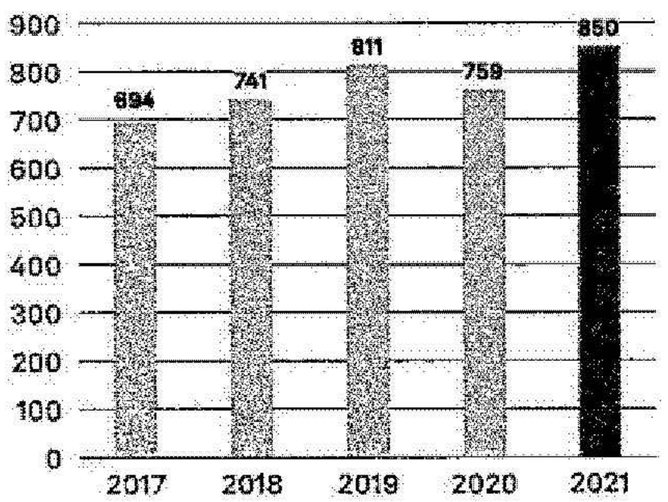
- Pulp & Paper
- Industry & Water

CAPITAL EXPENDITURE EXCLUDING ACQUISITIONS

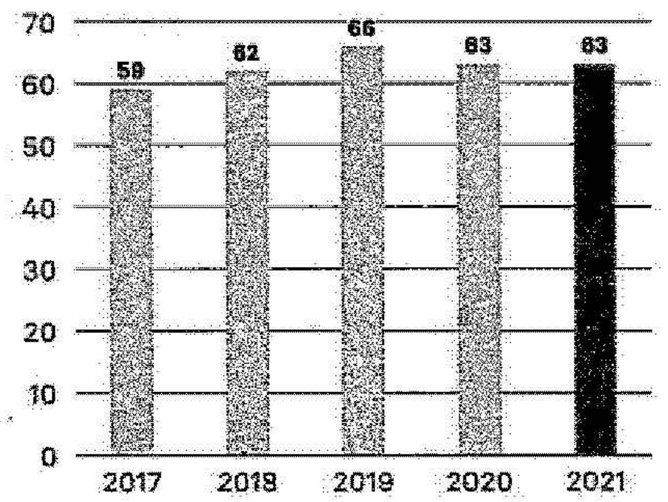


- Maintenance
- Improvement
- Expansion

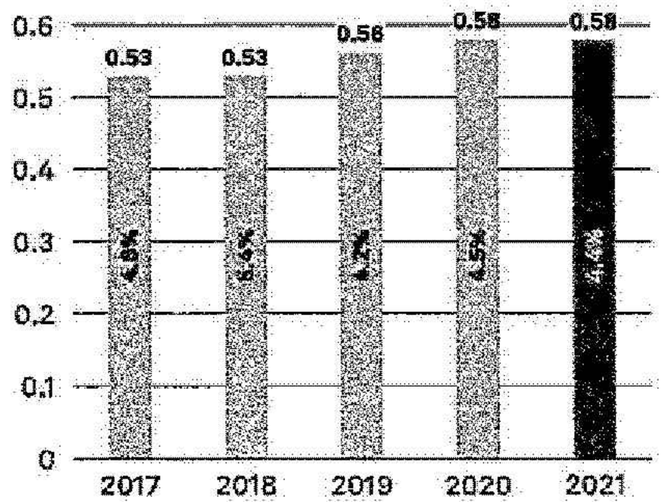
INTEREST-BEARING NET LIABILITIES
EUR MILLION



GEARING
%

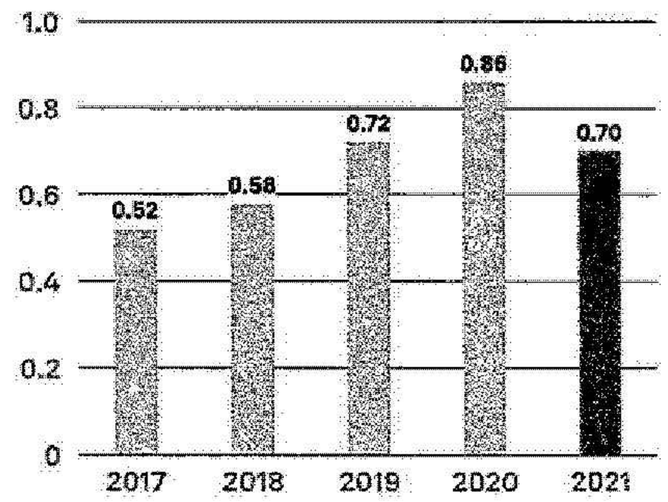


DIVIDEND PER SHARE, EUR AND DIVIDEND YIELD, %*



*The dividend for 2021 is the Board of Directors' proposal to the Annual General Meeting.

EARNINGS PER SHARE, DILUTED
EUR



Definition of key figures

FINANCIAL FIGURES

KEY FIGURES		DEFINITION OF KEY FIGURES	PURPOSE OF KEY FIGURES
EBITDA	=	Operating profit (EBIT) + depreciation and amortization + impairments	EBITDA describes the profitability of a business when depreciation, amortization and impairments are added to EBIT. The key figure is used to monitor the development of business results.
OPERATIVE EBITDA	=	Operating profit (EBIT) + depreciation and amortization + impairments +/- items affecting comparability	Operative EBITDA describes the profitability of a business when depreciation, amortization and impairments are added to EBIT. The key figure is used to monitor the development of business results. The key figure is calculated by adjusting the items affecting from EBITDA, which improves the comparability of operating profitability between different periods.
ITEMS AFFECTING COMPARABILITY [1]	=	Restructuring and streamlining programs + transaction and integration expenses in acquisitions + divestment of businesses and other disposals + other items	Used as a component in the calculation of operative EBITDA and operative EBIT.
EBIT	=	Revenue + other operating income - operating expenses - depreciation and amortization - impairments + share of the results of associates	EBIT is used to monitor the development of business results. The key figure describes the profitability of the business before financial items and taxes.
OPERATIVE EBIT	=	Operating profit (EBIT) +/- items affecting comparability	Operative EBIT is used to monitor the development of business results. The key figure describes the profitability of the business before financial items and taxes. The key figure is calculated by adjusting the items affecting operating comparability from operating profit, which improves the comparability of operating profitability between different periods.
INTEREST-BEARING NET LIABILITIES	=	Interest-bearing liabilities - cash and cash equivalents	Interest-bearing liabilities is used to monitor the Group's gearing.
EQUITY RATIO (%)	= 100 x	Total equity / Total assets - prepayments received	Equity ratio (%) indicates what proportion of the assets is covered by equity.
GEARING (%)	= 100 x	Interest-bearing net liabilities / Total equity	Gearing (%) measures the ratio of interest-bearing net liabilities to equity.
RETURN ON INVESTMENTS (ROI) (%)	= 100 x	Profit before tax + interest expenses + other financial expenses / Total assets - non-interest-bearing liabilities [2]	Return on investment (%) measures how efficiently invested capital is used.

KEY FIGURES		DEFINITION OF KEY FIGURES	PURPOSE OF KEY FIGURES
RETURN ON EQUITY (ROE) (%)	= 100 x	Net profit attributable to equity owners of the parent company / Equity attributable to equity owners of the parent company [2]	Return on equity (%) is used to measure how effectively the equity owned by the owners of the parent company is used.
RETURN ON CAPITAL EMPLOYED (ROCE) (%)	= 100 x	Operating profit (EBIT) [3] / Capital employed [4]	Return on capital employed (%) is used to measure how efficiently capital is employed.
OPERATIVE RETURN ON CAPITAL EMPLOYED (OPERATIVE ROCE) (%)	= 100 x	Operating profit (EBIT) [3] / Capital employed [4]	Operative return on capital employed (%) is used to measure how efficiently capital is employed.
CASH FLOW AFTER INVESTING ACTIVITIES	=	Net cash generated from operating activities + net cash used in investing activities	Cash flow after investments is a key figure that describes the cash flow from operating activities after investments. This is free cash flow that remains, for example, in the payment of dividends and liabilities.
INTEREST-BEARING NET LIABILITIES / EBITDA	=	Interest-bearing net liabilities / Operating profit (EBIT) + depreciation and amortization + impairments	Interest-bearing net liabilities / EBITDA ratio measures the Group's capital structure. The key figure describes how long it would take to pay interest-bearing net liabilities at the current level of profitability if the EBITDA in its entirety were used to repay the debt.
NET FINANCIAL COST (%)	= 100 x	Finance costs, net - dividend income +/- exchange rate differences / Interest-bearing net liabilities [2]	Net financial cost (%) describes the financial expense structure and the key figure can be compared to the existing average interest rate level.
NET WORKING CAPITAL	=	Inventories + trade receivables + other receivables, excluding derivatives, accrued interest income and other financing items - trade payables - other liabilities, excluding derivatives, accrued interest expenses and other financing items	Net working capital is the amount of capital tied up in business operations. It describes the amount of cash needed to run the Group's day-to-day operations.
CAPITAL EMPLOYED	=	Property, plant and equipment + right-of-use assets + intangible assets + net working capital + investments in associates	Capital employed describes the capital committed to the Group's operations (e.g. production facilities), which is a premise for the manufacture of the Group's products for sale. Restricted capital is used as a component in calculating the return on capital employed.
CAPITAL EXPENDITURE	=	Property, plant and equipment + intangible assets + other shares + investments in associates	Investments excluding acquisitions are cash used on the acquisition of non-current assets. The key figure is part of the cash flow statement.
CAPITAL EXPENDITURE EXCL. ACQUISITIONS	=	Property, plant and equipment + intangible assets + other shares + investments in associates - acquisitions	Investments excluding acquisitions are cash used on the acquisition of non-current assets, excluding acquisitions. The key figure is part of the cash flow statement.

KEY FIGURES		DEFINITION OF KEY FIGURES	PURPOSE OF KEY FIGURES
ORGANIC GROWTH (%)	=	Revenue growth in local currencies, excluding acquisitions and divestments	Organic growth describes revenue growth in local currencies excluding acquisitions and divestments.
INTRINSIC VALUE	=	Operative EBITDA x 8 - interest-bearing net liabilities	Intrinsic value is used as a remuneration criteria in the Group's share-based payments incentive plans.

1) Financial performance measures which are not defined by IFRS may include items of income and expenses that affect the comparability of the financial reporting of Kemira Group. Restructuring and streamlining programs, transaction and integration expenses in acquisitions, divestments of businesses and other disposals are considered the most common items affecting comparability.
2) Average
3) Operating profit (EBIT) taken into account for 12-month rolling figure at the end of the review period.
4) 12-month rolling average

PER SHARE FIGURES

KEY FIGURES		DEFINITION OF KEY FIGURES
EARNINGS PER SHARE (EPS)	=	Net profit attributable to equity owners of the parent company / Average number of shares
NET CASH GENERATED FROM OPERATING ACTIVITIES PER SHARE	=	Net cash generated from operating activities / Average number of shares
DIVIDEND PER SHARE	=	Dividend paid / Number of shares on Dec 31
DIVIDEND PAYOUT RATIO (%)	= 100 x	Dividend per share / Earnings per share (EPS), basic
DIVIDEND YIELD (%)	= 100 x	Dividend per share / Share price on Dec 31
EQUITY PER SHARE	=	Equity attributable to equity owners of the parent company on Dec 31 / Number of shares on Dec 31

KEY FIGURES		DEFINITION OF KEY FIGURES
SHARE PRICE, YEAR AVERAGE	=	Shares traded (EUR) / Shares traded (volume)
PRICE PER EARNINGS PER SHARE (P/E)	=	Share price on Dec 31 / Earnings per share (EPS), basic
PRICE PER EQUITY PER SHARE	=	Share price on Dec 31 / Equity per share attributable to equity owners of the parent company
PRICE PER NET CASH GENERATED FROM OPERATING ACTIVITIES PER SHARE	=	Share price on Dec 31 / Net cash generated from operating activities per share
SHARE TURNOVER (%)	= 100 x	Number of shares traded in main stock exchange / Average number of shares

Reconciliation to IFRS figures

EUR million	1–3	4–6	7–9	10–12	2021 Total	1–3	4–6	7–9	10–12	2020 Total
ITEMS AFFECTING COMPARABILITY IN EBITDA AND EBIT										
Operative EBITDA										
Pulp & Paper	62.9	57.8	63.5	60.5	244.7	60.2	65.6	65.5	68.9	260.2
Industry & Water	41.7	49.5	52.3	37.3	180.8	48.2	40.0	47.6	39.0	174.8
Total	104.6	107.3	115.9	97.8	425.5	108.5	105.7	113.0	107.9	435.1
Total items affecting comparability	-1.6	-16.2	-6.3	-28.3	-52.4	-0.1	-1.9	-3.2	-16.7	-21.8
EBITDA	103.0	91.1	109.5	69.5	373.2	108.4	103.8	109.8	91.2	413.2
Operative EBIT										
Pulp & Paper	33.2	28.1	32.5	30.4	124.3	30.1	35.7	34.8	37.5	138.0
Industry & Water	22.5	30.1	31.9	16.6	101.2	30.7	21.9	27.5	19.5	99.7
Total	55.7	58.2	64.5	47.0	225.4	60.8	57.6	62.3	57.0	237.7
Total items affecting comparability	-1.6	-16.3	-8.0	-29.5	-55.4	-0.1	-1.9	-3.2	-16.7	-21.8
EBIT	54.2	41.9	56.4	17.5	170.1	60.7	55.7	59.1	40.3	215.9
Operative EBITDA	104.6	107.3	115.9	97.8	425.5	108.5	105.7	113.0	107.9	435.1
Restructuring and streamlining programs	-1.4	-4.7	-6.2	-0.1	-12.3	0.0	-1.9	-3.2	-3.4	-8.4
Transaction and integration expenses in acquisition	0.0	0.0	0.0	-0.1	-0.1	0.0	0.0	0.0	0.0	0.0
Divestment of businesses and other disposals	-0.2	0.0	0.0	-28.1	-28.3	0.0	0.0	0.0	1.0	1.0
Other items	0.0	-11.5	-0.1	0.0	-11.6	-0.1	0.0	0.0	-14.3	-14.4
Total items affecting comparability	-1.6	-16.2	-6.3	-28.3	-52.4	-0.1	-1.9	-3.2	-16.7	-21.8
EBITDA	103.0	91.1	109.5	69.5	373.2	108.4	103.8	109.8	91.2	413.2
Operative EBIT	55.7	58.2	64.5	47.0	225.4	60.8	57.6	62.3	57.0	237.7
Total items affecting comparability in EBITDA	-1.6	-16.2	-6.3	-28.3	-52.4	-0.1	-1.9	-3.2	-16.7	-21.8
Items affecting comparability in depreciation, amortization and impairments	0.0	-0.1	-1.7	-1.2	-3.0	0.0	0.0	0.0	0.0	0.0
Operating profit (EBIT)	54.2	41.9	56.4	17.5	170.1	60.7	55.7	59.1	40.3	215.9

EUR million	1–3	4–6	7–9	10–12	2021 Total	1–3	4–6	7–9	10–12	2020 Total
ROCE AND OPERATIVE ROCE										
Operative EBIT	55.7	58.2	64.5	47.0	225.4	60.8	57.6	62.3	57.0	237.7
Operating profit (EBIT)	54.2	41.9	56.4	17.5	170.1	60.7	55.7	59.1	40.3	215.9
Capital employed [1]	1,956.8	1,956.1	1,966.7	1,998.0	1,998.0	1,995.7	1,993.5	1,977.2	1,964.9	1,964.9
Operative ROCE, %	11.9	11.9	12.0	11.3	11.3	11.8	11.6	11.3	12.1	12.1
ROCE, %	10.7	10.0	9.8	8.5	8.5	10.4	10.4	10.0	11.0	11.0
NET WORKING CAPITAL										
Inventories	266.8	280.6	324.3	352.1	352.1	265.2	276.3	256.4	242.3	242.3
Trade receivables and other receivables	378.0	406.8	430.7	475.2	475.2	386.6	340.3	341.4	362.0	362.0
Excluding financing items in other receivables	-9.9	-13.6	-29.1	-35.4	-35.4	-9.1	-6.4	-7.0	-16.9	-16.9
Trade payables and other liabilities	505.0	451.8	510.4	536.3	536.3	456.2	376.5	366.6	422.2	422.2
Excluding financing items in other liabilities	-121.8	-70.0	-72.3	-83.5	-83.5	-49.2	-30.1	-24.8	-31.8	-31.8
Net working capital	253.8	292.0	287.8	287.2	287.2	235.6	263.9	248.9	197.0	197.0
INTEREST-BEARING NET LIABILITIES										
Non-current interest-bearing liabilities	810.1	773.4	776.3	776.9	776.9	738.1	732.0	724.1	724.1	724.1
Current interest-bearing liabilities	160.8	203.1	208.2	215.3	215.3	247.8	245.4	247.6	194.7	194.7
Interest-bearing liabilities	970.9	976.6	984.5	992.2	992.2	985.9	977.4	971.7	918.8	918.8
Cash and cash equivalents	203.0	145.3	184.4	142.4	142.4	169.8	133.6	185.7	159.5	159.5
Interest-bearing net liabilities	776.9	831.3	800.1	849.8	849.8	816.0	843.8	786.1	759.3	759.3

1) 12-month rolling average

2022070409612

Quarterly Earning Performance

EUR million	1–3	4–6	7–9	10–12	2021 Total	1–3	4–6	7–9	10–12	2020 Total
Revenue										
Pulp & Paper	369.5	378.4	391.3	420.4	1,559.6	378.5	357.0	352.2	370.0	1,457.6
Industry & Water	236.6	279.1	301.4	297.8	1,114.8	263.6	225.9	244.4	235.6	969.5
Total	606.1	657.5	692.7	718.2	2,674.4	642.0	582.9	596.7	605.6	2,427.2
EBITDA [1]										
Pulp & Paper	62.2	42.2	62.3	31.6	198.3	60.2	65.7	62.3	52.1	240.2
Industry & Water	40.8	48.9	47.3	37.9	174.9	48.2	38.1	47.6	39.1	173.0
Total	103.0	91.1	109.5	69.5	373.2	108.4	103.8	109.8	91.2	413.2
EBIT [1]										
Pulp & Paper	32.4	12.4	31.2	1.6	77.7	30.1	35.7	31.5	20.7	118.0
Industry & Water	21.7	29.5	25.2	16.0	92.4	30.7	20.0	27.6	19.6	97.8
Total	54.2	41.9	56.4	17.5	170.1	60.7	55.7	59.1	40.3	215.9
Finance costs, net	-1.6	-8.5	-7.8	-8.9	-26.7	-8.9	-9.0	-7.5	-9.6	-34.9
Profit before tax	52.6	33.4	48.7	8.7	143.3	51.9	46.7	51.6	30.7	181.0
Income taxes	-11.8	-8.5	-9.1	1.2	-28.2	-12.3	-11.2	-12.6	-7.0	-43.0
Net profit for the period	40.8	24.9	39.6	9.8	115.2	39.6	35.5	39.0	23.8	138.0
Net profit attributable to										
Equity owners of the parent	39.0	23.0	37.7	8.3	108.1	37.8	34.1	37.3	22.1	131.3
Non-controlling interests	1.8	1.9	1.9	1.5	7.1	1.8	1.5	1.7	1.7	6.7
Net profit for the period	40.8	24.9	39.6	9.8	115.2	39.6	35.5	39.0	23.8	138.0
Earning per share, basic, EUR	0.25	0.15	0.25	0.05	0.71	0.25	0.14	0.24	0.14	0.86
Earning per share, diluted, EUR	0.25	0.15	0.25	0.05	0.70	0.25	0.14	0.24	0.14	0.86

1) Includes items affecting comparability.

Shares and shareholders

SHARES AND SHARE CAPITAL

On December 31, 2021, Kemira Oyj's share capital amounted to EUR 221.8 million and the number of shares was 155,342,557. Each share entitles the holder to one vote at the Annual General Meeting.

SHAREHOLDERS

At the end of December 2021, Kemira Oyj had 49,484 registered shareholders (44,311 on December 31, 2020). Non-Finnish shareholders held 28.4% of the shares (28.6% on December 31, 2020), including nominee-registered holdings. Households owned 19.8% of the shares (18.6% on December 31, 2020). Kemira held 2,215,073 treasury shares (2,418,440 on December 31, 2020), representing 1.4% (1.6% on December 31, 2020) of all company shares.

A list of Kemira's largest shareholders is updated monthly and can be found on the company website at **www.kemira.com/investors.**

LISTING AND TRADING

Kemira Oyj's shares are listed on Nasdaq Helsinki. The trading code for the shares is KEMIRA and the ISIN code is FI0009004824.

Kemira Oyj's share price increased by 3% from the beginning of the year and closed at EUR 13.33 on the Nasdaq Helsinki at the end of December 2021 (12.94 on December 31, 2020). The shares registered a high of EUR 14.66 and a low of EUR 12.64 in January–December 2021, and the average share price was EUR 13.67. The company's market capitalization, excluding treasury shares, was EUR 2,041 million at the end of December 2021 (1,979 December 31, 2020).

In January–December 2021, Kemira Oyj's share trading turnover on the Nasdaq Helsinki was EUR 787 million (EUR 857 million in January–December 2020). The average daily trading volume was 228,087 shares (301,131 in January–December 2020). The total volume of Kemira Oyj's share trading in January–December 2021 was 72 million shares (93 million shares in January–December 2020), 20% (19% in January–December 2020) of which was executed on other trading platforms (e.g. Turquoise, CBOE DXE). Source: Nasdaq and Kemira.com.

Up-to-date information on Kemira's share price is available on the company's website at **www.kemira.com/investors**.

DIVIDEND POLICY AND DIVIDEND DISTRIBUTION

On December 31, 2021, Kemira Oyj's distributable funds totaled EUR 475,407,339, of which net profit for the period was EUR -2,851,325. No material changes have taken place in the company's financial position after the balance sheet date.

Kemira Oyj's Board of Directors proposes to the Annual General Meeting to be held on March 24, 2022 that a dividend of EUR 0.58 per share, totaling EUR 89 million, be paid on the basis of the adopted balance sheet for the financial year that ended on December 31, 2021. The dividend will be paid in two installments. The first installment, of EUR 0.29 per share, will be paid to shareholders who are registered in the company's shareholder register maintained by Euroclear Finland Oy on the record date for the dividend payment: March 28, 2022. The Board of Directors proposes that the first installment of the dividend be paid out on April 7, 2022. The second installment, of EUR 0.29 per share, will be paid in November 2022. The second installment will be paid to shareholders who are registered in the company's shareholder register maintained by Euroclear Finland Oy on the record date for the dividend payment. The Board of Directors will decide the record date and the payment date for the second installment at its meeting in October 2022. The record date is planned to be October 27, 2022, and the dividend payment date November 3, 2022 at the earliest.

Kemira's dividend policy is to pay a competitive dividend that increases over time.

BOARD AUTHORIZATIONS

The Annual General Meeting on March 24, 2021 authorized the Board of Directors to decide upon repurchase of a maximum of 5,600,000 company's own shares ("Share repurchases authorization"). This corresponds to approximately 3.6% of all shares and votes in the company. Shares will be repurchased by using unrestricted equity either through a tender offer with equal terms to all shareholders at a price determined by the Board of Directors or otherwise than in proportion to the existing shareholdings of the company's shareholders in public trading on the Nasdaq Helsinki Ltd (the "Helsinki Stock Exchange") at the market price quoted at the time of the repurchase. The price paid for the shares repurchased through a tender offer under the authorization shall be based on the market price of the company's shares in public trading. The minimum price to be paid would be the lowest market price of the share quoted in public trading during the authorization period and the maximum price the highest market price quoted during the authorization period.

Shares shall be acquired and paid for in accordance with the Rules of the Helsinki Stock Exchange and Euroclear Finland Ltd. Shares may be repurchased to be used in implementing or financing mergers and acquisitions, developing the company's capital structure, improving the liquidity of the company's shares or to be used for the payment of the annual fee payable to the members of the Board of Directors or implementing the company's share-based incentive plans. In order to realize the aforementioned purposes, the shares acquired may be retained, transferred further or cancelled by the company. The Board of Directors will decide upon other terms related to share repurchases. The share repurchase authorization is valid until the end of the next Annual General Meeting. The Board had not exercised its authorization by December 31, 2021.

The AGM authorized the Board of Directors to decide to issue a maximum of 15,600,000 new shares (corresponding to approximately 10% of company's all shares and votes) and/or transfer a maximum of 7,800,000 company's own shares (corresponding to approximately 5% of company's all shares and votes) held by the company ("Share issue authorization"). The new shares may be issued and the company's own shares held by the company may be transferred either for consideration or without consideration. The new shares may be issued and the company's own shares held by the company may be transferred to the company's shareholders in proportion to their current shareholdings in the company, or by displaying the shareholders' pre-emption right, through a directed share issue, if the company has a weighty financial reason to do so, such as financing or implementing mergers and acquisitions, developing the capital structure of the company, improving the liquidity of the company's shares or if this is justified for the payment of the annual fee payable to the members of the Board of Directors or implementing the company's share-based incentive plans. The directed share issue may be carried out without consideration only in connection with the implementation of the company's share-based incentive plan. The subscription price of new shares shall be recorded to the invested unrestricted equity reserves. The consideration payable for company's own shares shall be recorded to the invested unrestricted equity reserves. The Board of Directors will decide upon other terms related to the share issues. The share issue authorization is valid until May 31, 2022. The share issue authorization has been used and shares owned by the Group were conveyed to members of the Board and key employees in connection with the remuneration.

MANAGEMENT SHAREHOLDING

The members of the Board of Directors as well as the President and CEO and his Deputy held 518,636 (507,488) Kemira Oyj shares on December 31, 2021 or 0.33% (0.33%) of all outstanding shares and voting rights (including treasury shares and shares held by the related parties and controlled corporations). Jari Rosendal, President and CEO, held 140,800 shares (125,840) on December 31, 2021. Members of the Management Board, excluding the President and CEO and his Deputy, held a total of 223,111 shares on December 31, 2021 (197,471), representing 0.14% (0.13%) of all outstanding shares and voting rights (including treasury shares and shares held by the related parties and controlled corporations). Up-to-date information regarding the shareholdings of the Board of Directors and Management is available on Kemira's website at **www.kemira.com/investors**.

LARGEST SHAREHOLDERS DEC 31, 2021

	Shareholder	Number of shares	% of shares and votes
1	Oras Invest Ltd	32,000,000	20.6
2	Solidium Oy	15,782,765	10.2
3	Varma Mutual Pension Insurance Company	4,652,678	3.0
4	Ilmarinen Mutual Pension Insurance Company	4,050,000	2.6
5	Nordea Funds	3,602,778	2.3
6	Elo Mutual Pension Insurance Company	1,787,948	1.2
7	Veritas Pension Insurance Company Ltd.	1,434,764	0.9
8	Etola Group Oy	1,000,000	0.6
9	Laakkonen Mikko Kalervo	750,000	0.5
10	Nordea Life Assurance Finland Ltd.	741,211	0.5
11	The State Pension Funds	560,000	0.4
12	Paasikivi Pekka Johannes	462,000	0.3
13	OP-Henkivakuutus Ltd.	459,209	0.3
14	Oppiva Invest Oy	398,400	0.3
15	Valio Pension Fund	379,450	0.2
	Kemira Oyj	2,215,073	1.4
	Nominee registered and foreign shareholders	44,126,192	28.4
	Others, Total	40,940,089	26.4
	Total	**155,342,557**	**100.0**

SHAREHOLDINGS BY NUMBER OF SHARES HELD ON DEC 31, 2021

Number of shares	Number of shareholders	% of shareholders	Shares total	% of shares and votes
1–100	17,436	35.2	887,159	0.6
101–500	18,896	38.2	5,070,894	3.3
501–1,000	6,349	12.8	4,879,535	3.1
1,001–5,000	5,728	11.6	11,992,241	7.7
5,001–10,000	624	1.3	4,476,786	2.9
10,001–50,000	355	0.7	6,927,666	4.5
50,001–100,000	44	0.1	3,215,048	2.1
100,001–500,000	36	0.1	7,260,752	4.7
500,001–1,000,000	6	0.0	4,583,838	3.0
1,000,001–	10	0.0	106,048,638	68.3
Total	**49,484**	**100.0**	**155,342,557**	**100.0**

Information for investors

FINANCIAL REPORTS IN 2022

Kemira will publish three financial reports in 2022.

April 27, 2022: Interim report for January–March
July 15, 2022: Half-year financial report for January–June
October 25, 2022: Interim report for January–September

The financial reports and related presentation material are available on Kemira's website at **www.kemira.com/investors**. Furthermore, Kemira's stock exchange and press releases, Annual Reports (incl. Corporate Responsibility Report and Financial Statements) and other investor information are also available on the website. On the site, visitors can register to receive releases by e-mail and order the company's Financial Statements.

INVESTOR COMMUNICATIONS

The purpose of Kemira's investor communications is to provide capital markets with open and reliable information on the company and its operating environment in order to give market participants a factual overview of Kemira as an investment.

Kemira's investor communications aims to ensure that everyone operating in the markets has equal access to sufficient and correct information concerning the company, and to ensure that information is disclosed consistently and without delay.

Kemira Oyj is domiciled in Helsinki, Finland, and the company's shares are listed on Nasdaq Helsinki. Kemira Oyj complies with the laws of Finland and the regulations of Nasdaq Helsinki and Finland's Financial Supervisory Authority.

SILENT PERIOD

Kemira observes a silent period before issuing financial statements or interim reports. During the period, Kemira's representatives do not comment on Kemira's financial statements or interim reports for the ongoing reporting period the specific silent period relates to. The schedule for the silent period and publication of financial information and closed periods is displayed on Kemira's website under Investors > Investor Calendar. Kemira's Investor Relation function is responsible for keeping the calendar up-to-date.

ANNUAL GENERAL MEETING

Kemira's Annual General Meeting will be held on Thursday, March 24, 2022 at 1.00 p.m. EET. A shareholder who on the record date of the Annual General Meeting, March 14, 2022, is registered in the company's shareholders' register maintained by Euroclear Finland Ltd, may participate in the meeting and exercise their rights as shareholders only by voting in advance and by submitting counterproposals and/or questions in advance. Shareholders or their proxy representatives are not permitted to attend the meeting in person. Registered shareholders have the possibility to follow the Annual General Meeting via a live webcast.

Registration for the Annual General Meeting will begin on February 21, 2022 and invitation and registration instructions have been published on February 11, 2022 as a stock exchange release and at Kemira's web site at **www.kemira.com** > Investors > Corporate Governance > Annual General Meeting > Annual General Meeting 2022.

Kemira will release a stock exchange release on the Annual General Meeting's decisions immediately after the meeting.

DIVIDEND DISTRIBUTION

For dividend proposal, please see page 224.

CHANGE OF ADDRESS

Kemira's shareholders are kindly requested to report any change of address to the bank or brokerage firm in which they have their book-entry account. This will also update information in registers, maintained by Euroclear Finland Ltd, which Kemira uses to send mail to its shareholders.

INVESTOR RELATIONS

Mikko Pohjala, Vice President, Investor Relations
tel. +358 40 838 0709
e-mail: mikko.pohjala@kemira.com

BASIC SHARE INFORMATION

Listed on: Nasdaq Helsinki Ltd
Trading code: KEMIRA
ISIN code: FI0009004824
Industry group: Materials
Industry: Chemicals
Number of shares on December 31, 2021: 155,342,557
Listing date: November 10, 1994

PAY-FOR-PERFORMANCE DURING THE PRECEDING FIVE YEARS

Kemira is a global company with operations and employees in 37 countries, and the market remuneration level differ significantly between these countries. To ensure the alignment of the interests of the CEO and the shareholders, the weighting of variable remuneration, and especially long-term incentive plans, in the CEO's total remuneration opportunity is substantial, whereas the employee remuneration is less volatile as a smaller portion of total remuneration is made up of variable remuneration.

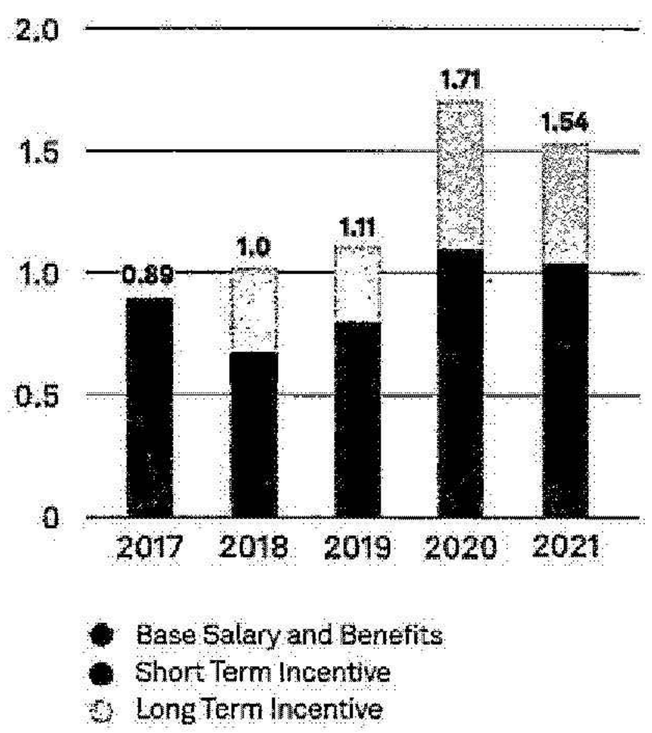
The Board members do not participate in any incentive plans and thus the remuneration of the Board is more stable to its nature. The table sets out the remuneration paid during the respective year, considering that a portion of that remuneration may have been earned during the previous year.

The CEO's actual paid remuneration is well aligned with the company's performance development as visualised in the graphs. Kemira has placed increased focus on profitable growth since 2020. Over the long-term Kemira has become a fundamentally stronger company following numerous actions to improve the company's profitability. The operative EBITDA has grown from EUR 311 million in 2017 to EUR 426 million in 2021.

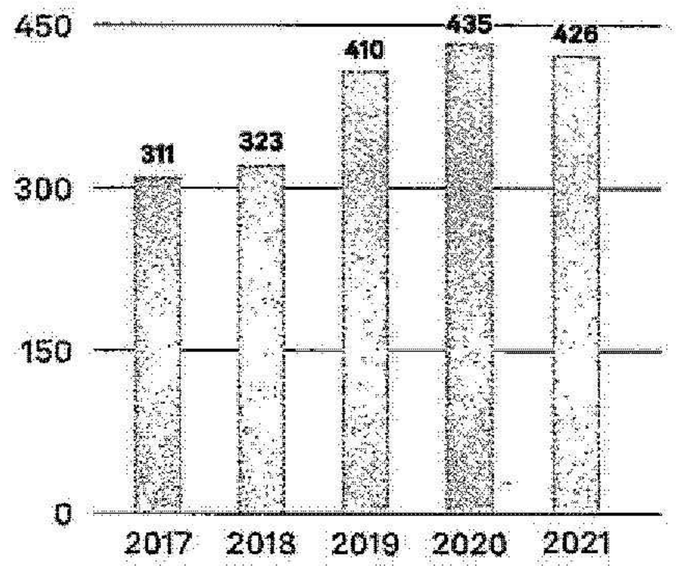
Annual fee of Board member	2017	2018	2019	2020	2021
Chairman	80,000	80,000	92,000	92,000	92,000
Vice Chairman, Chairman of Audit Committee	49,000	49,000	55,000	55,000	55,000
Other members	39,000	39,000	44,000	44,000	44,000
CEO total remuneration*	891,000	1,021,520	1,109,879	1,713,058	1,537,148
Average of employees remuneration**	58,473	57,101	59,235	58,370	56,254
Average headcount***	4780	4809	5019	5037	4947
Operative EBITDA M€****	311	323	410	435	426

*Paid annual base salary, tax value of benefits, defined contribution pension, short- and long-term incentives
**Average employee wages and salaries including accrued short-term incentives, excluding side costs, excluding CEO total remuneration
***Average headcount excluding CEO
****IFRS16 including as of 2019

CEO REMUNERATION
EUR MILLION



KEMIRA OPERATIVE EBITDA
EUR MILLION



REMUNERATION OF THE BOARD OF DIRECTORS FOR THE PRECEDING FINANCIAL YEAR

As stated in the Policy confirmed at the Annual General Meeting 2020, the Annual General Meeting may at its discretion decide to remunerate the Board with one or more types of remuneration, such as cash and shares. According to the decisions made in the Annual General Meeting 2021, the members of the Board of Directors are paid an annual fee and a fee per meeting. The members of the Board of Directors are not eligible for the short-term bonus plan or the long-term share incentive plan, or supplementary pension plans of Kemira Oyj.

The annual fees are as follows:

- the Chairman will receive EUR 92,000 per year
- the Vice Chairman and the Chairman of the Audit Committee EUR 55,000 per year
- the other members EUR 44,000 per year

A fee payable for each meeting of the Board and its committees are as follows:

- EUR 600 for the members residing in Finland
- EUR 1,200 for the members residing elsewhere in Europe
- EUR 2,400 for the members residing outside Europe

The meeting fees are to be paid in cash. Travel expenses are reimbursed according to Kemira' s travel policy. In addition, the Annual General Meeting 2021 decided that the annual fee shall be paid as a combination of the company's shares and cash in such a manner that 40% of the annual fee is paid with Kemira shares owned by the company or, if this is not possible, Kemira shares acquired from the securities market, and 60% is paid in cash. The Annual General Meeting decided that the shares will be transferred to the members of the Board of Directors within two weeks after the release of Kemira's interim report January 1–March 31, 2021. The shares were transferred on May 7, 2021.

In the financial year 2021, the following fees were paid to the members of the Board. No other fees or remuneration were paid to any member of the Board.

Board of Directors	Annual fee	Remuneration for Board and committee meetings	Total 2021
Paasikivi, Jari	92,000	12,000	104,000
Kähkönen, Matti	55,000	6,600	61,600
Lappalainen, Timo	55,000	12,000	67,000
Büchele, Wolfgang	44,000	12,000	56,000
Cunningham, Shirley	44,000	24,000	68,000
Fuhrmann, Werner	44,000	12,000	56,000
Pullola, Kristian	44,000	6,600	50,600
Hietala, Kaisa*	0	2,400	2,400
Tuomas, Kerttu*	0	2,400	2,400
Total			468,000

*Hietala and Tuomas were Members of the Board of Directors until March 24, 2021.

REMUNERATION OF THE CEO AND THE DEPUTY CEO FOR THE PRECEDING FINANCIAL YEAR

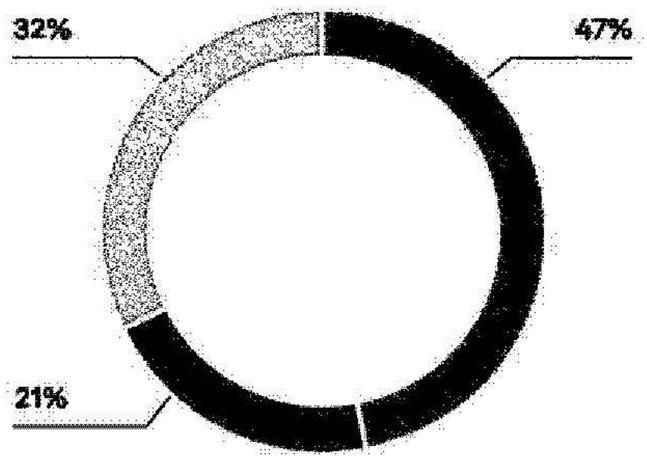
As stated in the Policy confirmed at the Annual General Meeting 2020, the remuneration of the CEO might comprise base salary and benefits, performance-based incentive plans, supplementary pensions, insurances and other one time payments.

In 2021, the remuneration of the CEO comprised base salary and benefits, short-term bonus plan, long-term share incentive plans, insurances and a supplementary pension. In 2021 the total remuneration paid to CEO Jari Rosendal amounted to EUR 1,537,148 including the base salary and benefits, defined contribution pension plan, short-term bonus based on the 2020 performance period of EUR 319,901 and long-term share incentive based on the performance period 2020 of 14,960 shares, value EUR 493,058 including cash portion of the reward.

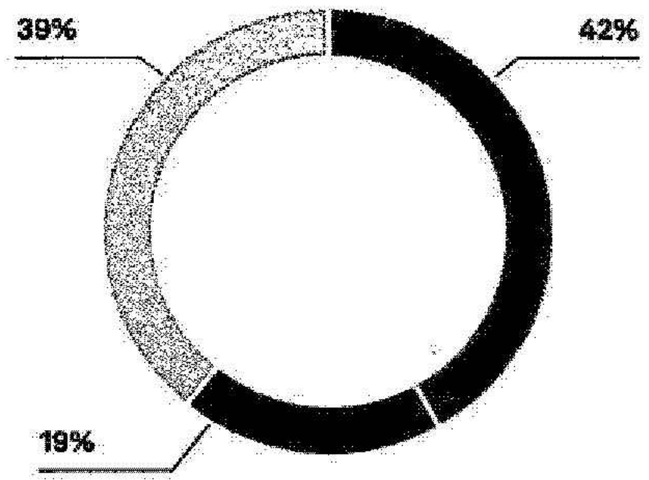
	Annual base salary	Short-term bonus plan	Long-term share incentive plan*	Total 2021
CEO, Jari Rosendal**	724,189	319,901	493,058	**1,537,148**
Deputy CEO, Jukka Hakkila***	187,193	84,181	172,570	**443,944**

*Including cash portion of the reward intended for taxes
**CEO annual base salary including annual base salary, tax value of benefits and supplementary pension defined contribution pension plan
***Deputy CEO annual base salary including annual base salary and tax value of phone and car. Due to the secondary nature of the Deputy CEO position, the company does not pay remuneration for holding this position. The deputy receives the remuneration that he receives based on his primary position (Group General Counsel) in the company's organization. No supplementary pension is offered to the Deputy CEO.

CEO REMUNERATION SPLIT IN 2021



DEPUTY CEO REMUNERATION SPLIT IN 2021



CEO AND DEPUTY CEO SHORT-TERM INCENTIVE CRITERIA IN 2020

- Group Operative Cash Flow after investing activities
- Group Operative EBIT in €
- Group Operative EBIT%
- Group Safety KPI
- Role Specific KPI

CEO AND DEPUTY CEO SHORT-TERM INCENTIVE CRITERIA IN 2021 AND 2022

- Group Operative Cash Flow after investing activities
- Group Operative EBIT in €
- Group Org. Revenue growth in €
- Group Safety KPI
- Role Specific KPI

REMUNERATION ELEMENT	CEO REMUNERATION	DEPUTY CEO REMUNERATION
Base Salary and Benefits	The annual base salary was EUR 603,531 including car and mobile phone benefit.	The annual base salary was EUR 187,193 including car and mobile phone benefit.
Supplementary Pension	The supplementary pension was defined as 20% of annual base salary. In 2021 the value of the defined contribution pension plan is 120,658 EUR. The retirement age of the President & CEO is 63 years.	No supplementary pension was offered to the Deputy CEO.
Short-Term Incentives (STI) The objective of the short-term bonus plans is to drive the annual objectives and priorities of the company, ensuring alignment with the company strategy and the shareholders' interests.	**Performance period 2020** The maximum STI opportunity is 70% of the annual base salary. No changes has been made to the STI maximum opportunity in 2020. The total weighted outcome of the performance criterion was 81%. The performance criterion and amounts are shown in the table on page 17. **Performance period 2021 and due payment** The maximum STI opportunity is 70% of the annual base salary. No changes has been made to the STI maximum opportunity in 2021. The performance criterion is shown on the table on page 17. The total weighted outcome of the performance criterion was 49%. Due short-term incentives based on performance period 2021 is 199,528 EUR and will be paid in 2022.	**Performance period 2020** The maximum STI opportunity is 60% of the annual base salary. No changes has been made to the STI maximum opportunity in 2020. The total weighted outcome of the performance criterion was 80%. The performance criterion and amounts are shown in the table on page 17. **Performance period 2021 and due payment** The maximum STI opportunity is 60% of the annual base salary. No changes has been made to the STI maximum opportunity in 2021. The performance criterion is shown in the table on page 17. The total weighted outcome of the performance criterion was 50%. Due short-term incentives based on performance period 2021 is 54,374 EUR and will be paid in 2022.
Long-Term Incentives (LTI) For more details of the LTI programs see Kemira.com	**Performance period 2020** The maximum reward opportunity for the LTI 2020 performance period for the CEO was 22,000 shares and a cash portion intended to cover taxes and the tax related costs arising from the reward. The performance criterion in 2020 was Intrinsic Value, the outcome of the reward was 68% reflecting 14,960 number of shares. The reward, including the cash portion, was paid in March 2021. The shares paid as reward may not be transferred during the restriction period, which will end two years from the end of the performance period. For the reward paid out in 2021, the restriction period will end on December 31, 2022. **Performance period 2019–2021 and due payment** The maximum reward opportunity for the LTI 2019–2021 performance period for the CEO is 22,000 shares and cash portion intended to cover taxes and the tax related costs arising from the reward. The performance criterion is 2019–2021 Average Intrinsic Value, and the outcome of the reward was 86% reflecting 18,920 number of shares. The reward will be paid in 2022.	**Performance period 2020** The maximum reward opportunity for the LTI 2020 performance period for the Deputy CEO was 7,700 shares and a cash portion intended to cover taxes and the tax related costs arising from the reward. The performance criterion in 2020 was Intrinsic Value, the outcome of the reward was 68% reflecting 5,236 number of shares. The reward, including the cash portion, was paid in March 2021. The shares paid as reward may not be transferred during the restriction period, which will end two years from the end of the performance period. For the reward paid out in 2021, the restriction period will end on December 31, 2022. **Performance period 2019–2021 and due payment** The maximum reward opportunity for the LTI 2019–2021 performance period for the Deputy CEO is 7,700 shares and cash portion intended to cover taxes and the tax related costs arising from the reward. The performance criterion is 2019–2021 Average Intrinsic Value, and the outcome of the reward was 86% reflecting 6,622 number of shares. The reward will be paid in 2022.

REMUNERATION ELEMENT	CEO REMUNERATION	DEPUTY CEO REMUNERATION
	Ongoing LTI Plans: • The maximum reward opportunity for the ongoing LTI 2020–2022 performance period for the CEO is 22.000 shares and cash portion intended to cover taxes and the tax related costs arising from the reward. The performance criteria are 2020–2022 Average Intrinsic Value and 2020–2022 Average Organic Revenue Growth % p.a. The possible reward is paid in 2023. The 2020–2022 reward opportunity was 50% of typical annual reward opportunity due to gradual shift from one-year performance periods to three-year performance periods. • The maximum reward opportunity for the ongoing LTI 2021–2023 performance period for the CEO is 44.000 shares and cash portion intended to cover taxes and the tax related costs arising from the reward. The performance criteria are 2021–2023 Average Intrinsic Value and 2021–2023 Average Organic Revenue Growth % p.a. The possible reward is paid in 2024. • The maximum reward opportunity for the ongoing LTI 2022–2024 performance period for the CEO is 44.000 shares and cash portion intended to cover taxes and the tax related costs arising from the reward. The performance criteria are 2022–2024 Average Intrinsic Value and 2022–2024 Average Organic Revenue Growth % p.a. The possible reward is paid in 2025.	**Ongoing LTI Plans:** • The maximum reward opportunity for the ongoing LTI 2020–2022 performance period for the Deputy CEO is 7.700 shares and cash portion intended to cover taxes and the tax related costs arising from the reward. The performance criteria are 2020–2022 Average Intrinsic Value and 2020–2022 Average Organic Revenue Growth % p.a. The possible reward is paid in 2023. The 2020–2022 reward opportunity was 50% of typical annual reward opportunity due to gradual shift from one-year performance periods to three-year performance periods. • The maximum reward opportunity for the ongoing LTI 2021–2023 performance period for the Deputy CEO is 15.400 shares and cash portion intended to cover taxes and the tax related costs arising from the reward. The performance criteria are 2021–2023 Average Intrinsic Value and 2021–2023 Average Organic Revenue Growth % p.a. The possible reward is paid in 2024. • The maximum reward opportunity for the ongoing LTI 2022–2024 performance period for the Deputy CEO is 15.400 shares and cash portion intended to cover taxes and the tax related costs arising from the reward. The performance criteria are 2022–2024 Average Intrinsic Value and 2022–2024 Average Organic Revenue Growth % p.a. The possible reward is paid in 2025.
Termination	A mutual termination notice period of 6 months applies to the CEO. He is entitled to a severance pay of 12 months' salary in addition to the salary earned during the notice period, in case the company terminates his service.	A mutual termination notice period of 6 months applies to the Deputy CEO. He is entitled to a severance pay of 6 months' salary in addition to the salary earned during the notice period, in case the company terminates his service.
Insurances	The CEO is entitled to insurances such as life and permanent disability, private accident, business travel, and directors' and officers' liability insurance. The CEO participates in the company sickness fund.	The Deputy CEO is entitled to insurances such as life and permanent disability, private accident, business travel, and directors' and officers' liability insurance. The Deputy CEO participates in the company sickness fund.

Kemira



Financial statements 2021

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Financial Statements 2021

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O **PART OF THE AUDITED FINANCIAL STATEMENTS 2021**

This Financial Statements and Board of Directors' review 2021 have not been prepared in accordance with ESEF (European Single Electronic Format) regulations. The Financial Statements and Board of Directors' review 2021 in accordance with ESEF regulations are available electronically as an xHTML document in which the primary statements in the Financial Statements are marked with XBRL tags. The ESEF requirement is based on the harmonization of transparency requirements for listed companies pursuant to the Transparency Directive (2004/109/EC) and its amending Directive (2013/50/EU), as well as the European Commission Delegation Regulation (2019/815/EU). In Finland, the directive has been implemented in the Securities Markets Act (AML 7:5§). The Financial Statements and Board of Directors' review 2021 in accordance with ESEF regulations are available at **www.kemira.com**

Board of Directors' Review 2021

In 2021, Kemira Group's revenue increased by 10% to a record-high, EUR 2,674.4 million (2,427.2). Revenue in local currencies, excluding acquisitions and divestments, increased strongly by 11% mainly due to higher sales volumes.

Operative EBITDA decreased by 2% to EUR 425.5 million (435.1). The operative EBITDA margin decreased to 15.9% (17.9%) following higher raw material and energy prices. EBITDA decreased by 10% to EUR 373.2 million (413.2). The differences between operative and reported figures are explained by items affecting comparability, which were mainly related to a provision caused by the expected underutilization of a single-asset energy company in Pori, Finland majority owned by Kemira via Pohjolan Voima, a damage claim settlement and restructuring costs.

EPS, diluted, decreased by 18% to EUR 0.70 (0.86), mainly due to items affecting comparability. The Board of Directors proposes to the Annual General Meeting 2022 a cash dividend of EUR 0.58 per share (0.58), totaling EUR 89 million (89). It is proposed that the dividend be paid in two installments.

KEY FIGURES AND RATIOS

EUR million	2021	2020	2019
Revenue	2,674.4	2,427.2	2,658.8
Operative EBITDA	425.5	435.1	410.0
Operative EBITDA, %	15.9	17.9	15.4
EBITDA	373.2	413.2	382.3
EBITDA, %	14.0	17.0	14.4
Operative EBIT	225.4	237.7	224.0
Operative EBIT, %	8.4	9.8	8.4
EBIT	170.1	215.9	194.4
EBIT, %	6.4	8.9	7.3
Net profit for the period	115.2	138.0	116.5
Earnings per share, EUR	0.70	0.86	0.72

EUR million	2021	2020	2019
Capital employed*	1,995.0	1,964.9	1,998.2
Operative ROCE*, %	11.3	12.1	11.2
ROCE*, %	8.5	11.0	9.7
Cash flow from operating activities	220.2	374.7	386.2
Capital expenditure excl. acquisition	168.8	195.6	201.1
Capital expenditure	169.8	198.2	204.1
Cash flow after investing activities	57.3	173.3	189.8
Equity ratio, % at period-end	42.8	43.2	42.6
Equity per share, EUR	8.68	7.80	7.98
Gearing, % at period-end	63.3	63.0	65.9
Personnel (average)	4,947	5,038	5,020

*12-month rolling average (ROCE, % based on the EBIT)

Unless otherwise stated, all comparisons in this report are made to the corresponding period in 2020.

Kemira provides certain financial performance measures (alternative performance measures) that are not defined by IFRS. Kemira believes that alternative performance measures followed by capital markets and Kemira management, such as revenue growth in local currencies, excluding acquisitions and divestments (=organic growth), EBITDA, operative EBITDA, operative EBIT, cash flow after investing activities, and gearing, provide useful information about Kemira's comparable business performance and financial position. Selected alternative performance measures are also used as performance criteria in remuneration.

Kemira's alternative performance measures should not be viewed in isolation from the equivalent IFRS measures, and alternative performance measures should be read in conjunction with the most directly comparable IFRS measures. Definitions of the alternative performance measures can be found in the definitions of the key figures in this report, as well as at **www.kemira.com** > Investors > Financial information. All the figures in this report have been individually rounded, and consequently the sum of the individual figures may deviate slightly from the total figure presented.

In addition to the above key figures and ratios, other key figures which are describing the Group's financial performance are presented in the Other financial information section under Group key figures.

FINANCIAL PERFORMANCE IN 2021

Revenue increased strongly by 10%. Revenue in local currencies, excluding acquisitions and divestments, increased by 11% mainly due to higher sales volumes.

Revenue	2021 EUR, million	2020 EUR, million	Δ%	Organic growth*, %	Currency impact, %	Acq. & div. impact, %
Pulp & Paper	1,659.6	1,457.6	+7	+8	-1	0
Industry & Water	1,114.8	969.5	+15	+16	-1	0
Total	**2,674.4**	2,427.2	+10	+11	-1	0

*Revenue growth in local currencies, excluding acquisitions and divestments

Geographically, the revenue split was as follows: EMEA (Europe, Middle East, Africa) 51% (54%), the Americas 38% (35%), and Asia Pacific 11% (11%).

Operative EBITDA was EUR 425.5 million (435.1). Variable costs increased following significant raw material and energy price inflation, which was mostly compensated by higher sales prices and sales volumes. The operative EBITDA margin decreased due to higher raw material and energy prices.

Variance analysis, EUR million	Jan–Dec
Operative EBITDA, 2020	435.1
Sales volumes	+73.0
Sales prices	+107.0
Variable costs	-197.5
Fixed costs	+2.2
Currency exchange	-6.2
Others	+11.8
Operative EBITDA, 2021	425.5

Operative EBITDA	2021 EUR, million	2020 EUR, million	Δ%	2021 %-margin	2020 %-margin
Pulp & Paper	244.7	260.2	-6	15.7	17.9
Industry & Water	180.8	174.8	+3	16.2	18.0
Total	**425.5**	435.1	-2	**15.9**	17.9

EBITDA decreased by 10% to EUR 373.2 million (413.2). The difference between it and operative EBITDA is explained by items affecting comparability. **Items affecting comparability** consisted mainly of a provision caused by the expected underutilization of a single-asset energy company in Pori, Finland majority owned by Kemira via Pohjolan Voima, a damage claim settlement with CDC, provisions related to site closures and restructuring. The comparison period consisted mainly of Kemira's liabilities in a small energy company owned via Pohjolan Voima as well as organizational restructuring costs in Pulp & Paper and in the Oil & Gas business.

Items affecting comparability, EUR million	2021	2020
Within EBITDA	**-52.4**	-21.8
Pulp & Paper	**-46.5**	-20.0
Industry & Water	**-5.9**	-1.8
Within depreciation, amortization and impairments	**-3.0**	0.0
Pulp & Paper	**-0.1**	0.0
Industry & Water	**-2.9**	0.0
Total items affecting comparability in EBIT	**-55.4**	-21.8

Depreciation, amortization and impairments increased to EUR 203.1 million (197.4), including the EUR 12.1 million (14.8) amortization of the purchase price allocation.

Operative EBIT decreased by 5% compared to the previous year. **EBIT** decreased by 21%, and the difference between the two is explained by items affecting comparability, which consisted of a provision caused by the expected underutilization of a single-asset energy company in Pori, Finland majority owned by Kemira via Pohjolan Voima, a damage claim settlement with CDC, provisions related to site closures and restructuring. The comparison period consisted

mainly of Kemira's liabilities in a small energy company owned via Pohjolan Voima as well as organizational restructuring costs in Pulp & Paper and in the Oil & Gas business.

Net finance costs totaled EUR -26.7 million (-34.9), including a gain of EUR 5.6 million arising from bond liability management in March 2021, when EUR 97 million of outstanding notes maturing in 2022 were exchanged for a EUR 200 million issuance of new senior unsecured notes. **Income taxes** were EUR -28.2 million (-43.0), with the reported tax rate being 20% (24%). The reported tax rate declined following a regional business model change. **Net profit** for the period decreased by 17%, mainly due to items affecting comparability.

FINANCIAL POSITION AND CASH FLOW

Cash flow from operating activities in January–December 2021 decreased to EUR 220.2 million (374.7) following a lower net profit for the period and changes in net working capital. During Q3 2021, Kemira paid EUR 22.75 million in compensations and costs to CDC related to a damage claim settlement. During Q1 2021, Kemira's supplementary pension fund in Finland, Neliapila, returned excess capital totaling EUR 3 million to Kemira. Cash flow after investing activities was EUR 57.3 million (173.3).

At the end of the period, interest-bearing liabilities totaled EUR 992.2 million (918.8), including lease liabilities of EUR 136.8 million (121.4). The average interest rate of the Group's interest-bearing loan portfolio (excluding leases) was 1.7% (1.9%), and the duration was 29 months (20). Fixed-rate loans accounted for 80% (74%) of net interest-bearing liabilities, including lease liabilities.

In March 2021, EUR 97 million of outstanding notes maturing in 2022 were exchanged for a EUR 200 million issuance of new senior unsecured notes. The new bond will mature on March 30, 2028 and it carries a fixed annual interest of 1.0 percent. The Group has a EUR 400 million undrawn committed credit facility, linked to sustainability targets, which was extended in April by one year to 2026 in accordance with the extension option of the loan agreement.

Short-term liabilities maturing in the next 12 months amounted to EUR 215.3 million. On December 31, 2021, cash and cash equivalents totaled EUR 142.4 million (159.5).

At the end of the period, Kemira Group's net debt was EUR 849.8 million (759.3), including lease liabilities. The equity ratio was 43% (43%), while gearing was 63% (63%).

Kemira is exposed to transaction and translation currency risks. The Group's most significant transaction currency risks arise from the Chinese renminbi, the US dollar, the Swedish krona and the Canadian dollar. At the end of the year, the Chinese renminbi exchange risk against EUR was approximately EUR 67 million, of which 36% was hedged on an average basis. The US dollar-denominated exchange rate risk against EUR had an equivalent value of approximately EUR 64 million, of which 53% was hedged on an average basis. The Swedish krona-denominated exchange rate risk against EUR had an equivalent value of approximately EUR 31 million, of which 62% was hedged on an average basis. The Canadian dollar-denominated exchange rate risk against EUR had an equivalent value of approximately EUR 26 million, of which 51% was hedged on an average basis. In addition, Kemira is exposed to smaller transaction risks against EUR, mainly in relation to the Norwegian krone, Polish zloty, Danish krone, Russian ruble and Thai baht, and against USD mainly in relation to the Brazilian real and Canadian dollar, with the annual exposure in those currencies being approximately EUR 103 million.

As Kemira's consolidated financial statements are compiled in euros, Kemira is also subject to a currency translation risk to the extent to which the income statement and balance sheet items of subsidiaries located outside Finland are reported in a currency other than the euro. The most significant translation exposure on revenue and EBITDA derive from the US dollar and the Canadian dollar. A strengthening of currencies against the euro would increase Kemira's revenue and EBITDA through a translation effect.

CAPITAL EXPENDITURE

In January–December 2021, capital expenditure excluding acquisitions decreased by 14% to EUR 168.8 million (195.6) due to timing of expansion capex projects. Capital expenditure (capex) can be broken down as follows: expansion capex 15% (37%), improvement capex 29% (23%), and maintenance capex 55% (40%).

RESEARCH AND DEVELOPMENT

In January–December 2021, total research and development expenses were EUR 28.3 million (28.9), representing 1.1% (1.2%) of the Group's revenue.

Kemira's research and development is an enabler of growth and further differentiation. New product launches contribute to the efficiency and sustainability of customer processes as well as improved profitability. Both Kemira's future market position and profitability depend on the company's ability to understand and meet current and future customer needs and market trends, as well as on its ability to innovate differentiated products and applications.

At the end of 2021, Kemira had 382 (367) patent families, including 1,972 (1,726) granted patents, and 996 (964) pending applications. During 2021, Kemira applied for 36 (37) new patents and started 12 new product development projects, all of which were planned to improve resource efficiency. At the same time, Kemira commercialized two new product development projects, both of them improving resource efficiency in the customer phase.

HUMAN RESOURCES

At the end of the period, Kemira Group had 4,926 employees (4,921). Kemira had 766 (771) employees in Finland, 1,750 (1,759) employees elsewhere in EMEA, 1,487 (1,467) in the Americas, and 923 (924) in APAC.

NON-FINANCIAL INFORMATION

DISCLOSURE OF NON-FINANCIAL INFORMATION

Kemira discloses its key non-financial information in this section according to the requirements in the EU Directive and Finnish Accounting Act. More information on the non-financial and sustainability matters is provided in the Annual Review's Overview section and in the Sustainability Report. The non-financial disclosures are based on the Global Reporting Initiative disclosures, which are prepared in accordance with the latest GRI standards and externally assured by an independent third-party. Kemira's most relevant risks are described separately in the risk section on page 141.

OVERVIEW OF KEMIRA'S BUSINESS

Kemira is a global leader in sustainable chemical solutions for water intensive industries and provides best suited products and expertise to improve our customers' product quality, process and resource efficiency. Kemira has two business areas: Pulp & Paper and Industry & Water. Kemira has operations in around 40 countries and had 63 manufacturing facilities at the end of 2021. In Pulp & Paper, Kemira offers chemical solutions for bleaching, packaging and printing and writing products. Main product categories in Pulp & Paper are bleaching chemicals, sizing and strength chemicals, various process chemicals and polymers. In Industry & Water, Kemira offers chemical solutions for municipal and industrial water treatment as well as the energy industry. Main product categories in Industry & Water are coagulants and polymers. More information on Kemira's value creation model can be found on page 8 of the Annual Review.

CORPORATE SUSTAINABILITY PRIORITIES

Kemira has systematic procedures in place to evaluate and address the economic, environmental, and social impacts of its own operations and business relationships. Our corporate sustainability priorities are based on the most material impacts across our business model; on the increasing expectations of our customers, investors, and other stakeholders; and on our commitment to the Kemira Code of Conduct and internationally agreed sustainability principles. Kemira is a signatory of the United Nations Global Compact, and our sustainability work is guided by the UN Sustainable Development Goals (SDGs). Kemira is also committed to operating according to the principles of Responsible Care®, a voluntary commitment created by the global chemical industry to drive continuous improvement and achieve excellence in environmental, health and safety, and security performance.

Kemira's sustainability work focuses on five themes, which cover the most material topics and their impact: Safety, People, Water, Circularity, and Climate. Kemira measures progress in the priority areas through group-level key performance indicators (KPI) and targets that are approved by the Board of Directors. The relevant management processes relating to material corporate sustainability issues are continuously developed and implemented as part of our integrated management system. Kemira also regularly reviews its stakeholders expectations and concerns regarding sustainability. The latest materiality analysis was conducted in 2021. The results are described in more detail on page 8 of Kemira's sustainability report.

MATERIAL TOPICS

Environmental and climate-related matters

Kemira has identified climate, circularity and water as its environmental sustainability focus areas. Kemira provides its customers with solutions that help to improve the resource efficiency of the customers' operations. In 2021 54% of Kemira's revenue came from products that improve customer resource efficiency.

In climate, we continuously strive to reduce our environmental impact. Kemira has committed to reducing its combined Scope 1 and Scope 2 emissions by 30% by 2030, from a 2018 baseline of 936 thousand tons CO_2e. Our long-term ambition is to be carbon neutral by 2045 for combined Scope 1 and 2 emissions. Kemira works actively with its suppliers to find ways to reduce scope 3 emissions. In water, we work to mitigate water-related risks and grasp water-related opportunities. We actively follow and aim to continuously improve our freshwater use intensity. Our sustainability target as of 2022 is to reach Leadership level in CDP Water Security rating by 2025. In terms of circularity, we aim to reduce waste and increase the use of renewable raw materials. Our sustainability target is to reduce disposed production waste intensity by 15% by 2030. In 2020, we introduced a new group-level KPI to increase our revenue from biobased products and solutions from EUR 100 million to 500 EUR million by 2030. In conjunction with revenue target, Kemira is working to increase the share of renewable raw materials of its used raw materials. This will allow Kemira to reduce pressure on natural resources, and support our customers in moving away from fossil-based raw materials.

Social and employment-related matters

Kemira has identified people and safety as its social sustainability focus areas. Ensuring workplace safety is a key priority in all our operations. High people, process, and environmental safety performance is fundamental to our business and to our customers. Our target in safety is to improve TRIF (total recordable injury frequency per million working hours for Kemira's employees and contractors) to 1.5 by 2025 and to 1.1 by 2030. Also fostering a strong company culture and commitment to our employees are important success factors in our business. In people, our target is to reach the top 10% cross-industry norm for Diversity & Inclusion by 2025.

Respect for human rights

Our Code of Conduct is the foundation for how we conduct business at Kemira. It sets the minimum standards of expected behavior for our employees and business partners. Kemira is committed to the principles of the Universal Declaration of Human Rights, the UN Guiding Principles on Business and Human Rights and the United Nations Global Compact, and we also expect our business partners to abide by these principles. Kemira's Code of Conduct for Business Partners (CoC-BP) sets out principles for responsible business conduct, respect for human rights and provision of appropriate working conditions, and environmental responsibility. In 2021, Kemira re-assessed its Human Rights Impact Assessment.

Anti-corruption and bribery

Kemira's anti-corruption principles are included in the Code of Conduct. Kemira does not tolerate improper or corrupt payments made either directly or indirectly to a customer, government official or third party, including facilitation payments, improper gifts, entertainment, gratuities, favors, donations or any other improper transfer of value. We engage only reputable sales representatives and other third parties who share the same commitment. Code of Conduct training is mandatory for all our employees, and there are advisory, monitoring and reporting procedures in place to ensure full compliance with the Code. We maintain an ethics and compliance Whistleblowing line for employees to enable them to report potential violations of the Code of Conduct or any other concerns. Mandatory anti-bribery training is provided for selected groups of personnel who need to have a comprehensive understanding of Kemira's anti-corruption principles. Awareness of anti-corruption matters is delivered through our Code of Conduct training to all employees. Kemira has conducted an ethics and compliance risk assessment to evaluate corruption-related and bribery-related risks in its operations. There were no confirmed incidents of corruption or public legal cases regarding corruption in 2021.

Kemira's management approach to non-financial matters

More information in Kemira's Sustainability Report on page 50.

EU TAXONOMY

The European Union's target is to reduce net greenhouse gas emissions to zero by 2050. In order to reduce greenhouse gas emissions and to better engage the private sector in the green transition, the EU has introduced the EU taxonomy, a classification system to define environmentally sustainable business activities. The aim of the taxonomy is to classify economic activities based on their contribution to six objectives 1) climate change mitigation, 2) climate change adaptation, 3) sustainable use and protection of water and marine resources, 4) transition to a circular economy, 5) pollution prevention and control, and 6) protection and restoration of biodiversity and ecosystems.

Three financial indicators, turnover, capital expenditure (CapEx) and operating expenditure (OpEx), need to be reported according to the EU taxonomy.These indicators are defined by the EU taxonomy and the definitions differ from capex and opex used elsewhere in Kemira's financial reporting. In the first phase of the EU taxonomy reporting for financial year 2021, companies are required to disclose what proportion of their turnover, capex and opex are eligible according to the EU taxonomy's first two objectives: climate change mitigation and climate change adaptation.

Taxonomy-eligibility means that an activity is described in the taxonomy, which is an indication that it might have substantial contribution to one of the six environmental objectives of the taxonomy. In the second phase of the EU taxonomy reporting for financial year 2022, companies are required to report what proportion of their eligible turnover, capex and opex is aligned, i.e. environmentally sustainable, according to six objectives of the EU taxonomy criteria. Economic activities are considered to be aligned according to the EU taxonomy when they:

- Make a substantial contribution to one of the six objectives mentioned above and they comply with certain technical screening criteria.
- Do no significant harm (DNSH) to the achievement of any other objective mentioned above.
- Comply with minimum safeguards for occupational safety and human rights.

The taxonomy's first two objectives, climate change mitigation and adaptation, cover economic activities that are the most emission-intensive and / or have the largest ability to contribute to climate change mitigation and adaptation. For the manufacturing sector, which Kemira is considered to be part of, technical screening criteria has been defined for 11 economic activities. These include mainly the manufacturing of basic materials and chemicals such as chlorine, soda ash and hydrogen. The chemical sector is expected to be more broadly included in upcoming objectives 3–6.

Kemira's taxonomy eligibility in 2021 for the first two objectives

Key Performance Indicator	Share of taxonomy-eligible economic activities (%)	Share of taxonomy non-eligible economic activities (%)
Turnover	1	99
Capital expenditure (CapEx) as per definition of the EU Taxonomy	—	100
Operating expenditure (OpEx) as per definition of the EU Taxonomy	—	100

It should be noted that the term "Capital expenditure, capex" may be used elsewhere in Kemira's financial reporting in different contexts and the definitions may differ.Turnover in EU Taxonomy equals revenue in Kemira's financial reporting. Capex as per definition of the EU taxonomy equals Kemira's reported capital expenditure added with additions into right-of-use assets. Opex as per definition of the EU taxonomy equals direct R&D and maintenance expenditure.

In 2021, 1% of Kemira's turnover was eligible according to the EU Taxonomy and it mainly consisted of industrial by-products, such as hydrogen and waste heat that is sold for district heating. The taxonomy currently includes activities which have been seen to substantially contribute to climate change mitigation and adaptation. Kemira mostly produces specialty chemicals that are typically not emission-intensive. Therefore Kemira's main product lines are not included in the EU taxonomy's first two delegated acts and cannot be eligible.

In 2021, 0% of Kemira's capital expenditure and operating expenditure (as defined in the EU taxonomy) was eligible according to the EU taxonomy. As Kemira's eligible turnover consisted of industrial by-products, Kemira's capital or operating expenditure cannot be solely allocated to the industrial by-products nor does Kemira specifically spend capex / opex separately for the industrial by-products. Therefore Kemira's capex / opex eligibility is zero.

For financial year 2021, as is required, Kemira will only report the proportion of taxonomy-eligible activities for the first two environmental objectives. As of financial year 2022, Kemira will also report the proportion of taxonomy-aligned activities for all environmental objectives. Kemira closely follows the development of the upcoming objectives 3–6 and how it will impact the eligibility and alignment of Kemira's economic activities in future reporting. For more information on Kemira's sustainability targets, please refer to page 134.

CORPORATE SUSTAINABILITY PERFORMANCE

Kemira's sustainability work covers economical, environmental and social topics and is guided by the UN Sustainable Development Goals (SDGs). Our focus is on Clean Water and Sanitation (SDG6), Decent Work and Economic Growth (SDG8), Responsible consumption and production (SDG12), and Climate action (SDG13). More information on sustainability at Kemira can be found in the Sustainability report.

SUSTAINABILITY PERFORMANCE 2021

Safety

Kemira's safety performance saw a setback compared to the previous years and the TRIF rate was 2.7.

People

Kemira measures the employees' perception of diversity and inclusion. In 2021, Kemira was slightly below the top 25% cross industry benchmark. Kemira's long-term goal is to reach the top 10% cross industry benchmark by 2025 and several initiatives were started in 2021 to reach the goal.

Circularity

Kemira's biobased strategy progressed during the year and the development work with external partnerships continued in 2021 with the first biodegradable coating sales for the paper and board industry taking place during the year. In 2021 Kemira selected ISCC PLUS certification system for the mass-balance accreditation. Kemira produces certified biobased products in ISCC accredited manufacturing facilities in Italy and the UK. Kemira continued work to improve waste intensity and started to collect waste data in a more granular way in 2021. Disposed production waste intensity increased slightly during the year due to the first year of full production at a new manufacturing site. Total hazardous waste declined by 41%.

Water

Freshwater use intensity in 2021 improved following process improvements and changes in product portfolio towards less water-intensive products. Kemira updated its sustainability target for water as of 2022 and aims to reach the highest, Leadership level in water management by 2025 as measured by CDP Water Security. In 2021, Kemira participated for first time to the CDP Water Security assessment and received a B rating. Kemira also signed the CEO Water Mandate in December 2021.

Climate

Scope 1 and 2 emissions declined by 3%, in line with Kemira's climate target. During 2021, Kemira continued to expand the use of renewable energy and the share of renewable energy increased to 31% of total purchased energy. In addition, Kemira started comprehensive work to better understand its scope 3 emissions and to identify opportunities to reduce emissions in its value chain.

SDG	KPI	UNIT	2021	2020
8	**SAFETY** **TRIF* 1.5 by 2025 and 1.1 by 2030**		**2.7**	2.2
	*TRIF = total recordable injury frequency per million hours, Kemira + contractors			
8	**PEOPLE** **Reach top 10% cross industry norm for Diversity & Inclusion by 2025**		**Slightly below top 25%**	-
12	**CIRCULARITY** **Reduce waste intensity** by 15% by 2030 from a 2019 baseline of 4.6. Biobased products > EUR 500 million revenue by 2030**	**t/1000 t**	**4.3**	4.2
	**metric tonnes of routine disposed waste per thousand metric tonnes of production (t/1,000 t)			
6	**WATER** **Continuously improve freshwater use intensity**	**m^3/t**	**1.3**	1.5
13	**CLIMATE** **Scopes 1 & 2*** emissions -30% by 2030 compared to 2018 baseline of 930 tCO_2e**	**tCO_2e**	**856**	886
	***Scope 1: Direct greenhouse gas emissions from Kemira's manufacturing sites, e.g. generation of energy and emissions from manufacturing processes. Scope 2: Indirect greenhouse gas emissions from external generation and purchase of electricity, heating, cooling and steam			

SEGMENTS

PULP & PAPER

Pulp & Paper has unique expertise in applying chemicals and in supporting pulp and paper producers in innovating and constantly improving their operational efficiency. The segment develops and commercializes new products to meet the need of its customers, thus ensuring a leading portfolio of products and services for the bleaching of pulp as well as the paper wet-end, focusing on packaging, board, and tissue. Pulp & Paper is leveraging its strong application portfolio in North America and EMEA, while it is also building a strong position in the emerging Asian and South American markets.

EUR million	2021	2020
Revenue	1,559.6	1,457.6
Operative EBITDA	244.7	260.2
Operative EBITDA, %	15.7	17.9
EBITDA	198.3	240.2
EBITDA, %	12.7	16.5
Operative EBIT	124.3	138.0
Operative EBIT, %	8.0	9.5
EBIT	77.7	118.0
EBIT, %	5.0	8.1
Capital employed*	1,226.9	1,246.7
Operative ROCE*, %	10.1	11.1
ROCE*, %	6.3	9.5
Capital expenditure excl. M&A	88.5	91.9
Capital expenditure incl. M&A	89.5	94.6
Cash flow after investing activities	94.6	162.2

*12-month rolling average

The segment's **revenue** increased by 7%. Revenue in local currencies (excluding divestments and acquisitions) increased by 8% mainly driven by higher sales volumes, whichsales prices. Sales volumes increased across product groups, particularly in bleaching, process and functional and sizing chemicals.

In **EMEA**, revenue increased by 7% to EUR 816.8 million (762.3) due to higher sales volumes across product groups. Also sales prices increased.

In **the Americas**, revenue increased by 6% to EUR 481.6 million (455.3). Revenue in local currencies, excluding acquisitions and divestments, increased by 10% due to higher sales volumes, particularly in bleaching and process and functional chemicals. Also sales prices increased.

In **APAC**, revenue increased by 9% to EUR 261.2 million (240.0). Revenue in local currencies, excluding acquisitions and divestments, increased by 9% mainly due to higher sales prices. Also sales volumes increased.

Operative EBITDA decreased by 6%. Significantly higher variable costs following increased raw material and energy prices were partly offset by higher sales prices and sales volumes. The operative EBITDA margin declined due to higher raw material and energy prices. **EBITDA** decreased by 17%. The difference between it and operative EBITDA is explained by items affecting comparability, which mainly consisted of a provision caused by the expected underutilization of a single-asset energy company in Pori, Finland majority owned by Kemira via Pohjolan Voima, a damage claim settlement with CDC, a provision related to a site closure and organizational restructuring costs.

INDUSTRY & WATER

Industry & Water supports municipalities and water-intensive industries in the efficient and sustainable use of resources. In water treatment, Kemira provides assistance in optimizing various stages of the water cycle. In oil and gas applications, our chemistries enable improved yield from existing reserves, reduced water and energy use, as well as efficiency of oil sands tailings treatment.

EUR million	2021	2020
Revenue	1,114.8	969.5
Operative EBITDA	180.8	174.8
Operative EBITDA, %	16.2	18.0
EBITDA	174.8	173.0
EBITDA, %	15.7	17.8
Operative EBIT	101.2	99.7
Operative EBIT, %	9.1	10.3
EBIT	92.4	97.8
EBIT, %	8.3	10.1
Capital employed*	767.6	717.5
Operative ROCE*, %	13.2	13.9
ROCE*, %	12.0	13.6
Capital expenditure excl. M&A	80.3	103.6
Capital expenditure incl. M&A	80.3	103.6
Cash flow after investing activities	50.9	69.8

*12-month rolling average

The segment's **revenue** increased by 15%. Revenue in local currencies, excluding acquisitions and divestments, increased by 16%. The increase was driven mainly by higher sales volumes, particularly in the Oil & Gas business. Also sales prices increased. Currencies had a negative impact.

In the water treatment business, revenue increased by 7% particularly due to higher sales volumes sales volumes and sales prices. Also sales prices increased. Revenue in the Oil & Gas business increased by 55% to EUR 245.9 million (158.9) mainly due to higher sales volumes in shale and oil sands tailings. Also sales prices increased.

In **EMEA**, revenue increased by 3% to EUR 558.9 million (543.9). Sales volumes increased in water treatment. Also sales prices increased. Currencies had a positive impact.

In **the Americas**, revenue increased by 30% to EUR 528.6 million (407.1). Revenue in local currencies, excluding acquisitions and divestments, increased by 33%. Sales volumes increased in the Oil & Gas business, particularly in shale. Sales volumes in water treatment also increased. Sales prices increased both in the Oil & Gas business and water treatment.

In **APAC**, revenue increased by 47% to EUR 27.3 million (18.5) due to higher sales volumes in water treatment.

Operative EBITDA increased by 3% as higher sales prices and sales volumes more than compensated for higher variable costs. The operative EBITDA margin declined due to higher raw material prices. **EBITDA** increased by 1% and the difference from operative EBITDA is explained by items affecting comparability, which mainly consisted of organizational restructuring costs and a provision related to a site closure.

PARENT COMPANY'S FINANCIAL PERFORMANCE

Kemira Oyj's revenue increased to EUR 1,572.5 million (1,459.9) in 2021. EBITDA was EUR 70.8 million (126.5). The parent company's financing income and expenses were EUR 26.5 million (-205.9). Financing income and expenses included no impairment losses on non-current assets (-238.6). The net result for the financial year totaled EUR -2.9 million (-199.6). The total capital expenditure was EUR 42.9 million (18.8), excluding investments in subsidiaries.

Kemira Oyj had 502 (2020: 501, 2019: 507) employees on average during 2021.

KEMIRA OYJ'S SHARES AND SHAREHOLDERS

On December 31, 2021, Kemira Oyj's share capital amounted to EUR 221.8 million and the number of shares was 155,342,557. Each share entitles the holder to one vote at the Annual General Meeting.

At the end of December 2021, Kemira Oyj had 49,484 registered shareholders (44,311 on December 31, 2020). Non-Finnish shareholders held 28.4% of the shares (28.6% on December 31, 2020), including nominee-registered holdings. Households owned 19.8% of the shares (18.6% on December 31, 2020). Kemira held 2,215,073 treasury shares (2,418,440 on December 31, 2020), representing 1.4% (1.6% on December 31, 2020) of all company shares.

Kemira Oyj's share price increased by 3% from the beginning of the year and closed at EUR 13.33 on the Nasdaq Helsinki at the end of December 2021 (12.94 on December 31, 2020). The shares registered a high of EUR 14.66 and a low of EUR 12.64 in January–December 2021, and the average share price was EUR 13.67. The company's market capitalization, excluding treasury shares, was EUR 2,041 million at the end of December 2021 (1,979 December 31, 2020).

In January–December 2021, Kemira Oyj's share trading turnover on the Nasdaq Helsinki was EUR 787 million (EUR 857 million in January–December 2020). The average daily trading volume was 228,087 shares (301,131 in January–December 2020). The total volume of Kemira Oyj's share trading in January–December 2021 was 72 million shares (93 million shares in January–December 2020), 20% (19% in January–December 2020) of which was executed on other trading platforms (e.g. Turquoise, CBOE DXE). Source: Nasdaq and Kemira.com.

MANAGEMENT SHAREHOLDING

The members of the Board of Directors as well as the President and CEO and his Deputy held 518,636 (507,488) Kemira Oyj shares on December 31, 2021 or 0.33% (0.33%) of all outstanding shares and voting rights (including treasury shares and shares held by the related parties and controlled corporations). Jari Rosendal, President and CEO, held 140,800 shares (125,840) on December 31, 2021. Members of the Management Board, excluding the President and CEO and his Deputy, held a total of 223,111 shares on December 31, 2021 (197,471), representing 0.14% (0.13%) of all outstanding shares and voting rights (including treasury shares and shares held by the related parties and controlled corporations). Up-to-date information regarding the shareholdings of the Board of Directors and Management is available on Kemira's website at **www.kemira.com/investors**.

	Amount of shares		% of shares	
Owners	**Dec 31, 2021**	**Dec 31, 2020**	**Dec 31, 2021**	**Dec 31, 2020**
Board of Directors	**289,471**	298,519	**0.19%**	0.19%
President and CEO	**140,800**	125,840	**0.09%**	0.08%
Deputy CEO	**88,365**	83,129	**0.06%**	0.05%
Members of the Management Board (excl. CEO and Deputy CEO)	**223,111**	197,471	**0.14%**	0.13%

OWNERSHIP DECEMBER 31, 2021

Owners	Shares and votes 2021	2020
Corporations	25.4%	25.5%
Financial and insurance corporations	4.8%	5.2%
General government	18.7%	19.0%
Households	18.6%	18.6%
Non-profit institutions	3.0%	3.1%
Non-Finnish shareholders incl. nominee registered	28.4%	28.6%

SHAREHOLDING BY NUMBER OF SHARES HELD DECEMBER 31, 2021

Number of shares	Number of shareholders	% of shareholders	Shares total	% of shares and votes
1–100	17,436	35.2%	887,159	0.6%
101–500	18,896	38.2%	5,070,894	3.3%
501–1,000	6,349	12.8%	4,879,535	3.1%
1,001–5,000	5,728	11.6%	11,992,241	7.7%
5,001–10,000	624	1.3%	4,476,786	2.9%
10,001–50,000	355	0.7%	6,927,666	4.5%
50,001–100,000	44	0.1%	3,215,048	2.1%
100,001–500,000	36	0.1%	7,260,752	4.7%
500,001–1,000,000	6	0.0%	4,583,838	3.0%
1,000,001–	10	0.0%	106,048,638	68.3%
Total	49,484	100.0%	155,342,557	100.0%

LARGEST SHAREHOLDERS DECEMBER 31, 2021

	Shareholder	Number of shares	% of shares and votes
1	Oras Invest Ltd	32,000,000	20.6%
2	Solidium Oy	15,782,765	10.2%
3	Varma Mutual Pension Insurance Company	4,652,678	3.0%
4	Ilmarinen Mutual Pension Insurance Company	4,050,000	2.6%
5	Nordea Funds	3,602,778	2.3%
6	Elo Mutual Pension Insurance Company	1,787,948	1.2%
7	Veritas Pension Insurance Company Ltd.	1,434,764	0.9%
8	Etola Group Oy	1,000,000	0.6%
9	Laakkonen Mikko Kalervo	750,000	0.5%
10	Nordea Life Assurance Finland Ltd.	741,211	0.5%
11	The State Pension Funds	560,000	0.4%
12	Paasikivi Pekka Johannes	462,000	0.3%
13	OP-Henkivakuutus Ltd.	459,209	0.3%
14	Oppiva Invest Oy	398,400	0.3%
15	Valio Pension Fund	379,450	0.2%
	Kemira Oyj	2,215,073	1.4%
	Nominee registered and foreign shareholders	44,126,192	28.4%
	Others, Total	40,940,089	26.4%
	Total	155,342,557	100.0%

SHARE KEY FIGURES

	2021	2020	2019	2018	2017
PER SHARE FIGURES					
Earnings per share (EPS), basic, EUR [1]	**0.71**	0.86	0.72	0.58	0.52
Earnings per share (EPS), diluted, EUR [1]	**0.70**	0.86	0.72	0.58	0.52
Net cash generated from operating activities per share, EUR [1]	**1.44**	2.45	2.53	1.38	1.35
Dividend per share, EUR [1] [2]	**0.58**	0.58	0.56	0.53	0.53
Dividend payout ratio, % [1] [2]	**82.2**	67.5	77.6	90.7	102.7
Dividend yield, % [1] [2]	**4.4**	4.5	4.2	5.4	4.6
Equity per share, EUR [1]	**8.68**	7.80	7.98	7.80	7.61
Price per earnings per share (P/E ratio) [1]	**18.88**	15.07	18.37	16.85	22.29
Price per equity per share [1]	**1.54**	1.66	1.66	1.26	1.51
Price per cash flow from operations per share [1]	**9.27**	5.28	5.24	7.14	8.54
Dividend paid, EUR million [2]	**88.8**	88.7	85.5	80.8	80.7
SHARE PRICE AND TRADING					
Share price, high, EUR	**14.66**	14.24	14.99	12.03	12.44
Share price, low, EUR	**12.64**	8.02	9.77	9.34	10.33
Share price, average, EUR	**13.67**	11.55	12.56	11.00	11.47
Share price on Dec 31, EUR	**13.33**	12.94	13.26	9.85	11.50
Number of shares traded (1,000) [3]	**57,478**	75,885	53,048	43,837	54,169
% on number of shares	**38**	50	35	29	36
Market capitalization on Dec 31, EUR million [1]	**2,041**	1,979	2,024	1,502	1,752
NUMBER OF SHARES AND SHARE CAPITAL					
Average number of shares, basic (1,000) [1]	**153,092**	152,879	152,630	152,484	152,359
Average number of shares, diluted (1,000) [1]	**153,785**	153,373	153,071	152,768	152,594
Number of shares on Dec 31, basic (1,000) [1]	**153,127**	152,924	152,649	152,510	152,354
Number of shares on Dec 31, diluted (1,000) [1]	**154,068**	153,744	153,385	152,927	152,512
Increase (+) / decrease (-) in number of shares outstanding (1,000)	**203**	275	139	156	-14
Share capital, EUR million	**221.8**	221.8	221.8	221.8	221.8

1) Number of shares outstanding, excluding the number of treasury shares.
2) The dividend for 2021 is the Board of Directors' proposal to the Annual General Meeting.
3) Shares traded on Nasdaq Helsinki only

Definitions of the key figures is disclosed in the section on the Definitions of key figures.

AGM DECISIONS

ANNUAL GENERAL MEETING

Kemira Oyj's Annual General Meeting, held on March 24, 2021, approved the Board of Directors' proposal for a dividend of EUR 0.58 per share for the financial year 2020. The dividend was paid in two installments. The first installment of EUR 0.29 per share was paid on April 8, 2021. The Annual General Meeting authorized the Board of Directors to decide the record date and the payment date for the second installment of the dividend.

The Board of Directors decided on the record date and the payment date for the second installment of the dividend of EUR 0.29 at its meeting on October 25, 2021. The payment date of the second installment of the dividend was November 4, 2021. Kemira announced the resolution of the Board of Directors with a separate stock exchange release and confirmed the record and payment dates.

The AGM 2021 authorized the Board of Directors to decide upon the repurchase of a maximum of 5,600,000 company's own shares. This corresponds to approximately 3.6% of all shares and votes in the company. The shares will be repurchased by using unrestricted equity, either through a tender offer with equal terms to all shareholders at a price determined by the Board of Directors or otherwise in proportion to the existing shareholdings of the company's shareholders in public trading on the Nasdaq Helsinki Ltd. (the "Helsinki Stock Exchange") at the market price quoted at the time of repurchase. The price paid for the shares repurchased through a tender offer under the authorization shall be based on the market price of the company's shares in public trading. The minimum price to be paid would be the lowest market price of the share quoted in public trading during the authorization period and the maximum price would be the highest market price quoted during the authorization period. Shares shall be acquired and paid for in accordance with the rules of the Helsinki Stock Exchange and those of Euroclear Finland Ltd. Shares may be repurchased to be used in implementing or financing mergers and acquisitions, developing the company's capital structure, improving the liquidity of the company's shares, or to be used for the payment of the annual fee payable to the members of the Board of Directors or implementing the company's share-based incentive plans. In order to realize the aforementioned purposes, the shares acquired may be retained, transferred further or cancelled by the company. The Board of Directors will decide on other terms related to the share repurchase. The Share repurchase authorization is valid until the end of the next Annual General Meeting.

The Annual General Meeting authorized the Board of Directors to decide to issue a maximum of 15,600,000 new shares (corresponding to approximately 10% of all company shares and votes) and/or transfer a maximum of 7,800,000 company's own shares (corresponding to approximately 5% of all company shares and votes) held by the company ("Share issue"). The new shares may be issued and the company's own shares held by the company may be transferred either for consideration or without consideration. The new shares may be issued and the company's own shares held by the company may be transferred to the company's shareholders in proportion to their current shareholdings in the company, or by disapplying the shareholders' pre-emption right, through a directed share issue, if the company has a weighty financial reason to do so, such as financing or implementing mergers and acquisitions, developing the capital structure of the company, improving the liquidity of the company's shares or, if it is justified, for the payment of the annual fee payable to the members of the Board of Directors or implementing the company's share-based incentive plans. The directed share issue may be carried out without consideration only in connection with the implementation of the company's share-based incentive plans. The subscription price of new shares shall be recorded to the invested unrestricted equity reserves. The consideration payable for company's own shares shall be recorded to the invested unrestricted equity reserves. The Board of Directors shall decide upon other terms related to the share issues. The Share issue authorization is valid until May 31, 2022.

The AGM elected Ernst & Young Oy to serve as the company's auditor, with Mikko Rytilahti, Authorized Public Accountant, acting as the key audit partner.

The Annual General Meeting decided that the four shareholders holding the most voting rights on May 31 (instead of August 31) prior to the following Annual General Meeting according to the company's shareholders' register maintained by Euroclear Finland Ltd shall each have the right to become a member or to appoint a member, as the case may be, to the Nomination Board.

CORPORATE GOVERNANCE AND GROUP STRUCTURE

Kemira Oyj's corporate governance is based on the Articles of Association, the Finnish Companies Act, and Nasdaq Helsinki's rules and regulations on listed companies. Furthermore, the company complies with the Finnish Corporate Governance Code. The company's corporate governance is presented as a separate statement on the company's website.

BOARD OF DIRECTORS

On March 24, 2021, the Annual General Meeting elected seven members to the Board of Directors. The Annual General Meeting re-elected Wolfgang Büchele, Shirley Cunningham, Werner Fuhrmann, Timo Lappalainen and Jari Paasikivi as members of the Board of Directors, and elected Matti Kähkönen and Kristian Pullola as new members to the Board of Directors. Jari Paasikivi was re-elected as the Board's Chairman and Matti Kähkönen was elected as the Vice Chairman. In 2021, Kemira's Board of Directors met 10 times, with a 100% attendance rate.

Kemira Oyj's Board of Directors has appointed two committees: the Personnel and Remuneration Committee, and the Audit Committee. The Personnel and Remuneration Committee is chaired by Jari Paasikivi and has Matti Kähkönen and Timo Lappalainen as members. In 2021, the Personnel and Remuneration Committee met five times, with a 100% attendance rate. The Audit Committee is chaired by Timo Lappalainen and has Jari Paasikivi and Kristian Pullola as members. In 2021, the Audit Committee met five times, with a 100% attendance rate.

STRUCTURE

There have been no significant acquisitions or divestments during the year that would have impacted the company structure.

SHORT TERM RISKS AND UNCERTAINTIES

PRICE AND AVAILABILITY OF RAW MATERIALS AND COMMODITIES

Profitable growth is a crucial part of Kemira's strategy. A significant and sudden increase in the cost of raw materials, commodities, or logistics could place Kemira's profitability at risk if Kemira is not able to pass on such increases to product prices without delay. For instance, considerable and/or rapid changes in oil and energy prices could materially impact Kemira's profitability. Changes in the raw material supplier field, such as consolidation or decreasing capacity, may also increase raw material prices. Furthermore, significant demand changes in industries that are the main users of certain raw materials may lead to raw material price fluctuations. In 2021, raw material prices increased significantly following the rapid economic rebound from the COVID-19 pandemic, and due to supply chain disruptions seen during the year. Also energy prices increased substantially during the year, particularly during the fourth quarter of 2021.

Poor availability of certain raw materials may affect Kemira's production and also profitability if Kemira fails to prepare for this by mapping out alternative suppliers or opportunities for process changes. Raw material and commodity risks can be effectively monitored and managed with Kemira's centralized Sourcing unit. Risk management measures include, for instance, forward-looking forecasting of key raw materials and commodities, synchronization of raw material purchase agreements and sales agreements, captive manufacturing of some of the critical raw materials, strategic investment in energy-generating companies, and hedging a portion of the energy and electricity spend. Kemira's joint venture with the fatty acid chloride producer Tiancheng in China is an example of helping to ensure the availability of key raw materials by backwards integration into the supply chain. In 2021, Kemira had some raw material availability issues, particularly during the first half of the year. Supply chain issues, which were caused by the rapid economic rebound and unexpected weather conditions, impacted Kemira's suppliers and the availability of certain raw materials. The situation improved towards the end of the year. Continued supply chain disruptions are possible also in 2022 depending on the development of the COVID-19 pandemic.

SUPPLIERS

The continuity of Kemira's business operations is dependent on accurate and good-quality supply of products and services. Kemira currently has in place numerous partnerships and other agreements with third-party product and service suppliers to secure its business continuity. Certain products used as raw materials are considered critical, as the purchase can be made economically only from a sole or single source. In the event of a sudden and significant loss or interruption in such supply of raw material, Kemira's operations could be impacted, and this could have further negative effects on Kemira. Ineffective procurement planning, supply source selection, and contract administration, as well as inadequate supplier relationship management, create a risk of Kemira not being able to fulfill its promises to customers. The COVID-19 pandemic did not cause significant impacts on Kemira's manufacturing operations in 2021. However, disruptions in the supply chains during 2021 had an impact on the availability of certain raw materials in Kemira purchases. Kemira was able to handle the situation and the impact on Kemira's revenue was not material.

Kemira continuously aims to identify, analyze, and engage third-party suppliers in a way that ensures security of supply and competitive pricing of the end products and services. Collaborative relationships with key suppliers are developed in order to uncover and realize new value and to reduce risk. Supplier performance is also regularly monitored as a part of the supplier performance management process. Due to the high-risk environment related to suppliers of the chemical industry, risk management and mitigation in this area is of continuous high focus.

HAZARD RISKS

Kemira's production activities involve many hazard risks – such as fires and explosions, machinery breakdowns, natural catastrophes, exceptional weather conditions, environmental incidents – and the consequent possible resulting liabilities, as well as the employee health and safety risks. These risk events could derive from several factors, also including (but not limited to) unauthorized IT system access by a malicious intruder causing possible damage to the systems and consequent financial losses. A systematic focus on achieving set targets, certified management systems, efficient hazard prevention programs, promotion of an active safety culture, adequate maintenance, and competent personnel play a central role in managing these hazard risks. In addition, Kemira has several insurance programs that protect the company against the financial impacts of hazard risks.

CHANGES IN CUSTOMER DEMAND

A significant unforeseen decline in the use of certain chemicals (e.g. chemicals for packaging and board production) or in the demand for customers' products and operations could have a negative impact on Kemira's business. A significant decline in certain raw material and utility prices (e.g. oil,

gas, and metals) may shift customers' activities towards areas where fewer chemicals are needed. Also, increased awareness of and concern about climate change and more sustainable products may change customer demands, for instance, in favor of water treatment technologies with lower chemical consumption. On the other hand, possible capacity expansions by customers could increase the chemical consumption and challenge Kemira's current production capacity.

In order to manage and mitigate this risk, Kemira systematically monitors leading and early warning indicators that focus on market development. Kemira has also continued to focus on the sustainability of its business and is further improving the coordination and cooperation between the Business Development, R&D, and Sales units in order to better understand the future needs and expectations of its customers. Timely capital investments as well as continuous discussions and follow-ups with customers ensure Kemira's ability to respond to changes in demand. Kemira's geographic and customer industry diversity also provide partial protection against the risk of changed customer demands.

In 2020, Kemira revised its strategy with an increased focus on biobased products to respond to changes in customer demand and expectations. In 2020, Kemira also started several external partnerships in order to innovate and commercialize new biobased products. The partnership development continued throughout 2021. Profitable growth is one key aspect of Kemira's revised strategy, and biobased products are expected to play a significant role in Kemira's growth ambitions. Due to sustainability pressure, there will also be a shift in the Pulp & Paper industry, and it is expected there may be new and/or increased uses of pulp- and fiber-based materials. This is an area Kemira is continuously monitoring.

ECONOMIC CONDITIONS AND GEOPOLITICAL CHANGES

Uncertainties in the global economic and geopolitical development are considered to include direct or indirect risks, such as a lower-growth period in global GDP and possible unexpected trade-related political decisions, both of which could have unfavorable impacts on the demand for Kemira's products. Certain political actions or changes, especially in countries that are important to Kemira, could cause business interference or other adverse consequences. Current examples of these risks are related to trade wars. Geopolitical tensions in Eastern Europe and subsequent possible sanctions towards Russia could result in disruptions to energy availability in Europe, which could also impact Kemira. Kemira also sources some raw materials from Russia, Ukraine and Belarus, the supply of which could be disrupted should geopolitical tensions intensify and / or should sanctions be imposed towards Russia.

Weak economic development may result in customer closures or consolidations, resulting in a diminishing customer base. The liquidity of Kemira's customers could become weaker, resulting in increased credit losses for Kemira. Unfavorable market conditions may also increase the availability and price risk of certain raw materials. Kemira's geographical and customer industry diversity provides only partial protection against these risks. Kemira continuously monitors geopolitical movements and changes and aims to adjust its business accordingly. Trade war-related risks are actively monitored and taken into account.

COMPETITION

Kemira operates in a rapidly changing and competitive business environment that represents a considerable risk to meeting its goals. New players seeking a foothold in Kemira's key business segments may use aggressive means as a competitive tool, which could affect Kemira's financial results. Major competitor or customer consolidations could change the market dynamics, and possibly also change Kemira's market position.

Kemira is seeking growth in product categories that are less familiar and where new competitive situations prevail, particularly in biobased products. In the long term, completely new types of technology may considerably change the current competitive situation. This risk is managed at both Group and segment levels through continuous monitoring of the competition. The company aims to respond to its competition through the active management of customer relationships and continuous development of its products and services to further differentiate itself from the competitors and to be competitive.

ACQUISITIONS

Acquisitions are one potential way to achieve corporate goals and strategies, in addition to organic growth. Consolidations are driven by chemical manufacturers' interests in realizing synergies and establishing footholds in new markets. Acquisitions and/or partnerships may also be needed in order to enter totally new geographic markets or new product markets. However, the integration of acquired businesses, operations, and personnel also involves risks. If integration is unsuccessful, the results may fall short of targets for such acquisitions.

Kemira has created M&A procedures and established Group-level dedicated resources to actively manage merger and acquisition activities and to support the execution of its business transactions. In addition, external advisory services are being used to screen potential merger and acquisition targets, and to help execute transactions and post-merger integration.

INNOVATION AND R&D

Kemira's research and development is a critical enabler of organic growth and further differentiation. Kemira's future market position and profitability depend on its ability to understand and meet current and future customer needs and market trends, and its ability to innovate new differentiated products and applications. Furthermore, new product launches contribute to the efficiency and sustainability of Kemira's or its customers' processes, as well as to the improved profitability. Failure to innovate or focus on disruptive new technologies and products, or to effectively commercialize new products or service concepts may result in non-achievement of growth targets and may negatively impact Kemira's competitive situation.

Innovation- and R&D-related risks are managed through effective R&D portfolio management, in close collaboration between R&D and the two business segments. There is close coordination and cooperation between the Business Development, R&D, Sales and Marketing units in order to better understand the future needs and expectations of Kemira's customers. With continuous development of innovation processes, Kemira is aiming for more stringent project execution. Kemira maintains an increased focus towards the development of more differentiated and sustainable products and processes, and is also continuously monitoring sales of its new products and applications.

CHANGES IN LAWS AND REGULATIONS

Kemira's business is subject to various laws and regulations, which have relevance in the development and implementation of Kemira's strategy. Laws and regulations can generally be considered as an opportunity for Kemira, as regulation drives, for example, the treatment of water. However, certain legislative initiatives supporting, for instance, the use of biodegradable raw materials or biological water treatment, limiting the use of aluminum, may also have a negative impact on Kemira's business. Significant changes, for instance, in chemical, environmental or transportation laws and regulations may also impact Kemira's profitability through an increase in production and transportation costs. At the same time, such changes may also create new business opportunities for Kemira.

Inclusion of new substances in the REACH authorization process may also bring further requirements to Kemira, where failure to obtain the relevant authorization could impact Kemira's business. In addition, the changes in import/export and customs-related regulations create needs for monitoring and mastering global trade compliance in order to ensure, for instance, compliant product importation.

Kemira continuously follows regulatory developments in order to maintain its awareness of proposed and upcoming changes of those laws and regulations that may have an impact, for instance, on its sales, production, and product development needs. Kemira has established an internal process to manage substances of potential concern and to create management plans for them. These plans cover, for example, the possibilities to replace certain substances if they become subject to stricter regulation. Kemira has also increased its focus and resources in the management of global trade compliance.

Regulatory effects are also systematically taken into consideration in strategic decision making. Kemira takes an active role in regulatory discussions whenever this is justified from the perspective of the industry or business. Currently, for example, there are lots of regulatory discussions ongoing in the EU, as the EU is undergoing a major review of its water legislation and directives. This may have a positive demand-related impact for Kemira in the future, due to the need for water to be treated more carefully. The EU has, as part of its Green Deal initiative, launched the EU Chemicals Strategy for Sustainability (CSS). Kemira follows closely the development of the strategy and its potential implications on the chemical sector and Kemira.

TALENT MANAGEMENT

To secure competitiveness and profitable growth, as well as to improve operational efficiency, it is essential to attract and retain personnel with the right skills and competences (e.g. R&D, sales, IT, customer service and marketing competences). Kemira is continuously identifying people with high potential and key competencies for future needs. Through systematic development and improvement of compensation schemes, learning programs, and career development programs, Kemira aims to ensure the continuity of skilled personnel also in the future.

A detailed description of Kemira's risk management principles is available on the company's website at **www.kemira.com**. Financial risks are described in the Notes to the Financial Statements for the year 2021.

CLIMATE RELATED RISKS

Kemira has identified certain climate-related risks that could have an impact on Kemira's operations or customer demand. Increased awareness of and concern about climate change and more sustainable products may for example change customer demands in favor of water treatment technologies with lower chemical consumption. Higher awareness of the impacts of climate change could lead to a more rapid transition to sustainable, fossil-free energy sources, which could lead to higher energy prices and impact the availability of energy. This could have a negative impact on Kemira as parts of Kemira's manufacturing operations are energy-intensive. A part of Kemira's raw materials are fossil-based. Kemira has active plans to increase the share of renewable raw materials in its portfolio and reduce the reliance on oil and gas derivatives. Also extreme weather patterns related to climate change, such as hurricanes and floods, could impact Kemira's supply chain and suppliers as well as Kemira's own manufacturing sites. Several climate related risks are included in Kemira's enterprise risk management portfolio and active monitoring and mitigation planning is being done.

IMPACT OF COVID-19 PANDEMIC AND RELATED ECONOMIC SLOWDOWN ON KEMIRA

The COVID-19 pandemic had a limited direct impact on Kemira's operations and on Kemira's customer demand in 2021. Kemira's end-market demand grew strongly in both segments during the year compared to 2020, which was impacted by the COVID-19 pandemic and economic shutdowns. In Pulp & Paper, demand for chemicals grew in pulp, board and tissue and printing and writing in 2021. In Industry & Water, demand in both municipal water and industrial water treatment grew. In the Oil & Gas business, shale market activity continued to grow throughout 2021. Also demand in oil sands tailings treatment grew.

The global economy rebounded strongly from the COVID-19-related economic shutdowns during 2021. This resulted in significantly higher raw material and energy costs as well as significant supply chain and logistics disruptions and cost pressure, which, together with some shortages in raw material availability, impacted Kemira during 2021. However, Kemira's manufacturing facilities operated without significant disruptions despite supply chain bottlenecks. Higher raw material and energy costs and supply chain bottlenecks may impact Kemira negatively also in the coming quarters in 2022.

The omicron variant of COVID-19 and other, still unknown COVID-19 variants could deteriorate the pandemic situation further and result in additional restrictions on economic activity, which in turn could lead to lower demand also in Kemira's end markets. In addition, a rapid spread of COVID-19 could also lead to significant number of infections in Kemira's personnel, which could have an impact on Kemira's operations.

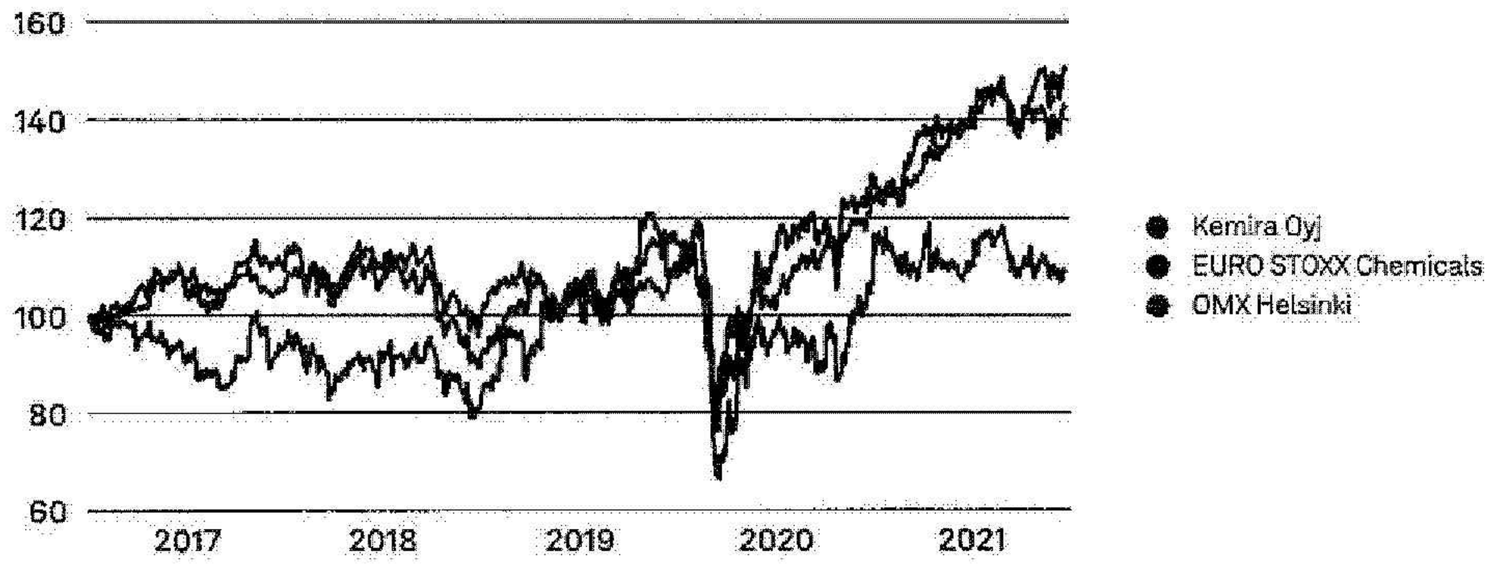
Kemira has regional crisis management teams to monitor the COVID-19 situation, as the development of the COVID-19 pandemic varies by region. The aim of the crisis management teams is to mitigate the impact on Kemira in order to ensure our own and our customers' business continuity. Regional crisis management teams continued to convene regularly throughout 2021. Business travel remains limited, and Kemira has taken several steps to ensure employee safety at its locations. To mitigate the impact on its supply chain, Kemira reviews alternative suppliers on a continuous basis to ensure smooth operations in all circumstances.

The majority of Kemira's employees who are able to do so have worked remotely since March 2020. Kemira has supported leaders and employees in the adoption of remote working during the COVID-19 pandemic and remote work has been smooth. Kemira has strict safety measures in place for on-site working. Kemira will start a gradual and safe return to offices and towards a hybrid-working model when the COVID-19 situation allows, while also complying with possible social distancing measures and local government regulations.

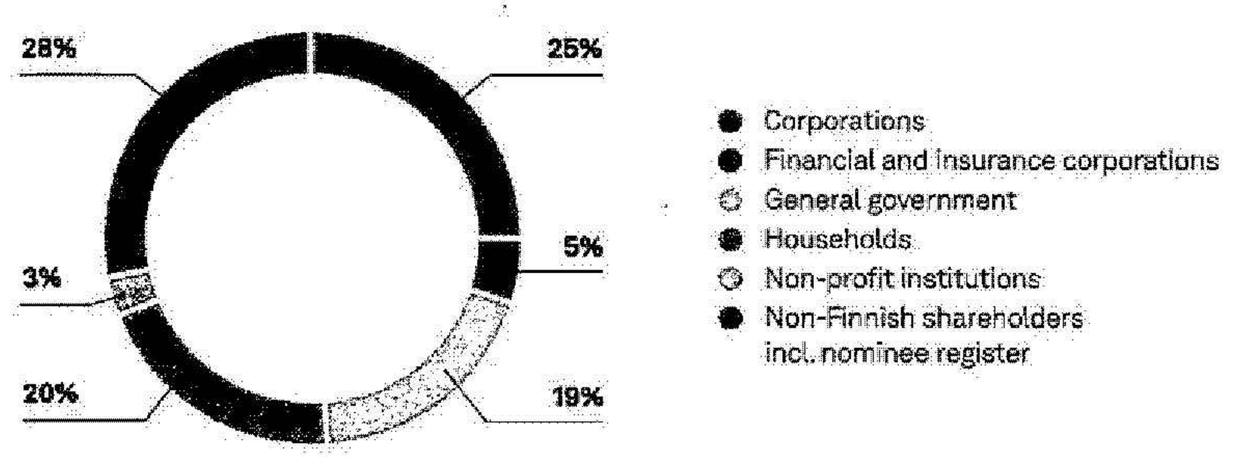
Throughout 2021, Kemira assessed the impact of the uncertainty caused by the COVID-19 pandemic on its financial position and considered the values of assets and liabilities that contain significant accounting estimates that require judgment or that may have been particularly affected by the COVID-19 pandemic. Based on the analysis, no indications of impairments in asset values were identified during the period e.g. risk of goodwill impairment or credit loss of trade receivables. However, current situation in energy market has been reflected into energy prices used in the valuation of Pohjolan Voima Group shares, increasing the share values by EUR 46.7 million from the year end 2020.

At the end of December 2021 Kemira had ample liquidity and a EUR 400 million undrawn committed credit facility maturing in 2026. Kemira issued a EUR 200 million, 7-year-bond in March 2021 and has no imminent financing needs.

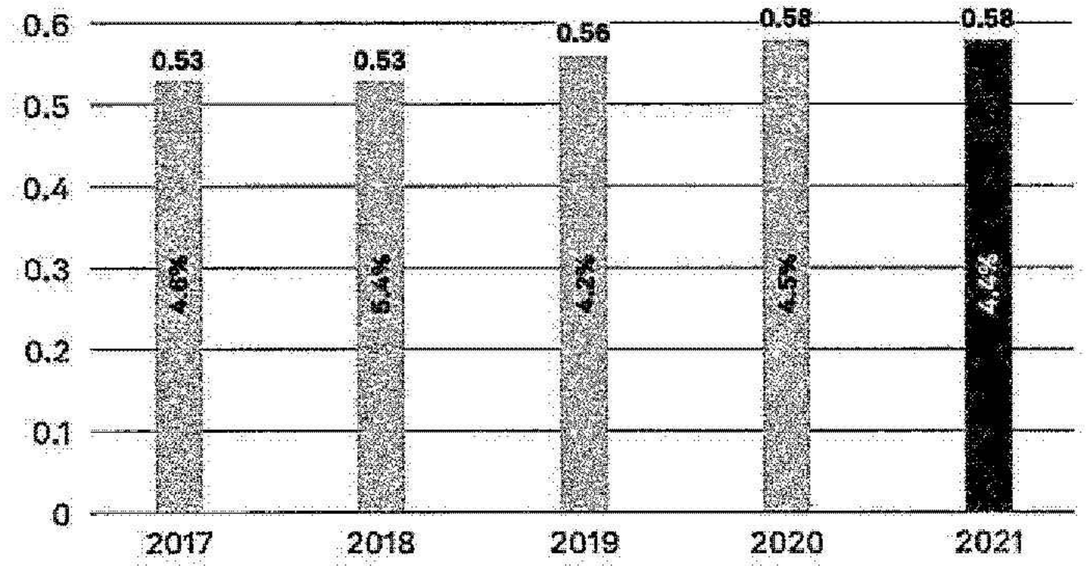
SHARE PRICE 2017–2021



OWNERSHIP DECEMBER 31, 2021



DIVIDEND PER SHARE, EUR AND DIVIDEND YIELD, %*



*The dividend for 2021 is the Board of Directors' proposal to the Annual General Meeting.

EARNINGS PER SHARE, DILUTED
EUR

