20240620145618

ÅRSREDOVISNING

2023-01-01--2023-12-31

för

Stora Enso China Holdings AB
556578-3023

Årsredovisningen omfattar: **Sida**

Förvaltningsberättelse	2
Resultaträkning	3
Balansräkning	4
Rapport över förändring i eget kapital	6
Noter	7

FASTSTÄLLELSEINTYG

Undertecknad styrelseledamot i China Holdings AB intygar att resultaträkningen och balansräkningen i årsredovisningen har fastställts på årsstämman den 13 juni 2024. Årsstämman beslutade att godkänna styrelsens förslag till resultatdisposition.

Jag intygar också att innehållet i årsredovisningen och revisionsberättelsen stämmer överens med originalen.

Falun den 13 juni 2024

Mika Talvitie

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20240620146619

ÅRSREDOVISNING

2023-01-01--2023-12-31

för

Stora Enso China Holdings AB

Årsredovisningen omfattar: **Sida**

Förvaltningsberättelse	2
Resultaträkning	3
Balansräkning	4
Rapport över förändring i eget kapital	6
Noter	7

Om inte annat särskilt anges, redovisas alla belopp i tusentals kronor.

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20240620134620

Stora Enso China Holdings AB
556578-3023

ÅRSREDOVISNING
FÖR STORA ENSO CHINA HOLDINGS AB

Styrelsen för Stora Enso China Holdings AB avger härmed årsredovisning för räkenskapsåret 2023-01-01--2023-12-31.

FÖRVALTNINGSBERÄTTELSE

Verksamhetens art och inriktning
Bolaget skall bedriva aktie- och kapitalförvaltning och idka därmed förenlig verksamhet. Inga anställda finns i bolaget.

Ägarförhållanden
Stora Enso China Holdings AB med säte i Falun, är ett helägt dotterbolag till Stora Enso AB med säte i Falun (org.nr 556173-3360). Stora Enso Oyj (org.nr 1039050-8) med säte i Helsingfors, Finland är moderbolag i koncernen och upprättar koncernredovisning för totala koncernen. Det utländska moderbolagets årsredovisning finns att tillgå hos Stora Enso Oyj, Salmisaarenaukio 2, P.O. Box 309, FI-00101 Helsinki.

Väsentliga händelser under räkenskapsåret
Inga väsentliga händelser att rapportera under räkenskapsåret.

Utveckling av verksamhet, ställning och resultat

(Tkr)	2023	2022	2021	2020	2019
Rörelseresultat	-166	457	-21	-753	-1 080
Resultat e. finansiella poster	1 655	-3 647 032	2 144	-9 378	1 787 804
Balansomslutning	2 055 793	2 055 103	6 504 292	6 502 426	6 502 194
Soliditet [1]	99,9%	100,0%	100,0%	100,0%	100,0%

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

Omsättning resultat och ställning
Beträffande företagets resultat och ställning i övrigt hänvisas till efterföljande resultat-och balansräkningar, rapporter över förändringar i eget kapital samt noter.

Förslag till vinstdisposition (kronor)

Till årsstämmans förfogande står följande vinstmedel	
Balanserat resultat	2 054 018 385
Årets resultat	0
	2 054 018 385
Styrelsen föreslår att	
i ny räkning balanseras	2 054 018 385
	2 054 018 385

Enligt årsredovisningen framgår att ett koncernbidrag uppgående till 1 655 335 kr har lämnats till Stora Enso AB, org. nr 556173-3360.

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20240620144621

Stora Enso China Holdings AB
556578-3023

RESULTATRÄKNING
(Tkr)

	Not	2023-01-01 2023-12-31	2022-01-01 2022-12-31
Rörelsens intäkter			
Övriga rörelseintäkter		0	491
		0	**491**
Rörelsens kostnader			
Övriga rörelsekostnader	4	-166	-34
Rörelseresultat		**-166**	**457**
Resultat från finansiella investeringar			
Resultat från andelar i koncernföretag	9	0	-3 648 000
Ränteintäkter från koncernföretag		1 851	483
Övriga ränteintäkter och liknande intäkter	5	45	76
Räntekostnader och liknande kostnader	6	-75	-48
Resultat efter finansiella poster		**1 655**	**-3 647 032**
Bokslutsdispositioner	7	**-1 655**	**-968**
Resultat före skatt		**0**	**-3 648 000**
Skatt på årets resultat	8	0	0
ÅRETS RESULTAT		**0**	**-3 648 000**

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20240620144622

Stora Enso China Holdings AB
556578-3023

BALANSRÄKNING (Tkr)	**Not**	**2023-12-31**	**2022-12-31**
TILLGÅNGAR			
Finansiella anläggningstillgångar			
Andelar i koncernföretag	9	2 000 897	2 000 897
		2 000 897	**2 000 897**
Summa anläggningstillgångar		**2 000 897**	**2 000 897**
Omsättningstillgångar			
Kortfristiga fordringar			
Fordringar hos koncernföretag		54 127	53 267
Förutbetalda kostnader och upplupna intäkter		326	467
		54 453	**53 734**
Kassa och bank		**443**	**472**
Summa omsättningstillgångar		**54 896**	**54 206**
SUMMA TILLGÅNGAR		**2 055 793**	**2 055 103**

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Stora Enso China Holdings AB
556578-3023

BALANSRÄKNING

(Tkr)

	Not	2023-12-31	2022-12-31
EGET KAPITAL OCH SKULDER			
Eget kapital			
Bundet eget kapital			
Aktiekapital (1 000 aktier)		100	100
Reservfond		20	20
		120	**120**
Fritt eget kapital			
Balanserad vinst eller förlust		2 054 018	5 702 018
Årets resultat		0	-3 648 000
		2 054 018	**2 054 018**
Summa eget kapital		**2 054 138**	**2 054 138**
Kortfristiga skulder			
Skulder till koncernföretag		1 655	965
Upplupna kostnader och förutbetalda intäkter		0	0
		1 655	**965**
SUMMA EGET KAPITAL OCH SKULDER		**2 055 793**	**2 055 103**

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20240620144624

Stora Enso China Holdings AB
556578-3023

RAPPORT ÖVER FÖRÄNDRING I EGET KAPITAL

(Tkr)

	Bundet eget kapital		*Fritt eget kapital*		
	Aktie-kapital	Reserv-fond	Balanserad vinst eller förlust	Årets resultat	**Summa eget kapital**
Ingående balans per 1 januari 2022	**100**	**20**	**6 502 018**	**0**	**6 502 138**
Disposition av föregående års resultat				0	0
Årets resultat				-3 648 000	-3 648 000
Utdelningar			-800 000		-800 000
Utgående balans per 31 december 2022	**100**	**20**	**5 702 018**	**-3 648 000**	**2 054 138**

Aktiekapital 1 000 aktier á kvotvärde 100 kronor.

	Bundet eget kapital		*Fritt eget kapital*		
	Aktie-kapital	Reserv-fond	Balanserad vinst eller förlust	Årets resultat	**Summa eget kapital**
Ingående balans per 1 januari 2023	**100**	**20**	**5 702 018**	**-3 648 000**	**2 054 138**
Disposition av föregående års resultat			-3 648 000	3 648 000	0
Årets resultat				0	0
Utdelningar					0
Utgående balans per 31 december 2023	**100**	**20**	**2 054 018**	**0**	**2 054 138**

Aktiekapital 1 000 aktier á kvotvärde 100 kronor.

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Stora Enso China Holdings AB
556578-3023

Noter

Not 1 Allmän information

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 i jämförelse med föregående år.

Fordringar
Fordringar är redovisade till det belopp varmed de beräknas inflyta.

Koncernbidrag och aktieägartillskott
Aktieägartillkott förs direkt mot eget kapital hos mottagaren och som en ökning av posten "Andelar i koncernföretag" hos givaren. Koncernbidrag som lämnas och tas emot i syfte att minimera koncernens skattebetalningar, redovisas som en bokslutsdisposition i resultaträkningen.

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

Fordringar och skulder i utländsk valuta
Företagets redovisningsvaluta är svenska kronor (SEK).
Fordringar och skulder i utländsk valuta har värderats till balansdagens kurs och orealiserade kursvinster och kursförsluster ingår i resultatet. Terminssäkrade fordringar och skulder har värderats till gällande terminskurs. Terminspremien periodiseras som ränta över terminskontraktets löptid.

Inkomstskatter
Skattekostnaden utgörs av summan av aktuell skatt och uppskjuten skatt.

Aktuell skatt är den skatt som beräknas på det skattepliktiga resultatet för en period. Uppskjuten skatt beräknas utifrån den s.k. balansansatsen, vilket innebär att en jämförelse görs mellan redovisade och skattemässiga värden på bolagets tillgångar respektive skulder. Skillnaden mellan dessa värden multipliceras med aktuell skattesats, vilket ger beloppet för den uppskjutna skattefordringen/-skulden. Uppskjutna skattefordringar redovisas i balansräkningen i den omfattning det är sannolikt att beloppen kan utnyttjas mot framtida skattepliktiga resultat.

Not 3 Viktiga uppskattningar och bedömningar

Uppskattning av värdet på aktieinnehav baseras i huvudsak på en bedömning av framtida kassaflöden.

Not 4 Upplysning om ersättning till revisorn

	2023	2022
Öhrlings PricewaterhouseCoopers AB		
revisionsuppdrag	-14	-13
Summa	-14	-13

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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Stora Enso China Holdings AB
556578-3023

Noter

Not 5 Övriga ränteintäkter och liknande intäkter

	2023	2022
Valutakursvinster	45	76
Summa	**45**	**76**

Not 6 Räntekostnader och liknande kostnader

	2023	2022
Valutakursförluster	-75	-48
Summa	**-75**	**-48**

Not 7 Bokslutsdispositioner

	2023	2022
Lämnat koncernbidrag	-1 655	-968
Summa	**-1 655**	**-968**

Not 8 Skatt på årets resultat

	2023	2022
Aktuell skatt	0	0
Skatt på årets resultat	**0**	**0**

Not 9 Andelar i koncernföretag

	2023-12-31	2022-12-31
Ingående anskaffningsvärde	5 690 648	5 690 648
Utgående ackumulerade anskaffningsvärden	**5 690 648**	**5 690 648**
Ingående nedskrivningar	-3 689 751	-41 751
Årets nedskrivningar	0	-3 648 000
Utgående ackumulerade nedskrivningar	**-3 689 751**	**-3 689 751**
Utgående redovisat värde	**2 000 897**	**2 000 897**

Företagets innehav av andelar i koncernföretag

			Redovisat värde	
Företagets namn	**Rösträttsandel**	**Antal andelar**	**2023-12-31**	**2022-12-31**
Stora Enso China Co Ltd	100,00%	0	15 947	15 947
Stora Enso Pulp and Paper Asia AB	94,21%	23 552 417	1 112 862	1 112 862
Stora Enso Inpac Packaging Co. Ltd	100,00%	0	872 088	872 088
Summa			**2 000 897**	**2 000 897**

Företagets namn	**Org.nr**	**Säte**
Stora Enso China Co Ltd	91310000794534409A	Kina
Stora Enso Pulp and Paper Asia AB	556298-2552	Sverige
Stora Enso Inpac Packaging Co. Ltd	91130283700851869R	Kina

Not 10 Ställda säkerheter och Eventualförpliktelser

Ställda säkerheter	**2023-12-31**	**2022-12-31**
Ställda säkerheter	0	0
Summa	**0**	**0**

Eventualförpliktelser	**2023-12-31**	**2022-12-31**
Eventualförpliktelser	0	0
Summa	**0**	**0**

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Stora Enso China Holdings AB
556578-3023

Noter

Not 11 Väsentliga händelser efter räkenskapsårets utgång

Inga väsentliga händelser har inträffat efter räkenskapsårets slut.

Not 12 Hållbarhetsrapportering

Företaget upprättar enligt 7 kap 31 a§ ÅRL inte någon lagstadgad hållbarhetsrapport. Detta rapporteras av koncernens moderbolag Stora Enso Oyj med säte i Helsingfors, Finland (org.nr 1039050-8). Rapporten finns att ladda ned på www.storaenso.com.

Not 13 Förslag till vinstdisposition (kronor)

Till årsstämmans förfogande står följande vinstmedel

Balanserat resultat	2 054 018 385
Årets resultat	0
	2 054 018 385
i ny räkning balanseras	2 054 018 385
	2 054 018 385

Falun den dag som framgår av vår elektroniska underskrift

DocuSigned by:
Mika Talvitie
0A58F5425D4B49C...
Styrelsens ordförande

DocuSigned by:
Sami Mukonen
D315CB6FAFBA4C1...
Sami M

Vår revisionsberättelse har lämnats den dag som framgår av vår elektroniska underskrift

Öhrlings PricewaterhouseCoopers AB

DocuSigned by:
Bo Lagerström
140F132A790048F...
Auktoriserad revisor

Fotokopians överensstämmelse med originalet intygas:

DocuSign

Certificate Of Completion

Envelope Id: 9AA88530F9D4415C9774BE9D2ACA5CD5 Status: Completed

Subject: Complete with DocuSign: Uttalande från företagsledningen - Stora Enso China Holdings AB .docx.p...

Source Envelope:

Document Pages: 11 Signatures: 5 Envelope Originator:

Certificate Pages: 6 Initials: 0 Sara Pamukci

AutoNav: Enabled Salmisaarenaukio 2

EnvelopeId Stamping: Enabled Helsinki, Helsinki 00180

Time Zone: (UTC+01:00) Amsterdam, Berlin, Bern, Rome, Stockholm, Vienna sara.pamukci@storaenso.com

IP Address: 31.208.29.227

Record Tracking

Status: Original Holder: Sara Pamukci Location: DocuSign

4/30/2024 9:38:11 AM sara.pamukci@storaenso.com

Signer Events

Mika Talvitie

mika.talvitie@storaenso.com

SVP Finance, Strategy and Digitalization, Packaging Materials

Stora Enso

Security Level: Email, Account Authentication (None), Digital Certificate

Signature Provider Details:

Signature Type: DocuSign Protect & Sign (Client ID: dde5e85d-4085-40b6-8785-da3ccd16d81e)

Signature Issuer: DocuSign Cloud Signing CA - SI1

Authentication Details

Identity Verification Details:

Workflow ID: f0e4d36b-4cf0-4eee-aaf4-b7e2fe54e05e

Workflow Name: DocuSign ID Verification with EU Advanced

Workflow Description: This recipient will need to verify with a government approved ID and sign with EU Advanced signature. Make sure the name entered matches their ID.

Identification Method: Electronic ID

Type of Electronic ID: Finnish Bank eIDs (FTN)

Transaction Unique ID: a22a3fd4-ebdc-5247-9330-376be1121ff8

Country or Region of ID: FI

Result: Passed

Performed: 4/30/2024 1:27:01 PM

Electronic Record and Signature Disclosure:

Accepted: 4/30/2024 1:27:18 PM

ID: 7092840e-2764-4b57-9ee5-280976484ed7

Signature

DocuSigned by:
Mika Talvitie
0A58F5425D4B49C...

Signature Adoption: Pre-selected Style

Using IP Address: 87.92.158.218

Signature Provider Location: https://ps-ws.dsf.docusign.net/ds-server/s/noauth/psm/tsp/sign/psm-docusign/2PSIGAES/SERVID02

Timestamp

Sent: 4/30/2024 12:41:13 PM

Viewed: 4/30/2024 1:27:18 PM

Signed: 4/30/2024 1:28:04 PM

Sami Muhonen

sami.muhonen@storaenso.com

Director,Business controlling, Packaging Solutions

Security Level: Email, Account Authentication (None), Digital Certificate

Signature Provider Details:

Signature Type: DocuSign Protect & Sign (Client ID: dde5e85d-4085-40b6-8785-da3ccd16d81e)

Signature Issuer: DocuSign Cloud Signing CA - SI1

Authentication Details

DocuSigned by:
Sami Muhonen
D315CB6FAFBA4C1...

Signature Adoption: Pre-selected Style

Using IP Address: 92.64.201.162

Signature Provider Location: https://ps-ws.dsf.docusign.net/ds-server/s/noauth/psm/tsp/sign/psm-docusign/2PSIGAES/SERVID02

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Viewed: 4/30/2024 1:54:56 PM

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...ns överensstämmelse med originalet intygas:

20240620144628

20240620144629

Signer Events	Signature	Timestamp

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Workflow Name: DocuSign ID Verification with EU Advanced
Workflow Description: This recipient will need to verify with a government approved ID and sign with EU Advanced signature. Make sure the name entered matches their ID.
Identification Method: Electronic ID
Type of Electronic ID: Finnish Bank eIDs (FTN)
Transaction Unique ID: d0f1cd16-e1f1-5909-a0ab-2756ea61de5b
Country or Region of ID: FI
Result: Passed
Performed: 4/30/2024 1:54:38 PM

Electronic Record and Signature Disclosure:
Accepted: 4/30/2024 1:54:56 PM
ID: e3eff3ea-7552-411e-9302-a3635dde4073

Bo Lagerström
bo.lagerstroem@pwc.com
Security Level: Email, Account Authentication (None), Digital Certificate

DocuSigned by:
Bo Lagerström
140F132A790048F...

Sent: 4/30/2024 1:55:20 PM
Viewed: 5/6/2024 2:04:53 PM
Signed: 5/6/2024 2:05:23 PM

Signature Provider Details:
Signature Type: DocuSign Protect & Sign (Client ID: dde5e85d-4085-40b6-8785-da3ccd16d81e)
Signature Issuer: DocuSign Cloud Signing CA - SI1

Signature Adoption: Pre-selected Style
Using IP Address: 62.119.65.134

Signature Provider Location: https://ps-ws.dsf.docusign.net/ds-server/s/noauth/psm/tsp/sign/psm-docusign/2PSIGAES/SERVID02

Authentication Details
Identity Verification Details:
Workflow ID: f0e4d36b-4cf0-4eee-aaf4-b7e2fe54e05e
Workflow Name: DocuSign ID Verification with EU Advanced
Workflow Description: This recipient will need to verify with a government approved ID and sign with EU Advanced signature. Make sure the name entered matches their ID.
Identification Method: Electronic ID
Type of Electronic ID: BankID Sweden
Transaction Unique ID: 8b274f6e-bedf-5b61-ab73-e55b985b9de5
Country or Region of ID: SE
Result: Passed
Performed: 5/6/2024 2:04:36 PM

Electronic Record and Signature Disclosure:
Accepted: 5/6/2024 2:04:53 PM
ID: 4b8688fc-8fa2-4f3c-8767-cc25ae6295a3

In Person Signer Events	Signature	Timestamp
Editor Delivery Events	**Status**	**Timestamp**
Agent Delivery Events	**Status**	**Timestamp**
Intermediary Delivery Events	**Status**	**Timestamp**
Certified Delivery Events	**Status**	**Timestamp**
Carbon Copy Events	**Status**	**Timestamp**
Witness Events	**Signature**	**Timestamp**
Notary Events	**Signature**	**Timestamp**

Envelope Summary Events	Status	Timestamps
Envelope Sent	Hashed/Encrypted	4/30/2024 12:41:13 PM
Certified Delivered	Security Checked	5/6/2024 2:04:53 PM
Signing Complete	Security Checked	5/6/2024 2:05:23 PM

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Envelope Summary Events	Status	Timestamps
Completed	Security Checked	5/6/2024 2:05:23 PM

Payment Events	Status	Timestamps

Electronic Record and Signature Disclosure

20240620144630

Fotokoplans överensstämmelse med originalet intygas:

20240620144635

pwc

Revisionsberättelse

Till bolagsstämman i Stora Enso China Holdings AB, org.nr 556578-3023

Rapport om årsredovisningen

Uttalanden

Vi har utfört en revision av årsredovisningen för Stora Enso China Holdings AB för år 2023.

Enligt vår uppfattning har årsredovisningen upprättats i enlighet med årsredovisningslagen och ger en i alla väsentliga avseenden rättvisande bild av Stora Enso China Holdings ABs finansiella ställning per den 31 december 2023 och av dess finansiella resultat för året enligt årsredovisningslagen. Förvaltningsberättelsen är förenlig med årsredovisningens övriga delar.

Vi tillstyrker därför att bolagsstämman fastställer resultaträkningen och balansräkningen för Stora Enso China Holdings AB.

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 Stora Enso China Holdings 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 ansvar

Det är styrelsen som har ansvaret för att årsredovisningen upprättas och att den ger en rättvisande bild enligt årsredovisningslagen. Styrelsen 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 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 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 huruvida 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.

En ytterligare beskrivning av vårt ansvar för revisionen av årsredovisningen finns på Revisorsinspektionens webbplats: www.revisorsinspektionen.se/revisornsansvar. Denna beskrivning är en del av revisionsberättelsen.

Rapport om andra krav enligt lagar och andra författningar

Uttalanden

Utöver vår revision av årsredovisningen har vi även utfört en revision av styrelsens förvaltning för Stora Enso China Holdings AB för år 2023 samt av förslaget till dispositioner beträffande bolagets vinst eller förlust.

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

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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 Stora Enso China Holdings 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 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.

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 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.

En ytterligare beskrivning av vårt ansvar för revisionen av förvaltningen finns på Revisorsinspektionens webbplats: www.revisorsinspektionen.se/revisornsansvar. Denna beskrivning är en del av revisionsberättelsen.

Stockholm den dag som framgår av vår elektroniska signatur

Öhrlings PricewaterhouseCoopers AB

Bo Lagerström
Auktoriserad revisor

Fotokopians överensstämmelse med originalet intygas:

20240620144637

Deltagare

ÖHRLINGS PRICEWATERHOUSECOOPERS AB 556029-6740 Sverige

Signerat med Svenskt BankID — *2024-05-06 12:03:34 UTC*

Namn returnerat från Svenskt BankID: Bo Curt Elof Lagerström — Datum

Bo Lagerström
Authorised Public Accountant

Leveranskanal: E-post

Fotokopians överensstämmelse med originalet intygas:

Stora Enso Oyj
Financial Report 2023

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The official audited financial statements in Finnish are available at storaenso.com/download-centre
The audit firm PricewaterhouseCoopers Oy has provided an independent auditor's reasonable assurance report only on Stora Enso's ESEF Financial Statements in Finnish in accordance with ISAE 3000 (Revised).

Report of the Board of Directors

Introduction to Stora Enso

Part of the global bioeconomy, Stora Enso is a business-to-business company and a leading provider of renewable products in packaging, biomaterials, and wooden construction, and one of the largest private forest owners in the world. Sustainability is integral in Stora Enso's business strategy, it is at the core of what we do. Stora Enso contributes to the transition towards a biobased circular economy in three areas where it has the biggest impact and opportunities: climate change, biodiversity, and circularity.

We create value with our low-carbon and recyclable fiber-based products, through which we support our customers in meeting the demand for renewable sustainable products.

Stora Enso had 20,822 employees on average during 2023. The Group sales in 2023 were EUR 9.4 billion, with an operational EBIT of EUR 342 million. Stora Enso shares are listed at the Helsinki (STEAV, STERV) and Stockholm (STEA, STER) stock exchanges. In addition, the shares are traded on OTC Markets (OTCQX) in the USA as ADRs and ordinary shares (SEOAY, SEOFF, SEOJF).

Markets and deliveries

Demand for cartonboard declined during 2023, with some regional exceptions. Market conditions took a negative turn as excess inventories from the 2022 boom were destocked in combination with weak underlying consumption due to the economic headwinds. Demand, though muted, in the Asian region was stronger than in the more mature European and North American markets.

Containerboard demand remained weak in 2023. The economy-wide destocking cycle continued longer than anticipated, retail sales remained stagnant and global manufacturing weakness burdened the packaging sector. Containerboard demand declined in all regions excluding Asia, driven by China and India. In Europe, the demand contracted to pre-pandemic levels.

The European paper demand continued to decline significantly, driven by structural demand erosion and destocking of inventories in the whole value chain.

The European corrugated market faced challenges partly driven by weak retail demand, especially in food, beverage, and E-commerce segments. The weakness of the European manufacturing sector continued to drag down corrugated box demand. Overall, the European corrugated demand is estimated to have declined by 5% in 2023.

Global demand for chemical market pulp rebounded to 3% in 2023. Demand for hardwood pulp grew 5%, whereas softwood pulp demand increased 0.5%. Demand for unbleached kraft pulp (UKP) dropped, whereas demand for fluff pulp continued strong. The majority of the growth was concentrated in Asia, especially China, where pulp buyers restocked their market pulp inventories with low priced pulp. However, the real pulp consumption in downstream markets did not necessarily reflect the boost in demand. Demand in North America and Europe was subdued due to a slow economy and high inflation.

The global chemical market pulp capacity increased by 2% in 2023. The hardwood capacity increased by 5%, thanks to new capacity ramping up in South America. Due to temporary and permanent capacity closures, softwood capacity declined by 1.5% and UKP by 9%. The overall shipment-to-capacity balance stood at 91%, 2 percent-points up from 2022.

Global pulp inventories were elevated for the first half of the year but were considered balanced towards the end of year. Softwood pulp inventories reached their all-time high reading before balancing by the end of the year. Hardwood pulp inventories declined strongly in the spring following a demand boost from China.

After the strong markets during 2021–2022, the global sawn wood consumption decreased in 2023 by 3% according to FEA (Forest Economic Advisors), with above average declines experienced in Europe and the USA. Throughout 2023, market supply exceeded demand, which added pressure on prices in all markets. High inflation and interest rates caused market uncertainties and lowered customer confidence, which resulted in reduced volumes of building permits and housing starts. Curtailments of supply started to improve the market balance during the second half of 2023, supported by lower inventory levels.

Estimated consumption of board, pulp, sawn softwood, and paper in 2023

Tonnes, million	Europe	North America	Asia and Oceania
Consumer board	9.1	8.8	32.7
Containerboard	33.9	31.8	94.9
Corrugated board (billion m^2)[1]	10.5	n/a	n/a
Chemical market pulp	15.3	7.5	40.2
Sawn softwood (million m^3)	82.0	97.0	74.9
Newsprint	2.7	1.1	5.2
Uncoated magazine paper	1.5	0.7	0.1

[1] European focus markets (Baltics, Benelux, FI, PL, SE)
Source: Afry, CEPI, Numera, PPPC, Stora Enso, Forest Economic Advisors (FEA)

Production and external deliveries

	2023	2022	Change % 2023–2022
Board deliveries[1], 1,000 tonnes	3,927	4,294	-8.6%
Board production[1], 1,000 tonnes	4,185	4,682	-10.6%
Corrugated packaging European deliveries, million m^2	1,167	741	57.5%
Corrugated packaging European production, million m^2	1,094	771	41.9%
Market pulp deliveries, 1,000 tonnes	2,220	2,374	-6.5%
Wood products deliveries, 1,000 m^3	3,897	4,397	-11.4%
Wood deliveries, 1,000 m^3	13,667	13,304	2.7%
Paper deliveries, 1,000 tonnes	761	1,924	-60.5%
Paper production, 1,000 tonnes	752	1,926	-60.9%

[1] Includes consumer board and containerboard volumes.

The Group's board deliveries totalled 3,927,000 tonnes, which was 368,000 tonnes, or 8.6% lower compared to a year ago. Corrugated packaging European deliveries increased by 426 million m^2 or 57.5% to 1,167 million m^2 due to acquisition of De Jong Packaging Group. Market pulp deliveries decreased by 153,000 tonnes, or 6.5%, to 2,220,000 tonnes. Wood product deliveries decreased by 499,000 m^3 or 11.4% to 3,897,000 m^3. Wood deliveries increased by 363,000 m^3 or 2.7% to 13,667,000 m^3. Paper deliveries totalled 761,000 tonnes, down 1,163,000 tonnes, or 60.5%, from 2022, driven by the structural changes.

Alternative performance measures

The alternative performance measures used by Stora Enso are explained in the chapter Alternative performance measures.

Financial results – Group

Group sales decreased by 20% year-on-year to EUR 9,396 (11,680) million mainly due to lower sales prices and volumes as well as divestments partly offset by acquisition of De Jong Packaging Group. Operational EBIT was EUR 342 (1,891) million, and the operational EBIT margin was 3.6%. Operational EBIT decreased mainly due to decreased sales prices and

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Key figures

	2023	2022	2021
Sales, EUR million	9,396	11,680	10,164
Operational EBIT, EUR million	342	1,891	1,528
Operational EBIT margin	3.6%	16.2%	15.0%

volumes as well as increased variable costs especially wood costs. Earnings per share decreased by 123% to EUR -0.45 (1.97) and earnings per share excluding fair valuations decreased by 147% to EUR -0.73 (1.55).

The IFRS operating result includes a positive net effect of EUR 194 (positive 195) million from biological asset valuation from subsidiaries and joint operations. The positive impact comes mainly from the increase in fair valuation in Stora Enso owned forests in Sweden, mostly driven by higher market prices. There is also a positive net effect of EUR 56 (positive 168) million from Stora Enso's share of net financial items, taxes and biological asset valuation of associated companies. The positive impact comes mainly from increase in fair valuation in Finnish forests, through Stora Enso's 41% investment in Tornator.

Tangible and intangible asset (including goodwill) impairments amounted to EUR 776 (114) million.

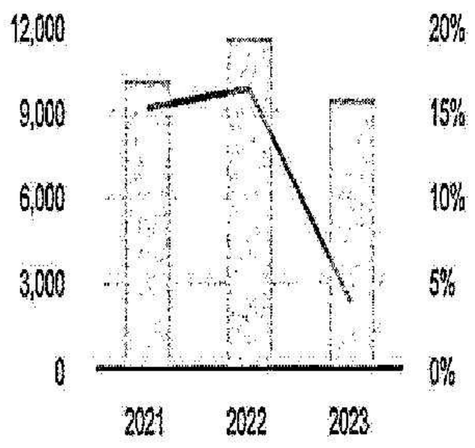
The items affecting comparability (IAC) had a negative impact of EUR 895 (245) million on IFRS operating result. The main IACs in 2023 relate to the impairments in Packaging Materials, Biomaterials, Wood Products and segment Other, restructurings related to Sunila, De Hoop, Anjala and Kvarnsveden sites and Group functions and Packaging Materials division as well as disposal of Nymölla, Maxau, Hylte and Wood Products DIY sites and biocomposite business. The IACs in 2022 mainly relate to the disposal of Russian operations as well as impairments and other costs related to upcoming paper site disposals. Fair valuations and non-operational items (FV) had a positive net impact on the IFRS operating result of EUR 231 (363) million. The main IAC and FV items are presented in the chapter Alternative Performance Measures.

The IFRS operating result was EUR -322 (2,009) million.

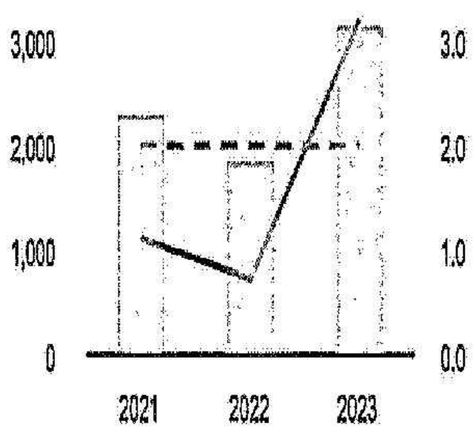
Operating result (IFRS), EUR million	-322	2,009	1,568
Operating result margin (IFRS)	-3.4%	17.2%	15.4%
Return on equity (ROE)	-3.8%	13.3%	13.0%
Operational ROCE	2.4%	13.7%	12.5%
Operational ROCE excl. Forest division	1.0%	20.4%	17.7%
Net debt/equity ratio	0.29	0.15	0.22
EPS (basic), EUR	-0.45	1.97	1.61
EPS excluding FV, EUR	-0.73	1.55	1.19
Dividend and distribution per share[1], EUR	0.10	0.60	0.55
Payout ratio, excluding FV	-13.7%	38.6%	46.3%
Payout ratio (IFRS)	-22.1%	30.5%	34.3%
Dividend and distribution yield, (R share)	0.8%	4.6%	3.4%
Price/earnings (R share), excluding FV	-17.17	8.46	13.60
Equity per share, EUR	13.93	15.89	13.55
Market capitalisation 31 Dec, EUR million	9,864	10,503	12,809
Closing price 31 Dec, A share, EUR	12.45	13.90	16.60
Closing price 31 Dec, R share, EUR	12.53	13.15	16.14
Average price, A share, EUR	12.82	16.58	16.68
Average price, R share, EUR	11.93	16.12	15.70
Number of shares 31 Dec (thousands)	788,620	788,620	788,620
Trading volume A shares (thousands)	968	1,174	1,750
% of total number of A shares	0.5 %	0.7%	1.0%
Trading volume R shares (thousands)	476,854	455,952	422,493
% of total number of R shares	77.8 %	74.5%	69.0%
Average number of shares, basic (thousands)	788,620	788,620	788,620
Average number of shares, diluted (thousands)	789,714	789,391	789,126

[1] It is proposed that the Board would be authorised to decide on an additional dividend payment of a maximum of EUR 0.20. The authorisation would be valid until 31 December 2024. See the Board of Director's proposal for dividend distribution.

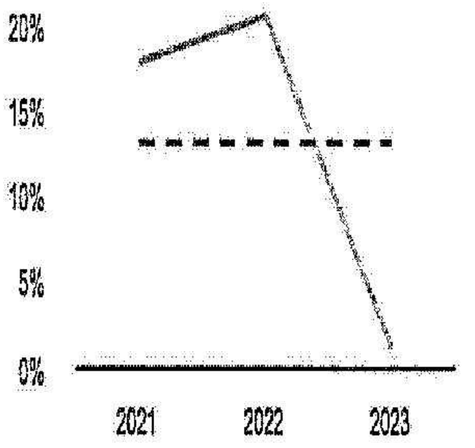
Sales and operational EBIT margin



Net debt to operational EBITDA



Operational ROCE excl. Forest



Net financial expenses at EUR 173 (151) million were EUR 23 million higher than a year ago. Net interest expenses, at EUR 113 million, increased by EUR 8 million as a result of higher interest rates on borrowings and higher amount of gross debt. Other net financial expenses, at EUR 38 million, were EUR 6 million lower, mainly due to the higher write-down of Russia related loan receivables and loss allowance included in the comparison period figures. The net foreign exchange impact in respect of cash equivalents, interest-bearing assets and liabilities and related foreign-currency hedges amounted to a loss of EUR 22 (loss of EUR 1) million, mainly due to revaluation of foreign currency net debt in subsidiaries located in China.

Operative cash flow

EUR million	2023	2022
Operational EBITDA	989	2,529
IAC on operational EBITDA	-126	-133
Other adjustments	-210	-62
Change in working capital	300	-461
Cash flow from operations	954	1,873
Cash spent on fixed and biological assets	-989	-705

The net tax totalled EUR 64 (-322) million, equivalent to an effective tax rate of 13.0% (17.3%), as described in more detail in note 2.5 Income taxes.

The loss attributable to non-controlling interests was EUR 74 (loss of EUR 13) million, leaving a loss of EUR 357 (gain of EUR 1,550) million attributable to Company shareholders.

Earnings per share excluding fair valuations were EUR -0.73 (1.55). Operational return on capital employed was 2.4% (13.7%).

The Group capital employed was EUR 14,056 million on 31 December 2023, an decrease of EUR 300 million, mainly due to impairments and change in the fair valuation of energy assets (PVO) partly offset by acquisition of De Jong Packaging, investment projects and increase of the fair valuation of forest assets.

Breakdown of capital employed change

EUR million	Capital Employed
31 December 2022	**14,356**
Capital expenditure excluding investments in biological assets less depreciation	521
Investments in biological assets less depletion of capitalised silviculture costs	-5
Impairments and reversal of impairments	-770
Fair valuation of forest assets	241
Unlisted securities (mainly PVO)	-527
Associated companies	94
Net liabilities in defined benefit plans	-31
Operative working capital and other interest-free items, net	-344
Emission rights	-85
Net tax liabilities	170
Acquisition of subsidiary companies	818
Disposal of subsidiary companies	-227
Translation difference	-60
Other changes	4
31 December 2023	**14,056**

Financing

Cash flow from operations was EUR 954 (1,873) million and cash flow after investing activities was EUR -40 (1,162) million. Working capital decreased by EUR 300 (increased 461) million, inventories decreased by EUR 328 million and trade receivables by EUR 389 million. Trade payables decreased by EUR 352 million and thus had a negative impact on working capital. Payments related to the previously recognised provisions were EUR 53 million.

Acquisitions of associated companies	-5	-7
Cash flow after investing activities	-40	1,162

As at 31 December 2023, Group net interest-bearing liabilities were EUR 3,167 (1,853) million. The increase in net interest-bearing liabilities was mainly driven by the acquisition of the De Jong Packaging Group and other significant investments such as the consumer board investment at the Oulu site in Finland. Cash and cash equivalents net of bank overdrafts increased to EUR 2,464 (1,917) million. The net debt/equity ratio at 31 December 2023 increased to 0.29 (0.15). The ratio of net debt to the last 12 months' operational EBITDA increased to 3.2 (0.7) due to higher net debt and lower operational EBITDA. The average interest rate on borrowings for the full year 2023 increased to 3.7% (3.3%) with a run-rate of 4.0% as per the end of the fourth quarter.

In May 2023, Stora Enso issued two EUR 500 million green bonds with 3- and 6.25-year maturities. In November 2023, Stora Enso issued new SEK green bonds with nominal value of SEK 6,100 million, equal to EUR proceeds of 524 million at the transaction date FX rate. The SEK green bonds feature several tranches with the maturities ranging from 2025 to 2028. Later in December 2023 the Company also completed a private placement of SEK 425 million with maturity in 2033. This was equal to EUR proceeds of 38 million at the transaction date FX rate.

In addition, during the year, the Company re-financed altogether EUR 550 million of its bilateral loans and committed credit facility, and also drew bilateral loans of EUR 200 million in total that were arranged but undrawn at the end of 2022. The existing loans were extended by one to two years and new terms also include extension options. The Company also arranged a new EUR 100 million bilateral loan with a 1.5-year maturity and a 1-year extension option during the second quarter. In the fourth quarter a one-year extension was signed to the revolving credit facility of EUR 700 million to extend its maturity to 2028.

Stora Enso had in total EUR 800 million committed undrawn credit facilities as per 31 December 2023. Additionally, the Company has access to EUR 1,100 million statutory pension premium loans in Finland.

The fair valuation of cash flow hedges and equity investments fair valued through other comprehensive income decreased equity by EUR 647 (increased by EUR 563) million. The decrease is mainly due to a lower fair valuation of the Group's shareholding in Pohjolan Voima Oy (PVO), explained especially by lower electricity price forecasts.

At the end of the year, the ratings for Stora Enso's rated bonds were as follows:

Rating agency	Long/short-term rating	Valid from
Fitch Ratings	BBB- (stable)	4 August 2023
Moody's	Baa3 (stable) / P-3	17 November 2023

Financial results – Segments

Packaging Materials division

The Packaging Materials division is a global leader and expert in circular packaging providing premium packaging materials based on virgin and recycled fiber. Stora Enso helps customers replace fossil-based materials with low-carbon, renewable and recyclable alternatives for their food, beverage and transport packaging with a wide selection of base boards and barrier coatings.

EUR million	2023	2022
Sales	4,557	5,496
Operational EBITDA	267	993
Operational EBITDA margin	5.9%	18.1%
Operational EBIT	-57	655
Operational EBIT margin	-1.3%	11.9%

Packaging Solutions division

The Packaging Solutions division is a packaging converter that provides premium fiber-based packaging products and services used by leading brands across multiple market areas, including retail, e-commerce, fresh produce, and industrial applications. The division also provides design and sustainability services for customers to optimise material use, logistics and to reduce CO2 emissions.

EUR million	2023	2022
Sales	1,077	727
Operational EBITDA	111	42
Operational EBITDA margin	10.3%	5.7%
Operational EBIT	43	16
Operational EBIT margin	4.0%	2.2%

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Fair valuations and non-operational items (FV)[1]	12	7
Items affecting comparability (IAC)[1]	-597	-9
Operating result (IFRS)	-642	653
Operating capital, average	3,580	3,512
Operational ROOC	-1.8%	18.6%
Cash flow from operations	370	823
Cash flow after investing activities	-235	488
Board deliveries, 1,000 tonnes	4,963	5,425
Board production, 1,000 tonnes	4,843	5,502

[1] The IAC for 2023 included impairments of fixed assets of EUR -228 million for the Oulu containerboard unit, EUR -202 million for China operations, EUR -12 million for the Anjala site's paper assets, EUR -26 million of goodwill impairments related to the Anjala and De Hoop sites, restructuring costs related to De Hoop site closure of EUR -79 million, closing down one paper line at Anjala site of EUR -26 million, restructuring program in division management and support functions of EU -12 million and other restructuring costs of EUR -9 million, and other IAC cases of -3 million. The IAC for 2022 included EUR -4 million expenses from disposal of Russian operations, EUR -5 million of restructuring expenses and EUR -1 million other cases. The fair valuations for 2023 included non-operational fair valuation changes of biological assets of EUR 12 (7) million. Comparative figures have been restated as described in the release from 29 March 2023.

The Packaging Materials division was hit by unprecedented market conditions and sales declined by 17%, to 4,557 (5,496) million. This was driven by lower prices and volumes for containerboard and paper, and lower volumes for consumer board. The containerboard market remained weak throughout the year, while the consumer board market started to soften during Q1 and stabilised at a low level in Q4.

Operational EBIT dropped from all time high level to EUR -57 (655) million, driven by lower volumes and prices. Variable costs in many categories declined compared to a year ago, but overall remained higher year-on-year driven by increased wood costs.

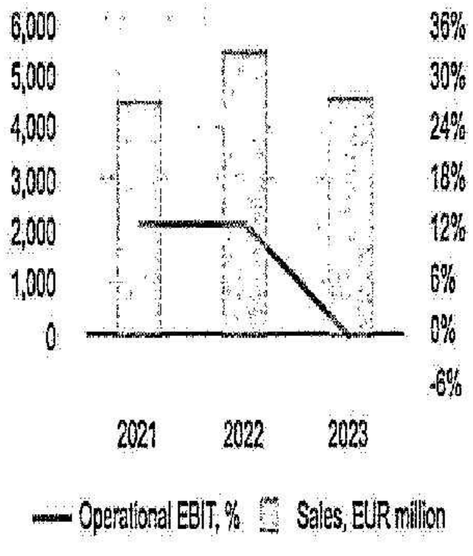
Items affecting comparability (IAC)[1]	-26	-98
Operating result (IFRS)	17	-81
Operating capital, average	874	204
Operational ROOC	4.9%	7.9%
Cash flow from operations	145	11
Cash flow after investing activities	62	-14
Corrugated packaging European deliveries, million m^2	1,178	767
Corrugated packaging European production, million m^2	1,094	771

[1] The IAC for 2023 included EUR -19 million restructuring costs in China and EUR -16 million related to the acquisition of De Jong Packaging Group, and EUR -1 million other cases. The IAC for 2022 included EUR -93 million related to the disposal of Russian operations, EUR -4 million restructuring costs, EUR -2 million fixed asset impairments and EUR -1 million other cases. Comparative figures have been restated as described in the release from 29 March 2023.

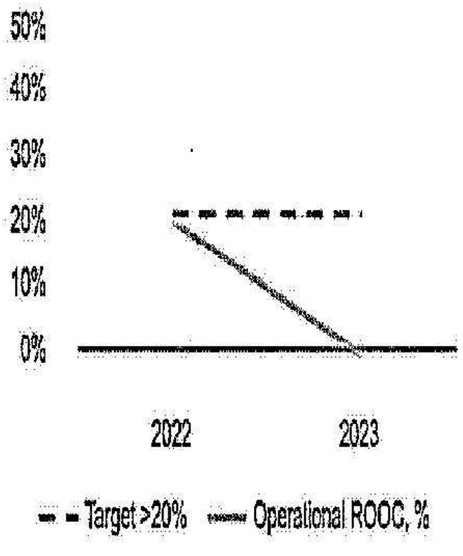
Packaging Solutions division sales were at an all-time high of EUR 1,077 (727) million, up 48%, driven by the acquisition of De Jong Packaging Group

Operational EBIT was EUR 43 (16) million. Lower raw material prices had a positive impact on the margins. The integration of De Jong Packaging Group proceeded well and contributed positively to the result.

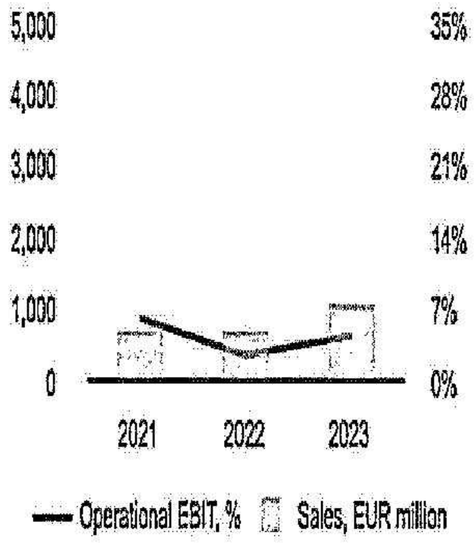
Sales and operational EBIT
Packaging Materials



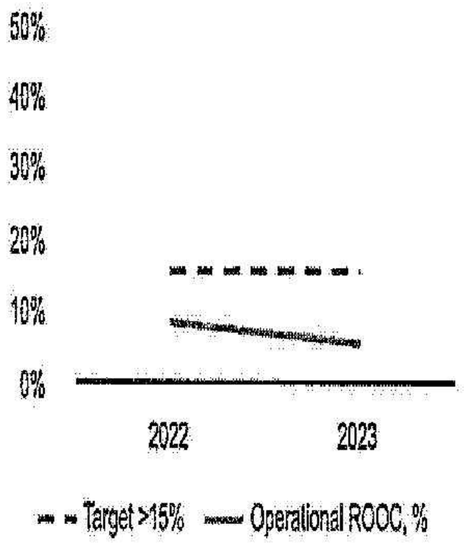
Operational ROOC
Packaging Materials



Sales and operational EBIT
Packaging Solutions



Operational ROOC
Packaging Solutions



Biomaterials division

The Biomaterials division's business opportunities are strongly driven by the need to replace fossil-based and other non-renewable materials. Stora Enso uses all fractions of a tree to develop new biobased solutions for various applications. The division's long-term growth is driven by new products and innovations, while pulp continues to be the foundation.

EUR million	2023	2022
Sales	1,587	2,180
Operational EBITDA	256	822
Operational EBITDA margin	16.1%	37.7%
Operational EBIT	118	687
Operational EBIT margin	7.4%	31.5%
Fair valuations and non-operational items (FV)[1]	25	-17
Items affecting comparability (IAC)[1]	-224	-2
Operating result (IFRS)	-81	668
Operating capital, average	2,625	2,715
Operational ROOC	4.5%	25.3%

Wood Products division

The Wood Products division is Europe's largest sawn timber producer and a leading provider of sustainable wood-based solutions for the global construction industry. Additionally, it offers window and door components, and co-products such as pellets made from wood residuals.

EUR million	2023	2022
Sales	1,580	2,195
Operational EBITDA	-17	356
Operational EBITDA margin	-1.0%	16.2%
Operational EBIT	-64	309
Operational EBIT margin	-4.1%	14.1%
Items affecting comparability (IAC)[1]	-22	-56
Operating result (IFRS)	-86	253
Operating capital, average	687	714
Operational ROOC	-9.3%	43.2%
Cash flow from operations	43	346
Cash flow after investing activities	3	264

Cash flow from operations	431	682
Cash flow after investing activities	234	536
Pulp deliveries, 1,000 tonnes	2,277	2,554

[1] The IAC for 2023 included restructuring expenses from the closure of the Sunila pulp production of EUR -116 million, impairments of fixed assets of EUR -59 million for the Ulmaharju site, impairment of goodwill of EUR -44 million for the Nordic Mills CGU, EUR -4 million of other cases. The fair valuations for 2023 included non-operational fair valuation changes of biological assets of EUR 25 (-17) million.

Biomaterials division sales were EUR 1,587 (2,180) million, down 27% from all-time high sales in 2022, due to significantly lower pulp sales prices in all grades and lower sales volumes, due to market-related curtailments and the closure of the Sunila site in Finland announced in September 2023. Market conditions were challenging with lower demand.

Operational EBIT at EUR 118 (687) million decreased by 83%, mainly due to significantly lower sales prices and volumes. Operational EBIT was negatively impacted by significantly higher variable costs, mainly for wood.

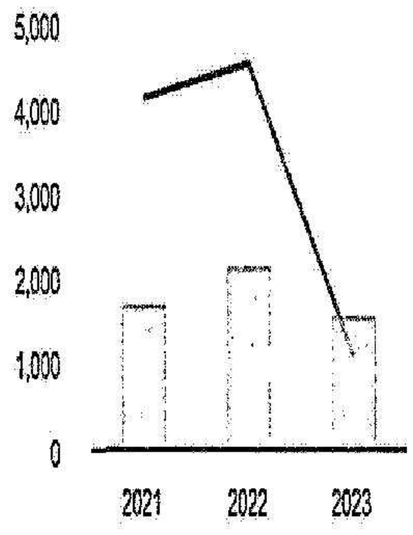
Wood products deliveries, 1,000 m³	3,727	4,235

[1] The IAC for 2023 included impairments of fixed assets of EUR -7 million for the Veitsiluoto site, EUR -4 million for the Launkaline site, EUR -3 million for the Honkalahti site, EUR -4 million impact from disposal of Näpi site and EUR -3 million from disposal of Wood Products DIY unit, EUR -1 million other cases. The IAC for 2022 was related to disposal of Russian operations.

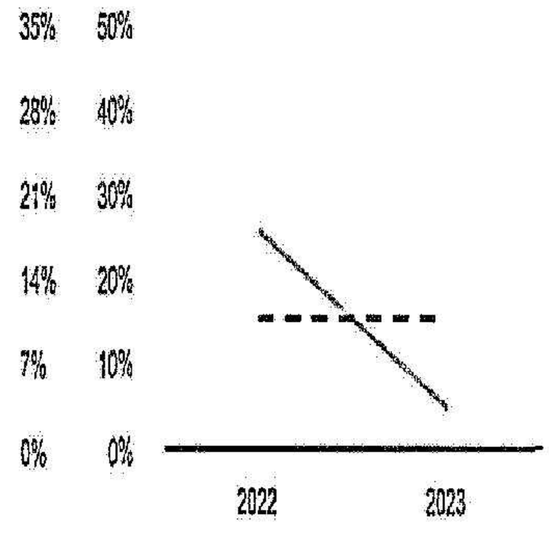
Wood Products division sales were EUR 1,580 (2,195) million, down 28%, due to the weakened market demand and clearly lower sales prices. Weakness in construction industry resulted in decline in building permits and project starts, and reduced the demand of the division's products through the year. To balance the lower demand, production curtailments were implemented.

Operational EBIT was weak, at EUR -64 (309) million, a decrease of 121%. The negative impact of sales prices and volumes could not be compensated by the division's actions to lower the fixed costs.

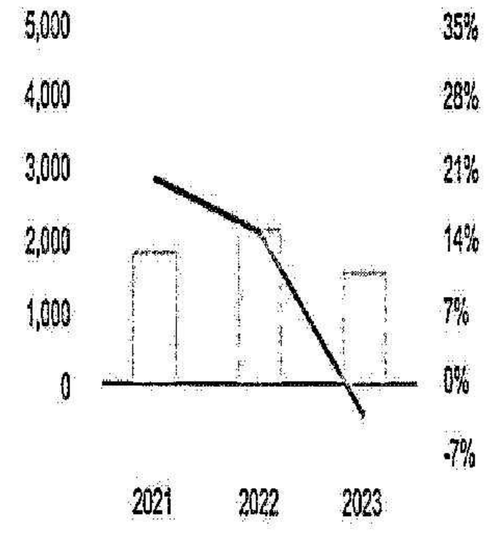
Sales and operational EBIT
Biomaterials



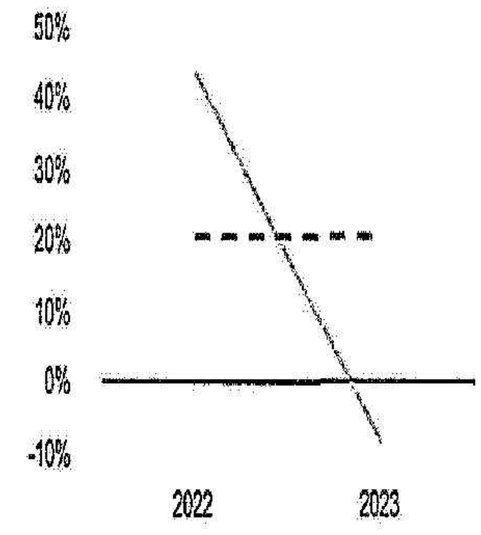
Operational ROOC
Biomaterials



Sales and operational EBIT
Wood Products



Operational ROOC
Wood Products



Forest division

The Forest division is responsible for wood sourcing for Stora Enso's Nordic and Baltic operations and B2B customers. It manages the Group's forest assets in Sweden and a 41% share of Tornator, whose forests are mainly located in Finland. The division's operations are based on sustainable forest management from planning and logistics to harvesting and forest regeneration.

EUR million	2023	2022
Sales	2,490	2,519
Operational EBITDA	305	256
Operational EBITDA margin	12.2%	10.2%
Operational EBIT	253	204
Operational EBIT margin	10.2%	8.1%
Fair valuations and non-operational items (FV)[1]	206	367
Items affecting comparability (IAC)[1]	2	-48
Operating result (IFRS)	461	523
Capital employed, average	5,740	5,518
Operational ROCE	4.4%	3.7%
Cash flow from operations	70	146
Cash flow after investing activities	19	91
Wood deliveries, 1,000 m³	32,401	38,217
Operational fair value change of biological assets	120	87

Other

The segment Other includes the divested paper sites until the completion of the divestments, the reporting of the emerging businesses (including Formed Fiber and Selfly Stores), as well as Stora Enso's shareholding in the energy company Pohjolan Voima (PVO), and the Group's shared services and administration.

EUR million	2023	2022
Sales	964	2,150
Operational EBITDA	18	102
Operational EBITDA margin	1.9%	4.7%
Operational EBIT	1	63
Operational EBIT margin	0.1%	2.9%
Fair valuations and non-operational items (FV)[1]	-13	6
Items affecting comparability (IAC)[1]	-28	-33
Operating result (IFRS)	-41	36
Cash flow from operations	-105	-136
Cash flow after investing activities	-123	-203

[1] The IAC for 2023 included EUR 29 million related to restructuring of Kvarnsveden, EUR 9 million to restructuring of Veitsiluoto, and EUR -15 million to restructuring of Group Functions, EUR 52 million related to disposal of Maxau, EUR -30 million to disposal of Nymölla, EUR -45 million to disposal of Hyltе, EUR -14 million to disposal of Biocomposite business, and EUR -8 million on disposal transactions costs, EUR -14 million related to fixed asset impairments in Group Operations unit and EUR 6 million related to environmental provision updates. The IAC for 2022 included EUR 13 million related to restructuring of Kvarnsveden, EUR -10 million to restructuring of Veitsiluoto, EUR -28 million on impairments, transaction cost and other items related to paper site disposals of Nymölla, Hyltе and

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[1] The IAC for 2023 included a reversal of land related impairment of EUR 5 million and other provision updates of EUR -3 million. The IAC for 2022 included land related impairment of EUR -5 million and EUR -43 million related disposal of Russian operations. The fair valuations for 2023 included non-operational fair valuation changes of biological assets of EUR 155 (201) million, non-operational items of associated companies of EUR 56 (169) million, and EUR -5 (-3) million impact from adjustments for differences between fair value and acquisition cost of forest assets upon disposal.

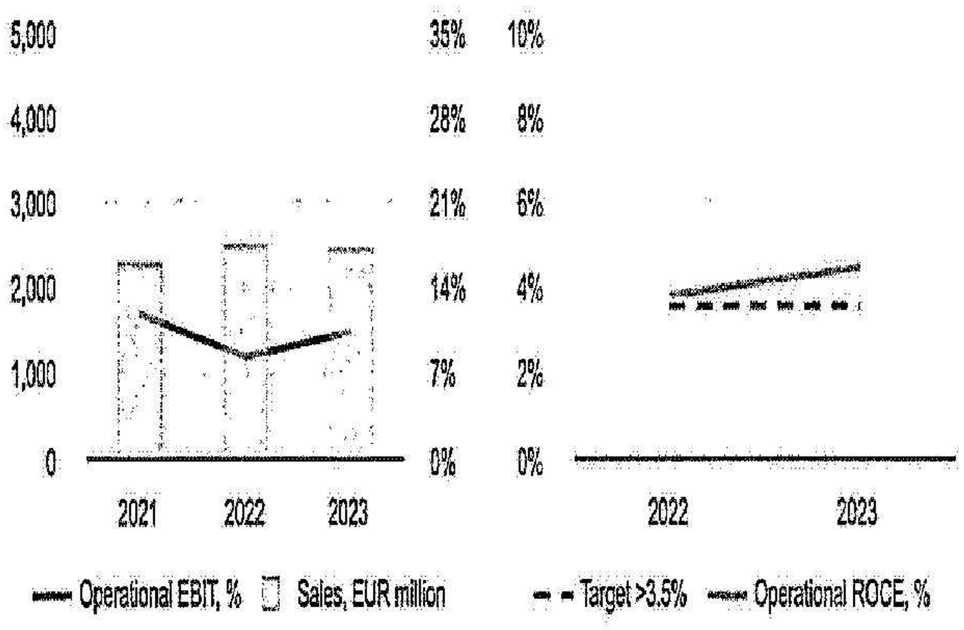
Forest division sales were EUR 2,490 (2,519) million, down 1%. Higher sales prices were offset by lower demand.

Operational EBIT at EUR 253 (204) million increased by 24%. The increase was due to the strong operational performance and higher sales prices in the Group's own forest assets.

Maxau, EUR -13 million related updates in environmental provisions, EUR 8 million on Kvarnsveden site disposal, EUR -1 million related to disposal of Russian operations and EUR -1 million other cases. The fair valuations for 2023 included non-cash income and expenses related to CO_2 emission rights and liabilities of EUR -13 (6) million.
Comparative figures have been restated as described in our release from 29 March 2023.

Sales for the segment Other were at EUR 964 (2,150) million and operational EBIT EUR 1 (63) million. The reduction from the previous year was mainly driven by the sale of the paper production units in Sweden and Germany.

Sales and operational EBIT
Forest



Operational ROCE
Forest

Investments and capital expenditure

Additions to fixed and biological assets including internal costs capitalised in 2023 totalled EUR 1,125 (778) million. The total amount includes additions in biological assets of EUR 71 (77) million.

In February, Stora Enso announced approximately EUR 30 million investment in its Heinola Fluting site in Finland to renew the energy set-up and process equipment. After the investment, the site can replace also the remaining fossil-based fuels with renewable bioenergy. This will reduce the site's fossil-based greenhouse gas emissions by more than 90%.

In June, Stora Enso and Tetra Pak completed the investment in increasing the recycling capacity of beverage cartons in Poland. The total investment was EUR 29 million, of which Stora Enso's share was EUR 17 million. A new repulping line was built at the Ostrołęka site recovering the carton fibers.

The EUR 21 million investment, announced in June 2021, to improve the competitiveness and environmental performance of the Anjalankoski production sites was completed during the third quarter of 2023.

The expansion of board production capacity, announced in 2021, at the Skoghall site in Sweden was completed in November. Following the investment, the annual packaging board production increased by approximately 100,000 tonnes to over 900,000 tonnes. The site started to deliver commercial quality in liquid packaging board (LPB) and coated unbleached kraft (CUK) according to plan.

The EUR 10 million investment, decided in April 2022, at the Enocell site, Finland, was completed during the fourth quarter of 2023. The investment reduced annual operational CO_2

Stora Enso is in the process of divesting its consumer packaging site and forestry operations in Guangxi, China.

Innovation, research and development

Stora Enso's total spend on innovation, research and development in 2023 was EUR 114 (112) million, equivalent to 1.2% (1.0%) of total sales. Research and development work is a basic element for staying relevant and competitive towards customers. In 2023, Stora Enso employed approximately 330 people in research and development. The responsibility of product innovations and development of services is with the business divisions.

Stora Enso's growth focus is on the development of sustainable packaging applications to replace plastic-based materials; bio-based barriers solutions for packaging; innovative biomaterials or high-end applications; and the development of sustainable wooden-based materials and components which store carbon and improve energy efficiency of buildings.

Stora Enso's long-term science and research priority is to address the early research at universities and institutes for enabling breakthroughs and competence build-up to meet the needs of the divisions. The Group Innovation and R&D is working closely with the strategic partner universities, research institutes and excellence centers to get answers to central scientific questions related to renewable materials.

Intellectual property (IP) is an important tool to support Stora Enso's development of innovative products and processes and safeguarding the Group's intellectual assets. During 2023, Stora Enso continued to strengthen its patent portfolio by applying for patents for 83 new innovations. The focus of the new patent filings was within the Biomaterials, Packaging Materials

emissions replacing fossil-based fuel oil with renewable pitch oil made from trees. This complements the main energy source, sawdust powder, utilising 100% bio energy.

The EUR 1 billion investment at the Oulu site in Finland to convert the remaining idle paper machine into a high-volume consumer board line is moving ahead according to schedule. Production is expected to start during 2025. The investment supports the Group's growth strategy in renewable packaging by providing new volume for growing packaging segments. The targeted end-use segments are food and beverage packaging, especially frozen and chilled, and dry and fast food, mainly in Europe and North America.

During the year, Stora Enso completed a feasibility study regarding the conversion of one of the two paper line at its Langerbrugge site in Belgium into a high-volume recycled containerboard line, and decided to postpone the decision regarding the possible future conversion, until there are more favourable market conditions for containerboard.

The other main projects ongoing at the end of 2023 were were De Lier site expansion in the Netherlands and improvements of fluff pulp production at the Skutskär site in Sweden.

Changes in the Group structure

The acquisition of De Jong Packaging Group, based in the Netherlands, for an enterprise value of EUR 1,020 million was completed in January 2023.

Stora Enso finalised the divestment of its paper assets in 2023. The divestment of the Nymölla paper site in Sweden to Sylvamo was completed in January, the divestment of the Maxau site in Germany to Schwarz Produktion was completed in March and the divestment of the Hylte site in Sweden to Sweden Timber was completed in April. The Anjala paper mill in Finland and the Langerbrugge paper mill in the Netherlands were retained in the Group.

During the year, Stora Enso closed down its Sunila pulp production and lignin extraction unit in Finland, the De Hoop containerboard site in the Netherlands, one containerboard line at its Ostrołęka site in Poland, and the Näpi sawmill in Estonia.

and Packaging Solutions divisions. The Biomaterials division has new patent filings related to Lignode, biobinders, biofoam, and circular chemicals. The Packaging Materials division continues to strengthen the patent portfolio with filings related to barriers, board technology and circular packaging. The Packaging Solutions division has new patent filings related to, for example, formed fiber and packaging design. Stora Enso's patent portfolio amounts to over 3,500 applications and granted patents.

Non-financial information

Requirements of non-financial information reporting according to the Finnish Accounting Act are reported below. The scope of the reporting includes those non-financial topics that relate to the Group's key risks.

Risks and policy principles related to these topics are additionally described in the chapters Risks and Risk Management, Task Force on Climate-related Financial Disclosures (TCFD), and Task Force on Nature-related Financial Disclosures (TNFD).

Business model

Stora Enso is one of the leading providers of renewable products in packaging, biomaterials, and wooden construction, and one of the largest private forest owners in the world. Sustainability is embedded in the Group's strategy and responsible business practices. Stora Enso contributes to the transition towards a circular bioeconomy in the three areas where it has the biggest impact and opportunities: climate change, biodiversity, and circularity. A description of Stora Enso's business model is presented at the beginning of the Report of the Board of Directors.

Stora Enso acknowledges the importance of the United Nations Sustainable Development Goals (SDGs) and supports all seventeen SDGs. The SDGs 'Responsible consumption and production' (goal 12), 'Climate action' (goal 13), and 'Life on land' (goal 15) have been identified as the most relevant, where the Group has the largest impact through its own operations and products.

Sustainability governance

Sustainability is a key element of Stora Enso's corporate governance owned by the Board of Directors, the President and Chief Executive Officer (CEO), and the Group Leadership Team (GLT). The CEO carries the ultimate responsibility for the implementation of the sustainability agenda. Sustainability work is led by the Executive Vice President, Sustainability, who reports directly to the CEO and is part of the Group Leadership Team (GLT). The Board of Directors' Sustainability and Ethics Committee oversees the implementation of Stora Enso's sustainability agenda, and Ethics and Compliance Strategy. The Committee met four times in 2023.

Stora Enso's Sustainability Policy describes the Group's overall approach to sustainability and the governance model. The Code of Conduct and other policies, guidelines, and statements on specific sustainability topics further elaborate the approach, while also guiding the Group's employees in their everyday work. These documents are available at storaenso.com/sustainability.

More information about Stora Enso's approach to sustainability is available in the sections Our strategy, Our people, and Sustainability reporting.

Environmental matters

Climate change

Key policy: Policy for Energy and Climate change

Stora Enso's science-based target is to reduce absolute Scope 1 and 2 CO_2e emissions from operations by 50% by 2030 from the 2019 baseline, in line with the 1.5-degree scenario. Stora Enso is also committed to reducing absolute Scope 3 CO_2e emissions by 50% by 2030 from the 2019 baseline.

In 2023, Stora Enso's absolute CO_2e emissions (Scope 1 and 2) were 41% lower than the

birch; continuous cover forestry in suitable areas; and increasing use of controlled burning in forest regeneration.

Currently, Stora Enso follows its progress on sustainable forestry with a key performance indicator that measures the proportion of land in wood production and harvesting owned or leased by Stora Enso covered by forest certification schemes. At the end of 2023, Stora Enso's owned or leased lands covered a total area of 2.02 million hectares (2.01 million hectares in 2022). The majority of Stora Enso's owned or leased lands are located in Sweden. For more details, see note 4.2 Forest assets. The Group's target is to maintain the high level of 96%, and in 2023, the certification coverage amounted to 99% (99%[2] in 2022). Certain purchased areas in Stora Enso's joint operations in Brazil and Uruguay were in the certification process but not yet certified by the end of 2023.

In 2023, the total amount of wood (including roundwood and wood chips) delivered to Stora Enso's production sites was 28.1 million m^3 (solid under bark) (35.1 million m^3 in 2022). The proportion of third-party certified wood in the Group's total wood supply was 81% (80%).

Circularity

Key policy: Circular Design Guidelines

Stora Enso is committed to circular material flows that help to minimise waste and combat climate change. The target is to achieve 100% technically recyclable products by 2030. By the end of 2023, 94% (94% in 2022) of the Group's products were recyclable.[3]

Water

Key policy: Environmental Guidelines

Stora Enso constantly strives to improve its water performance through targeted investments. As of 2023, a new Group goal was set to reduce specific process water discharges per saleable

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baseline level (27% lower in 2022). The Group's CO^2e emissions elsewhere along the value chain (Scope 3) were 34% lower than the baseline level (24% lower in 2022). During 2023, the emissions in all three Scope categories decreased mainly as a consequence of lower production volumes as well as site and production line closures.

Sustainable forestry and biodiversity

Key policy: Wood and Fiber Sourcing and Land Management Policy

Stora Enso is committed to achieving a net-positive impact on biodiversity in its own forests and plantations by 2050 through active biodiversity management. The Group steers its biodiversity actions through a Biodiversity Leadership Programme to improve biodiversity at species, habitat, and landscape levels. Progress is monitored with science-based impact indicators reported in the chapter Sustainable forestry and biodiversity of the Sustainability reporting section.

Stora Enso uses its own forest in Sweden as a platform for continuously developing new biodiversity management practices to be adapted to local conditions and implemented in different geographical areas when feasible. Measures to be developed, tested, and used in the Group's own forests in Sweden include: application of digital tools to improve accuracy of planning and operations; increasing amount of deadwood and broad-leaved trees, especially

tonne (m^3 tonne) by 17% from the 2019 baseline (36 m^3/tonne) by 2030. In 2023, the process water discharges were 35 m^3/tonne (34 m^3 in 2022), with a 3% decrease from the baseline.

For total water withdrawal, the target is to maintain a decreasing trend from the 2016 baseline (60m^3/tonne). In 2023, total water withdrawal was 61 m^3 per saleable tonne (57 m^3 in 2022). Lower production volumes are currently adversely affecting the performance per saleable tonne, as a regular water flow needs to be maintained, particularly in wastewater treatment.

Social and employee matters

Employees

Key policies: Minimum Human Resources Requirements for labour conditions

On 31 December 2023, there were 19,842 (20,879) employees in the Group. The average number of employees in 2023 was 20,822, which is 969 less than the average number in 2022. The figures include 50% of the employees at Veracel in Brazil and Montes del Plata in Uruguay. Read more in the chapter Employees in the Sustainability reporting section.

Personnel expenses totalled EUR 1,275 (1,315) million or 13.6% of sales. Wages and salaries were EUR 962 (996) million, pension costs EUR 147 (152) million, and other employer costs amounted to EUR 162 (160) million.

[1] Comparative figures are restated due to structural changes or additional data after previous annual report.

[2] Reporting on total land area and its forest certification coverage aligned with financial reporting on forests assets. For more information, see note 4.2

[3] Based on the technical recyclability of products and their production volumes consolidated as tonnes. Technical recyclability is defined by international standards and tests, when available, and in absence of these, by Stora Enso's own tests that prove recyclability. The reporting scope includes Stora Enso's packaging, pulp, paper, and solid wood products as well as biochemical by-products.

At the end of 2023, the Group's top four countries in respect to the number of employees were Finland, Sweden, China, and Poland. 25% (25%) of all employees were women. Stora Enso's target is to increase the share of female managers among all managers to 25% by the end of 2024. By the end of 2023, 24% of managers were female (23%).

Personnel turnover in 2023 was 11% (14%). Illness-related absenteeism amounted to 3.7% (4.1%) of total theoretical working hours.

The Group's wages in relation to local minimum wages are presented in the chapter Consolidated sustainability figures in the Sustainability reporting section. Remuneration to the Board of Directors and executive management is described in note 3.2 Board and executive remuneration.

Safety

Key policy: Health and Safety Policy

In 2023, the Total Recordable Incident (TRI) rate was 4.7 (5.9). The milestone of 4.9 for 2023 was achieved by prioritising preventive safety measures and reinforcing divisions' accountability on improving performance. In 2023, Stora Enso introduced a new leading safety indicator, the 'Safety Engagement Rate', focused on preventive safety management. In 2023, no fatal injuries occurred at Stora Enso's sites.

Sustainable sourcing

Key policy: Supplier Code of Conduct (SCoC)

Stora Enso's key performance indicator for responsible sourcing measures the proportion of Group's total supplier spend covered by the Supplier Code of Conduct (SCoC), including all categories and regions. Stora Enso's target is to maintain a minimum coverage level of 95% of supplier spend covered by the SCoC. By the end of 2023, 95% of Stora Enso's total spend on materials, goods, and services was duly covered (96% at the end of 2022).

Respect for human rights

Key policy: Human Rights Policy and Guidelines

During 2023, Stora Enso continued to address land and natural resource rights in Guangxi, China and Bahia, Brazil.

Guangxi, China

Stora Enso leases 69,700 (73,100) hectares of land in Guangxi province China, of which 53,400 (53,400) hectares is leased from state-owned forest farms. The remaining 16,300 (19,700) hectares, or 23% (27%) of the total area, is social land leased from village collectives, individual households, and local forest farms.

Parts of the land leased by Stora Enso have been occupied for up to ten years for the purpose of growing crops and trees on a small scale. In some cases, the occupiers are claiming rights to the land based on historical land ownership documents that have been superseded by state ownership in successive land reform processes. Recovery of occupied land continued in 2023, with 7,132 (6,124) hectares of land still under occupation at the end of the year. As announced in December 2022, Stora Enso has initiated a sales process for a divestment of its consumer board production site and forestry operations in Beihai, China.

Bahia, Brazil

In Bahia, Brazil, work continued on the Sustainable Settlement Initiative launched in 2012 to provide farming land and educational support for local families in the landless people's social movements. In 2018, Veracel signed a new agreement with the social landless movements to complement the earlier agreed Sustainable Settlement Initiative.

At the end of 2023, 139 (182) hectares or 0.1% (0.2%) of productive land owned by Veracel remained occupied by movements not involved in the agreements.

At the end of 2023, the total land area owned by Veracel was 209,000 (210,000) hectares, of which 82,000 (82,000) hectares are used for growing eucalyptus for pulp production. Approximately half of Veracel's lands are dedicated to protecting local biodiversity by restoring and conserving the natural Atlantic rainforest.

Stora Enso's commitment to respect human rights covers all the Group's operations, including employees, contractors, suppliers, and neighbouring communities. In addition to the Group's commitment to the UN Guiding Principles on Business and Human Rights, Stora Enso's annual Slavery and Human Trafficking Statement is available at storaenso.com/sustainability.

While Stora Enso considers all human rights to be important and respects them, the human rights identified as most salient remain the primary focus. This includes the following topics:

- Health and safety
- Fair labour (fair employment conditions, freedom from forced labour, freedom of association, non-discrimination, and non-harassment)
- Land and natural resource rights acquisition and management
- Grievance mechanisms
- Children's rights (relevant to the forest sector)

In 2023, Stora Enso shared best practices and adapted existing processes to embed the outcomes of the three human rights due diligence deep-dive projects initiated in 2022. The projects were carried out together with a third-party consultancy, with the aim of improving risk identification and controls for two high-risk supply chains, as well as the due diligence processes in the Group's own operations. Read more in chapter Human Rights in the Sustainability reporting section.

Anti-corruption and bribery matters

Key policies: Business Practice Policy, the Stora Enso Code (Code of Conduct)

A total of 131 (153 in 2022) potential non-compliance cases were reported in 2023. During the past years, there has been a significant increase in reported misconduct cases, which is likely due to a greater external and internal focus on ethical conduct, compliance, and voicing concerns. A total of 163 (140) investigations of potential non-compliance were completed, which also included open cases from previous years. Proven cases leading to disciplinary action, legal action and/or process improvements were identified in 30 (44) of the investigations. Based on the Group's categorisation, 9 (13) of the proven cases were related to corruption and/or fraud, resulting in employee dismissal or a disciplinary process. While Stora Enso continues to enforce zero tolerance for corruption, none of the proven cases had a material impact on the Company.

Furthermore, 7 (12) of the proven cases were related to discrimination, harassment and/or bullying. Remediation plans have been or are being implemented together with relevant management representatives.

Environmental investments and liabilities

In 2023 Stora Enso's environmental investments amounted to EUR 132 (82) million. These investments were mainly to improve the quality of air and water, to enhance resource and energy efficiency, and to minimise the risk of accidental spills.

Stora Enso's environmental costs in 2023 excluding interest and including depreciation totalled EUR 240 (243) million. These costs include taxes, fees, refunds, permit-related costs, and repair and maintenance costs, as well as wastewater treatment chemicals and certain other materials.

Provisions for environmental remediation amounted to EUR 63 (73) million at 31 December 2023, details of which are in note 4.9 Provisions. There are currently no active or pending legal claims concerning environmental issues that could have a material adverse effect on Stora Enso's financial position.

EU Taxonomy

To meet the EU's climate and energy targets for 2030 and reach the objectives of the European Green Deal, a classification system for sustainable economic activities called EU Taxonomy was introduced in 2020. Large companies are obligated to report the share of Taxonomy-eligibility and Taxonomy-alignment in their operations. Taxonomy-eligibility describes if an economic activity is included in the scope of activities recognised in the EU Taxonomy Regulation. Taxonomy-alignment describes if an economic activity is sustainable based on the technical screening criteria for substantial contribution and do-no-significant harm specified for the activity. Taxonomy-aligned activity needs to be also carried out in compliance with the minimum safeguards, thus to respect basic human rights and follow good business conduct rules.

In 2023 EU Taxonomy was expanded to four remaining environmental objectives with the EU Environmental Delegated Act and with amendments to Climate Delegated Act. The amendments did not bring major impact on Stora Enso's Taxonomy-eligibility. The forest industry is not at the core of the current legislation and therefore the Group has only few activities to report on. From Stora Enso's main products, the wood-based solutions for construction industry are included in the EU Taxonomy through their contribution to buildings' energy efficiency. Other main products, production of pulp, consumer board, containerboard and corrugated packaging, are out of the scope of the EU Taxonomy and therefore the reported Taxonomy-eligible KPIs are low.

Double counting is avoided by having a clear cost structure in reporting which ensures that the profit centers and cost elements are separate for each activity. In reporting the activities do not overlap between environmental objectives.

Taxonomy eligible and aligned activities

Stora Enso has identified seven eligible activities to report in the EU Taxonomy in the conducted yearly exercise. The eligibility and alignment assessments have been carried out based on the best interpretation of the Taxonomy Regulation and the available guidelines from the European Commission. In case of unclarities, the conservative approach has been chosen. The assessments and the data are covered by external assurance.

1.3 Forest management

Taxonomy-eligible forest management includes Stora Enso's own forest activities in Sweden where the Group has full control over the activity. Tree plantations in South America and China are not included in the activity. Of Stora Enso's Swedish forests, 100% are certified under certification systems (PEFC or FSC) which lays the foundation for sustainable forest management. Stora Enso considers its forest management practices aligned with EU Taxonomy, but has been unable to fulfill the third party verification requirement described in forest management substantial contribution criteria (section 4. Audit). Stora Enso has been actively searching a partner who is capable of conducting EU Taxonomy compliant verification and will continue the search. Until then the Group reports its forest management as eligible but not-aligned in EU Taxonomy.

The output of the activity, the grown wood, is used mostly internally in Stora Enso's own operations. The forest management turnover in the EU Taxonomy includes the sale of externally sold roundwood and forest residuals.

1.4 Conservation forestry

In Brazil, Stora Enso's 50% owned joint operation Veracel has dedicated more than half of its land for the protection and restoration of biological biodiversity in natural Atlantic rainforest. The forest is excluded from the harvesting activities. Stora Enso considers the conservation practises aligned with EU Taxonomy, but has been unable to fulfil the third party verification requirement described in conservation forestry substantial contribution criteria (section 4. Audit). The activity

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Accounting principles

The EU Taxonomy KPIs, turnover, capex and opex, are presented in separate tables as defined in the regulation. The total turnover is the Group's total sales, as presented in the line of sales, in consolidated income statement, and rental income in 2023, which respectively include the IFRS 15 and the IFRS 16 income according to the EU Taxonomy turnover definition. The external sales connected to the economic activities are reported under Taxonomy-eligible turnover. The total capex is the Group's total capital expenditure in 2023, as presented in the line of additions, excluding goodwill additions, in note 4.1 Intangible assets, property, plant and equipment and right of use assets, and note 4.2 Forest assets. The Taxonomy-eligible capex are the investments related to the assets or processes associated with the respective economic activities. The total opex covers the maintenance expenses, short-term lease costs, non-capitalised research and development costs and silviculture costs at the Group level. The Taxonomy-eligible opex include the corresponding direct non-capitalised costs related to the economic activities.

is thus reported as eligible but not- aligned. Costs from the conservation operations are reported in opex.

2.4 Remediation of contaminated sites and areas

Remediation projects of contaminated sites and areas are related to discontinued operations and mill closures at Stora Enso sites. The expenses related to the environmental remediation work carried out are included in the reported opex.

3.4 Manufacture of batteries

Stora Enso's pilot plant costs and research and development expenses related to hard carbon innovation are included in Taxonomy-eligible opex. Turnover for the activity is expected within future years. The alignment assessment is done based on the predicted future industrial scale operations and production which will be aligned with the technical screening criteria of 3.4 Manufacture of batteries once started. For more information on Lignode® by Stora Enso, see the Group's website storaenso.com/lignode.

3.5 Manufacture of energy efficiency equipment for buildings

Stora Enso produces wood-based solutions for the construction industry. As Stora Enso is not a manufacturer of the end products, the compliance with the substantial contribution was assessed based on the knowledge of the end use and the energy efficiency related regulations in the primary market areas. The external sales related to the share of production that is estimated to end up for doors, windows, roofing and external wall systems, is included under the EU Taxonomy turnover. The same share is used in the allocation of the related capex and opex for the activity.

4.20 Cogeneration of heat/cool and power from bioenergy

Wood residuals and by-products from the pulp process are used for energy production. The bioenergy generated from biobased feedstock is considered eligible in the EU Taxonomy reporting. The turnover includes the external sales of the excess electricity and heat which is not consumed internally. The largest single capex item in the reporting is the investment to bioenergy production at the Oulu production site, expected to be in use 2025.

7.6 Installation, maintenance and repair of renewable energy technologies

The installation of renewable energy technologies is considered eligible in the EU Taxonomy reporting. The reported capex includes the investments in the installation of solar panels at Stora Enso sites.

Minimum safeguards

Minimum safeguards were assessed in Group-level from two angles: by reviewing the company processes for human rights, corruption, taxation and fair competition to determine that the adequate processes and controls are in place, and by investigating that there are no known breaches or violations existing in the parent company, in its subsidiaries or by senior management. The Group considers its processes to be at a robust level and with no violations to meet the alignment with the minimum safeguards. Read more in the following chapters in the Sustainability reporting section: Human rights, Business ethics, and Stora Enso as a taxpayer.

Proportion of Turnover from products or services associated with Taxonomy-aligned economic activities 2023

EUR million

				Substantial contribution criteria						DNSH criteria ('Does Not Significantly Harm')									
Economic Activities	Code	Turnover	Proportion of turnover year 2023	Climate change mitigation	Climate change adaptation	Water	Pollution	Circular Economy	Biodiversity	Climate change mitigation	Climate change adaptation	Water	Pollution	Circular Economy	Biodiversity	Minimum safeguards	Proportion of Taxonomy aligned or eligible turnover year 2022	Category enabling activity	Category transitional activity
		EUR	%	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	E	T
A. TAXONOMY-ELIGIBLE ACTIVITIES																			
A.1. Environmentally sustainable activities (Taxonomy-aligned)																			
Forest management	CCM 1.3																100%		
Manufacture of energy efficiency equipment for buildings	CCM 3.5	413	4.4%	Y	N	n/a	n/a	n/a	n/a	n/a	Y	Y	Y	Y	Y	Y	100%	E	
Cogeneration of heat/cool and power from bioenergy	CCM 4.20	41	0.4%	Y	N	n/a	n/a	n/a	n/a	n/a	Y	Y	Y	n/a	Y	Y	96.6%		
Turnover of environmentally sustainable activities (Taxonomy-aligned) (A.1)		454	4.8%	100%													99.7%		
Of which Enabling		413	4.4%	100%													78.3 %	E	
Of which Transitional																			T
A.2. Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																			
Forest management	CCM 1.3	118	1.3 %														–%		
Cogeneration of heat/cool and power from bioenergy	CCM 4.20	2	0.0 %														3.4 %		
Turnover of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activities) (A.2)		119	1.3%														0.3 %		
A.Turnover of Taxonomy eligible activities (A.1+A.2)		574	6.1%														100 %		
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																			
Turnover of Taxonomy-non-eligible activities		8,836	93.9%																
TOTAL[1]		9,410	100%																

[1] In the EU Taxonomy, turnover includes also rental income, therefore the figure differs slightly from the Group total sales.

Y – Yes, Taxonomy-eligible and Taxonomy-aligned activity with the relevant environmental objective
N – No, Taxonomy-eligible but not Taxonomy-aligned activity with the relevant environmental objective

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N/EL – not eligible, Taxonomy non-eligible activity for the relevant environmental objective

Proportion of capex from products or services associated with Taxonomy-aligned economic activities 2023

EUR million				Substantial contribution criteria						DNSH criteria ('Does Not Significantly Harm')									
Economic Activities	Code	Capex	Proportion of capex year 2023	Climate change mitigation	Climate change adaptation	Water	Pollution	Circular Economy	Biodiversity	Climate change mitigation	Climate change adaptation	Water	Pollution	Circular Economy	Biodiversity	Minimum safeguards	Proportion of Taxonomy aligned or eligible capex year 2022	Category enabling activity	Category transitional activity
		EUR	%	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	%	E	T
A. TAXONOMY-ELIGIBLE ACTIVITIES																			
A.1. Environmentally sustainable activities (Taxonomy-aligned)																			
Forest management	CCM 1.3																100%		
Manufacture of batteries	CCM 3.4	–	0.0%	Y	N	n/a	n/a	n/a	n/a	n/a	Y	Y	Y	Y	Y	Y	100%	E	
Manufacture of energy efficiency equipment for buildings	CCM 3.5	4	0.4%	Y	N	n/a	n/a	n/a	n/a	n/a	Y	Y	Y	Y	Y	Y	100%	E	
District heating/cooling distribution	CCM 4.15																100%		
Cogeneration of heat/cool and power from bioenergy	CCM 4.20	57	5.1%	Y	N	n/a	n/a	n/a	n/a	n/a	Y	Y	Y	n/a	Y	Y	70.1%		
Installation, maintenance and repair of renewable energy technologies	CCM 7.6	3	0.3%	Y	N	n/a	n/a	n/a	n/a	n/a	Y	n/a	n/a	n/a	n/a	Y	–%	E	
Capex of environmentally sustainable activities (Taxonomy-aligned) (A.1)		64	5.7%	100%													94.3%		
Of which Enabling		7	0.6%	100%													54.9 %	E	
Of which Transitional																			T
A.2. Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																			
Forest management	CCM 1.3	7	0.6%														–%		
Cogeneration of heat/cool and power from bioenergy	CCM 4.20	4	0.3 %														29.9 %		
Capex of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activites) (A.2)		10	0.9%														5.7 %		
A.Capex of Taxonomy eligible activities (A.1+A.2)		75	6.6%														100 %		
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																			
Capex of Taxonomy-non-eligible activities		1,051	93.4%																
TOTAL		1,125	100%																

Y – Yes, Taxonomy-eligible and Taxonomy-aligned activity with the relevant environmental objective
N – No, Taxonomy-eligible but not Taxonomy-aligned activity with the relevant environmental objective
N/EL – not eligible, Taxonomy non-eligible activity for the relevant environmental objective

Proportion of opex from products or services associated with Taxonomy-aligned economic activities 2023

EUR million

Economic Activities	Code	Opex	Proportion of opex year 2023	Substantial contribution criteria: Climate change mitigation	Climate change adaptation	Water	Pollution	Circular Economy	Biodiversity	DNSH criteria ('Does Not Significantly Harm'): Climate change mitigation	Climate change adaptation	Water	Pollution	Circular Economy	Biodiversity	Minimum safeguards	Proportion of Taxonomy aligned or eligible opex year 2022	Category enabling activity	Category transitional activity
		EUR	%	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y; N; N/EL	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N		E	T
A. TAXONOMY-ELIGIBLE ACTIVITIES																			
A.1. Environmentally sustainable activities (Taxonomy-aligned)																			
Forest management	CCM 1.3															100%		
Conservation forestry	CCM 1.4															100%		
Remediation of contaminated sites and areas	PPC 2.4	6	0,7%	n/a	n/a	n/a	Y	n/a	n/a	Y	Y	Y	n/a	Y	Y	Y	–%		
Manufacture of batteries	CCM 3.4	21	2,6%	Y	N	n/a	n/a	n/a	n/a	n/a	Y	Y	Y	Y	Y	Y	100%	E	
Manufacture of energy efficiency equipment for buildings	CCM 3.5	20	2,5%	Y	N	n/a	n/a	n/a	n/a	n/a	Y	Y	Y	Y	Y	Y	100%	E	
Cogeneration of heat/cool and power from bioenergy	CCM 4.20	32	4,1%	Y	N	n/a	n/a	n/a	n/a	n/a	Y	Y	Y	n/a	Y	Y	52,9%		
Opex of environmentally sustainable activities (Taxonomy-aligned) (A.1)		78	9,9%	92,7%			7,3%										82,9%		
Of which Enabling		41	5,2%	100%													45,0 %	E	
Of which Transitional																			T
A.2. Taxonomy-Eligible but not environmentally sustainable activities (not Taxonomy-aligned activities)																			
Forest management	CCM 1.3	23	2,9%														–%		
Conservation forestry	CCM 1.4	1	0,1 %														– %		
Cogeneration of heat/cool and power from bioenergy	CCM 4.20	6	0,7 %														47,1 %		
Opex of Taxonomy-eligible but not environmentally sustainable activities (not Taxonomy-aligned activites) (A.2)		30	3,8%														17,1 %		
A.Opex of Taxonomy eligible activities (A.1+A.2)		108	13,7%														100 %		
B. TAXONOMY-NON-ELIGIBLE ACTIVITIES																			
Opex of Taxonomy-non-eligible activities		681	86,3%																
TOTAL		790	100%																

Y – Yes, Taxonomy-eligible and Taxonomy-aligned activity with the relevant environmental objective
N – No, Taxonomy-eligible but not Taxonomy-aligned activity with the relevant environmental objective
N/EL – not eligible, Taxonomy non-eligible activity for the relevant environmental objective

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Risks and risk management

Our approach to risk management

Risk is an integral element of business and corporate governance, and it is characterised by both threats and opportunities, which may have an impact on future performance and the financial results of Stora Enso, as well as on its ability to meet certain social and environmental objectives. Stora Enso is committed to ensuring that systematic, holistic and proactive management of risks and opportunities is among its organisational core capabilities, and that a culture is fostered where both are carefully considered in all business decisions. Through consistent application of dynamic risk analysis and scenario planning, Stora Enso enhances opportunities and manages risk in order to reduce threats which may prevent the Group from reaching its business goals.

Risk governance

Stora Enso defines risk as the effect of uncertainty on the Group's ability to meet organisational values, objectives and goals. The Group Risk Policy, which is approved by the Board of Directors, sets out the overall approach to governance and the management of risks in accordance with the COSO (Committee of Sponsoring Organizations) framework and in line with the ISO 31000 standard. The Board retains the ultimate responsibility for the overall risk management process and for determining predominantly through Group policies the appropriate and acceptable level of risk.

The Board has established a Financial and Audit Committee to provide support to the Board in monitoring the adequacy of the risk management process within Stora Enso, and specifically regarding the management and reporting of financial risks. This oversight scope includes also monitoring of the cybersecurity risk. The Sustainability and Ethics Committee is responsible for overseeing the company's sustainability and ethical business conduct, its strive to be a responsible corporate citizen, and its contribution to sustainable development.

The head of Enterprise Risk Management, reporting to the Chief Strategy and Innovation Officer, is responsible for the design, development and monitoring of the top-down implementation of the Group risk management framework. Each division and Group function head, together with their respective management teams, are responsible for process execution and cascading the framework and guidelines further down in the organisation. The Internal Audit unit evaluates the effectiveness and efficiency of the Stora Enso risk management process.

Risk management process

Risk management is embedded in all decision-making processes, with holistic risk assessments conducted also as part of all significant investment decisions. In connection with the annual strategy process, business divisions and group service and support functions conduct a holistic baseline risk assessment, linked to their key objectives. Specific guidance regarding the risk management process is outlined in the enterprise risk management instructions.

Business entities and functions identify the sources of risk events including changes in circumstances and their causes and potential consequences. Stora Enso's risk model outlines the overall risk universe which is used to support holistic risk identification and risk consolidation, while also providing taxonomy as well as consistency in risk terminology.

Risk analysis involves developing an understanding of the risk to provide an input for risk evaluation. The purpose of risk evaluation is to determine the risk priorities and to support decision making to determine which risks require treatment/actions. Risks are assessed in terms of their impact and likelihood of occurrence, often based on specific risk scenarios. The effectiveness of existing risk reduction is factored in to define the residual risk level. Pre-defined impact scales consider financial, safety and reputational impacts, on both a quantitative and qualitative basis.

Risk treatment involves selecting one or more risk management option, such as avoidance, reduction, sharing or retention. Additional risk mitigation actions are determined for risks which exceed the perceived risk tolerance incorporating the assignment of responsibility, schedule and timetable of the risk response actions.

Following the annual baseline assessment, prioritised and emerging risks, as well as the corresponding risk mitigation and business continuity plans related to those risks, are reviewed in divisional business review meetings on a semi-annual basis.

Despite the measures taken to manage risks and mitigate the impact of risks, and while some of the risks remain beyond the direct control of the management, there can be no absolute assurance that risks, if they occur, will not have a materially adverse effect on Stora Enso's business, financial condition, operating profit or ability to meet financial obligations.

Main risks

Reputation

Reputational risks often reflect the combined impacts of many other types of risks and could be a consequence of incidents or non-compliant behaviour of employees, contractors, suppliers or other business partners. This includes failure to comply with norms, laws and regulations, or policy documents. Damage to Stora Enso's reputation and brand may result in a loss of investor and customer confidence leading to higher cost of capital and decreased revenues.

Mitigation measures and opportunities

Policies such as the Stora Enso Code and Supplier Code of Conduct ensure that the Board has oversight. Continuous and mandatory training sessions for employees and, on occasion, suppliers guarantees that the policies are being implemented, and audits are conducted to monitor that Stora Enso's requirements are met. Stora Enso has established a Speak Up Hotline, through which employees and any third party globally can anonymously report potential non-compliance cases. All reported cases are subject to an established investigation and reporting process, with proven cases leading to actions. Stora Enso continuously engages with its stakeholders to enhance relationships, to respond to developing needs and to inform its strategy.

Macroeconomy, geopolitics, and currency rates

Changes in global economic conditions, such as sharp market corrections and foreign exchange volatility, could have a negative and material impact on Stora Enso's profit, cash flows and financial position.

Stora Enso is exposed to several financial market risks that the Group is responsible for managing under policies approved by the Board of Directors. The objective is to achieve cost-effective funding in Group companies and manage financial risks by using financial instruments to reduce earnings volatility. The main exposures for the Group, besides currency risk, are interest rate risk, liquidity risk, refinancing risk, commodity price risk and credit risk. Financial risks are discussed in detail in note 5.1 Financial risk management.

Mitigation measures and opportunities

Stora Enso has a diversified portfolio of businesses which mitigates exposure to any one country or product segment. The external environment is continuously monitored and planning assumptions take account of important near- to medium-term and long-term drivers and risks related to key macro-economic factors. The compliance to the Board-approved risk appetite is closely monitored and cash flow and liquidity are actively managed. Stora Enso hedges 15–60% of the highly probable 12-month net foreign exchange flows in main currency pairs. Currency translation risk is reduced by funding assets, whenever economically possible, in the same currency as the asset. The divisions regularly monitor their order flows and other leading indicators, where available, so that they may respond quickly to a deterioration in trading conditions. In the event of a significant deterioration in general economic condition and in main leading economic indicators, the Group has a possibility to implement cost reduction measures to offset the impact on margins from deterioration in sales.

Competition and market demand

The packaging, pulp, paper and wood products industries are mature, capital intensive and highly competitive. Stora Enso's principal competitors include several large international forest products companies and numerous regional and more specialised competitors. Customer demand is influenced by the general economic conditions and inventory levels and affects product price levels. Product prices, which tend to be cyclical, are affected by capacity utilisation, which decreases in times of economic slowdowns. Changes in prices differ between products and geographic regions.

The following table shows the operating profit sensitivity to a +/- 10% change in either price or volume for different segments based on figures for 2023.

Operating profit: Impact of changes +/- 10%, EUR million

Segments	Price	Volume
Packaging Materials	434	110
Packaging Solutions	107	43
Biomaterials	143	52
Wood Products	152	32
Forest	246	6

Mitigation measures and opportunities

The ability to respond to changes in product demand and consumer preferences and to develop new products on a competitive and economic basis calls for innovation, continuous capacity management and structural development. The risks related to factors such as demand, price, competition and customers are regularly monitored by each division and unit as a routine part of business management. These risks are also continuously monitored and evaluated on a Group level to gain a perspective of the Group's total asset portfolio and overall long-term profitability potential.

Stora Enso, as one of the biggest private forest owners in the world, also benefits from a strategic renewable resource base. The Group's expertise in wood and wood based renewable materials is focused on responding to changing customer and consumer preferences, driven by climate change. Products based on renewable materials with a low carbon footprint help customers and society at large to reduce CO_2 emissions by providing an alternative to solutions based on fossil fuels or other non-renewable materials.

Sourcing

Increasing input costs or availability of materials, goods and services may adversely affect Stora Enso's profitability. Securing access to reliable low-cost supplies and proactively managing costs and productivity are of key importance. Reliance on outside suppliers for energy also makes Stora Enso susceptible to changes in energy market prices. There is also an increased risk of disturbances in the supply chain due to cyber incidents, political instability and other drivers related to global trade. The following table shows Stora Enso's major cost items.

Composition of costs in 2023

Operative costs	% of costs	% of sales
Logistics and commissions	10%	10%
Manufacturing costs		
Fiber	33%	32%
Chemicals and fillers	9%	8%
Energy	7%	7%
Material	10%	9%
Personnel	14%	14%
Other	11%	11%
Depreciation	6%	6%
Total costs and sales	**100%**	**97%**
Total operative costs and sales in EUR million	**9,130**	**9,396**

Associated companies, operational	76
Operational EBIT (EUR million)	**342**

In many areas Stora Enso is dependent on suppliers and their ability to deliver a product or a service at the right time and of the right quality. The most important products are fiber, chemicals and energy, and machinery and equipment in capital investment projects. Increased demand for carbon neutral primary and secondary biomass fuels may increase energy costs. The most important services are transport and various outsourced business support services. For some of these inputs, the limited number of suppliers is a risk.

Mitigation measures and opportunities

Input cost volatility is closely monitored at the business unit, divisional and group level and a consistent long-term energy risk management is applied. The price and supply risks are mitigated through increased own generation, shareholding in competitive power assets such as PVO/TVO, physical long-term contracts and financial derivatives. Stora Enso hedges price risks in raw material and end-product markets and supports the development of financial hedging markets. A wide range of suppliers are used and monitored to avoid situations that might jeopardise continued production, business transactions or development projects.

Suppliers and subcontractors must also comply with Stora Enso's sustainability requirements as they are part of Stora Enso's value chain. The sustainability requirements for suppliers and audit schemes cover raw materials, and other goods and services procured. Suppliers are assessed for risks related to environmental, social and business practices through our internal risk assessment tool. Supplier code of conduct audits are conducted on high-risk suppliers and findings from such audits are followed-up. Suppliers should have the possibility to mitigate, but where necessary, the supplier contract would be terminated.

Stora Enso also has an opportunity to add value and bring innovation to its business globally by building strong and measurable relationships with the best suppliers as well as enforcing

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harmonised sourcing processes to increase capabilities, increase tender quality to reduce cost, and develop sustainable suppliers.

Regulatory changes

Stora Enso's businesses may be affected by political or regulatory developments in any of the countries and jurisdictions where it operates, including changes to forest, biodiversity, environmental, fiscal, tax or other regulatory regimes. Potential impacts include higher costs and capital expenditure to meet new requirements, the expropriation of assets, imposition of royalties or other taxes targeted at the industry, and requirements for local ownership or beneficiation.

The EU Green Deal and its climate targets for 2030 and 2050 have resulted in a proliferation of future legislation which have been further advanced in 2022 and may impact Stora Enso's future operations. The policy initiatives from the European Commission will include policies and legislation on areas such as EU Forest and Biodiversity strategies, the Renewable Energy Directive, EU Emission Trading System (ETS), Sustainable products initiative, Packaging and Packaging waste revision as well as EU taxonomy.

Political decisions on forest resources, could limit the availability of wood, increase costs and reduce investment opportunities.

Stora Enso has been granted various investment subsidies and has given certain investment commitments in different countries e.g. Finland, China and Sweden. If committed planning conditions are not met, local officials may pursue administrative measures to reclaim some of the formerly granted investment subsidies or to impose penalties on Stora Enso, and the outcome of such a process could result in a negative financial impact on Stora Enso.

Mitigation measures and opportunities

Active monitoring of regulatory and political developments in the countries where Stora Enso operates as well as participation in policy development mainly through industry associations and other partnership programmes are important risk mitigation regarding regulatory changes. Regulatory changes can also bring significant opportunities by driving market growth for sustainable products and create competitive advantage through resource efficiency and renewability.

Climate change – physical impacts

Long-term (25–30 years) changes in precipitation patterns, periods of drought, frequent extreme weather events and higher average temperatures that increase the risk of forest fires and insect outbreaks, could cause damage to operations, forests and tree plantations, affecting forests asset values and regional wood prices. Milder winters could also have an impact on the harvesting and transport of wood and related costs in northern regions. More frequent extreme weather events also increase the risk of disruptions in the production, logistics and supply of raw materials and energy.

During 2023, focus was on deep dives into specific physical risk impacts and further developing transition scenarios. Read more in the following TCFD chapter, and in an index table available at storaenso.com.

Mitigation measures and opportunities

Physical risks are to a great extent subject to risk transfer and thereby within the cover of Stora Enso's property and business interruption insurance programs. With regards to forest and plantation assets, Stora Enso benefits from strategic resilience through geographical diversification within the asset portfolio. Diligent plantation planning is ensured to avoid frost sensitive areas and R&D programmes are applied to increase tolerance to extreme temperatures. Stora Enso maintains a diversity of forest types and structures and enforces diversification in wood sourcing. Wood harvesting in soft soils involves the implementation of best practices guidelines.

Nordic forests in Finland and Sweden could also benefit from increased heat summation and longer growing seasons, leading to acceleration in forest growth with direct positive impact on the value of own forest assets and an indirect impact related to market wood availability and costs.

Biodiversity

Stora Enso's forestry and industrial sites impact on biodiversity. At the same time, Stora Enso's business depends on raw material natural capital inputs, such as wood and fresh water. These raw materials are supported by soil quality alongside ecosystem services for bioremediation, forest disease and pest control, and climate regulation, among others. Biodiversity loss can have a negative impact on the value of Stora Enso's forest assets, increase risks of shortages in wood supply and damage reputation. Read more in the TNFD chapter, and in an index table available at storaenso.com.

Mitigation measures and opportunities

Stora Enso is committed to achieving a net-positive impact on biodiversity in its own forests and plantations by 2050. Biodiversity management is an integral part of Stora Enso's forest management practices, and the Group strive to do more than just to mitigate biodiversity loss. Operations are supported by digitalisation as well as continuous research and innovation to develop the forestry operations and to provide the best value to Stora Enso's customers and other stakeholders. The Group knows the origin of all the wood it uses, and 99% of the land that it owns or manage is covered by forest certification schemes. Stora Enso engages in collaboration with various stakeholders with the aim to protect ecosystems and safeguard natural resources.

People and capabilities

Competition for personnel is intense and Stora Enso may, in the long term, not be successful in attracting or retaining qualified personnel. The loss of key employees, the inability to attract new or adequately trained employees, or a delay in hiring key personnel could seriously harm Stora Enso's business and impede reaching the Group's strategic objectives. Labour market disruptions and strikes, especially in times of restructuring and redundancies due to divestments and mill closures or during labour market negotiations, could also have adverse material effects on Stora Enso's business, financial position and profitability.

Mitigation measures and opportunities

Stora Enso manages the risks and loss of key talents through a combination of different actions. Some of the activities aim towards making the Stora Enso employer brand better known both internally and externally, globalising some of the remuneration practices and intensifying the efforts to identify and develop talents. Finally, the Group actively focuses on talent and management assessments, including succession planning for key positions. The majority of employees are represented by labour unions under several collective agreements in different countries where Stora Enso operates, thus relations with unions are of high importance to manage labour disruption risks.

Stora Enso recognises the opportunity of skilled and dedicated employees being essential for success. Engaged high performing people enable the implementation of transformation strategy and commercial success.

Personal safety – employees and wider workforce

Failure to maintain high levels of safety management can result in harm to Stora Enso's employees and contractors, and also to communities near our operations and the environment. Impacts in addition to physical injury, health effects and environmental damage could include liability to employees or third parties, damage to reputation, or an inability to attract and retain skilled employees. Government authorities could additionally enforce the closure of our operations on a temporary basis.

Personnel safety and security can never be compromised and, thus, Stora Enso must be aware of potential safety risks and provide adequate guidelines to people for managing risks related to, for example, travelling, working and living in countries with security or crime concerns.

Mitigation measures and opportunities

Stora Enso's goal is to provide an accident-free workplace. Encouraging a group-wide safety culture means that everyone is responsible for making every workday healthy and safe - from top management and throughout the Group. The approach to safety extends to contractors, suppliers, and on-site visitors. Everyone is encouraged to give feedback and provide ideas on how to further improve safety. Additionally, safety is promoted among contractors and suppliers through a dedicated e-learning. The Group also emphasise the importance of safety by asking suppliers for information on their safety performance in the tendering process.

Stora Enso's Health and Safety Policy defines the objectives for safety management, as well as a governance model on how to manage health and safety topics in practice and how to integrate them into annual planning and reporting.

Leading health and safety performance can potentially strengthen the brand as an employer, as well as improved engagement, efficiency and productivity.

Physical assets

The installed capacity of Stora Enso's production facilities have an inherent risk of potential for failure or off-specification operations, which could result in poor product quality, unplanned production downtime, lower output or increased production costs. It may also impact the Group's ability to meet delivery commitments and the business plan. In some instances, the risks are the result of inherent design deficiencies, failures in the mode of operation or operating practices. The most significant asset risks lie predominantly in integrated pulp and board production and related energy generation.

Mitigation measures and opportunities

Protecting production assets and business results is a high priority for Stora Enso. This is achieved through structured methods of identifying, measuring and controlling different types of process risk and exposure. Divisional risk specialists manage this process together with insurance companies and other loss prevention specialists. Each year a number of technical risk inspections are carried out at production units. Risk improvement programmes and cost-benefit analyses of proposed investments are managed via internal reporting and risk assessment tools. Internal and external property loss prevention guidelines, fire loss control assessments, key machinery risk assessments and specific loss prevention programmes are also utilised. Planned stoppages for maintenance and other work are important to keep machinery in good order. Preventive maintenance programmes and spare part criticality analyses are utilized to secure the high availability and efficiency of key machinery.

Product safety and compliance

Some of our products are used for package liquids and food consumer products, so any defects could affect health or packaging functions and result in costly product recalls. Wood products are incorporated into buildings, and this may involve product liability resulting from failures in structural design, product selection or installation. Failure to ensure product safety could result in product recalls involving significant costs including compensation for indirect costs of customers, and reputational damage.

Mitigation measures and opportunities

The mills producing food and drink contact products have established certified hygiene management systems based on risk and hazard analysis. To ensure the safety of its products, Stora Enso actively participates in CEPI (Confederation of European Paper Industry) working groups on chemical and product safety. In addition, Stora Enso mills have certified relevant ISO quality management systems. Furthermore, contractual liability limitation and insurance protection are used to limit the risk exposure to Stora Enso.

The Group recognises the opportunity of differentiation and value creation through superior product quality and the highest level of product conformity.

Information technology, security, and digitalisation

Stora Enso is dependent on IT systems for both internal and external communications and for the day-to-day management of its operations. Information systems, personnel and facilities are subject to cyber security risk, such as ransomware. In addition, accidental disclosure of confidential information due to a failure to follow information handling guidelines or due to an accident or criminal act may result in financial damage, penalties, disrupted or delayed launch of new lines of business or ventures, loss of customer and market confidence, loss of research secrets, breach of data privacy regulation and other business critical information.

Mitigation measures and opportunities

The management of risks is actively pursued in the Information Risk Management System and best practice change management and project methodologies are applied. We actively work to prevent cybercrime. A number of security controls have been implemented to strengthen the protection of confidential information and to facilitate compliance with international regulations.

Opportunities may arise from efficient operations, performance optimisation, innovative product offerings, and new customer services through digitisation and sophisticated IT systems, as well as new technologies offering significant potential for higher level of process optimisation and automatisation, generating new business and enhanced value propositions for customers and consumers.

assessments, trainings and audits. In response to capital markets regulations, Stora Enso's

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To succeed with the implementation of its strategy, Stora Enso has to understand the needs of its customers and find the best way to serve them with the right offering and with the right production asset portfolio. Failure to complete strategic projects in accordance with the agreed schedule, budget or specifications can, therefore, have serious impacts on the Group's financial performance. Significant, unforeseen changes in costs or an inability to sell the envisaged volumes or achieve planned price levels may prevent Stora Enso from achieving its business goals.

Mitigation measures and opportunities

Risks are mitigated through profound and detailed pre-feasibility and feasibility studies which are prepared for each large investment. Investment guidelines stipulate the process, governance, risk assessment, management and monitoring procedures for strategic projects, including climate related risk factors. The guidelines also require that the calculation of potential cost and income for CO_2 emissions as part of the investment proposal. Environmental and Social Impact Assessments (ESIAs) are conducted for all new projects that could cause significant adverse effects in local communities. Post completion audits are carried out for all significant investments.

Mergers, acquisitions, and divestments

Failure to realise the expected benefits from an acquisition of a company or asset can have serious financial impacts on Stora Enso. The Group can also find itself liable for past acts or omissions of the acquired business, without any adequate right of redress. Failure to achieve expected values from the sales of assets or deliveries beyond the expected receipt of funds may also impact the Group's financial position. Divestments or business restructuring may involve additional costs due to historical and unaccounted liabilities as well as reputational impacts.

Mitigation measures and opportunities

Rigorous M&A guidelines, including due diligence procedures are applied to the evaluation and execution of all acquisitions. Structured governance and policies such as the policy for responsible right-sizing, are followed when making restructuring decisions. A strong balance sheet and cash flow enable value enhancing M&A, when the timing and opportunity are right.

Ethics and compliance

Stora Enso operates in a highly regulated business area and is, thereby, exposed to risks related to breach of applicable laws and regulations associated to e.g. capital markets regulation, company and tax laws, customs, environment, human rights, and safety, as well as areas covered by policies such as the Stora Enso Code and Business Practice Policy, e.g. fraud, anti-trust, corruption, conflict of interests and other misconduct. Breaches may lead to high compliance and remediation costs including prosecution costs, fines, penalties, and contractual, financial and reputational damage.

Mitigation measures and opportunities

Stora Enso's Ethics and Compliance Programme, which includes policy setting, promoting values, training, knowledge sharing and grievance mechanisms, is continuously updated and developed. Other compliance mechanisms include Stora Enso Group's internal control system and Internal Audit assurance, as well as Supplier Code of Conduct in supplier contracts, risk Disclosure Policy emphasises the importance of transparency, credibility, responsibility, proactivity and interaction.

Environmental risks are minimised through environmental management systems and environmental due diligence for acquisitions and divestments, and indemnification agreements where effective and appropriate remediation projects are required. Special remediation projects related to discontinued activities and mill closures are executed based on risk assessments.

Focus on ethics in a wider sense, not mere compliance with laws and regulations, promotes a value-driven and more successful business, fosters accountability and enhances corporate reputation.

Climate-related financial disclosures (TCFD)

The Financial Stability Board's (FSB) Task Force on Climate-related Financial Disclosures (TCFD) recommends a framework for disclosing climate-related risks and opportunities. Stora Enso's disclosures with reference to TCFD recommendations are listed in an index table, available for downloading at storaenso.com, with references to those locations where these issues are addressed in the Group's annual reporting.

Scenario analysis in 2023

Aligned with the TCFD recommendations, Stora Enso utilises scenarios to assess the impacts of climate change.

During 2023, the focus was on deep dives to specific physical risk impacts and further developing transition scenarios.

Scenario analysis during the previous years

In 2020, Stora Enso developed a scenario analysis with the qualitative assessment of the physical climate impacts on the Nordic forests and the Group's business until 2050. This work was based on the Business-As-Usual scenario by the International Panel for Climate Change (RCP 8.5 scenario) that would deliver a temperature increase of 4–5 degrees by the end of the century. The climate change attributes considered were pests, diseases, droughts, wildfires, floods, periods of frost, water scarcity, changes to precipitation patterns, rise in sea level and changing temperatures. In 2021, the work with physical climate impacts continued by a deeper analysis of measures improving resiliency of the forests against the negative impacts of global warming. Results showed that sustainable forest management practices as well as possibilities to monitor and to react to events such as forest fires and diseases, play an important role in mitigating the negative impacts of climate change.

During 2021, Stora Enso assessed a business impact scenario for 2030 according to the global transition required to limit the global average temperature increase in line with the Paris agreement of 1.5 degrees (RCP 1.9). The work concluded that the overall transition to a low carbon, circular bioeconomy is well aligned with Stora Enso's strategy. The scenario work also showed that potential new regulations and market mechanisms motivated by the ambitions to limit climate change and its effects on the society and environment could impact Stora Enso's operating costs by limiting wood harvesting volumes or forest management practices as well as increasing greenhouse gas emission costs and energy prices. Sustainable product initiatives and requirements may also have an impact on the Group's future market access, product demand growth and product development requirements.

During 2022, a quantitative resilience analysis was conducted for tree plantations in South America against three global Shared Socioeconomic Pathway (SSP) scenarios: SSP1-1.9 (Sustainability – Taking the Green Road), SSP2-4.5 (Regional Rivalry – a Rocky Road) and SSP5-8.5 (Fossil-fuelled Development – Taking the Highway). Results show a relative resilience of Stora Enso's tree plantations in all the three scenarios. Financial impacts are not expected to be material in SSP1-1.9 and SSP2-4.5 scenarios but in SSP5-8.5 scenario the growth conditions of tree plantations would be affected resulting in potentially material financial impacts.

Stora Enso has participated in the WBCSD's TNFD pilot project 'Roadmap to Nature Positive' which provides an analysis for forest products value chain having high impact on nature. The Group also contributed to the development of TNFD Additional Guidance for the Forest Sector by the WBCSD Forest Solutions Group. Stora Enso is a member of Mistra's research programme BIOPATH, hosted by the Swedish University of Lund, which aims to identify

Nature-related financial disclosures (TNFD)

The Taskforce on Nature-related Financial Disclosures (TNFD) is a market-led and science-based initiative supported by national governments, businesses, and financial institutions worldwide. The TNFD's mission is to help companies responding to the global acceleration of nature loss as an increasing source of risk to businesses and providers of financial capital. The TNFD Recommendations and Additional Guidance are there to support organisations to report and act on evolving nature-related issues. The recommendations support the outcomes of the agreed Kunming-Montreal Global Biodiversity Framework and hope to support a shift in global financial flows away from businesses and business activities that lead to nature-negative outcomes and towards those that support nature-positive outcomes. The version 1.0 of the TNFD recommendations, published in September 2023, build on the Taskforce on Climate-related Financial Disclosures (TCFD) recommendations and are consistent with other standards including the International Sustainability Standards Board (ISSB), IFRS Sustainability Disclosure Standards, the Global Reporting Initiative (GRI) and the European Sustainability Reporting Standards (ESRS). The TNFD includes 14 recommended disclosures that extend or add to those included in the TCFD recommendations' disclosures which support integrated climate and nature reporting.

Stora Enso's business depends on several raw material natural capital inputs, such as wood and fresh water, and are supported by soil quality, alongside ecosystem services for bioremediation, forest disease and pest control, and climate regulation, among others. The Group's dependency on and responsibility for nature is explored, for instance, through its Biodiversity Leadership Programme to support the Group's commitment to achieve a net positive impact on biodiversity in Stora Enso's own forests and plantations through active biodiversity management to align with the society's expectations and goals for nature positive actions. Stora Enso expects the TNFD's recommendations to help the Group to further evolve current nature-related disclosures, based on building on the Group's existing processes, over the coming years.

As part of the work, Stora Enso piloted the draft TNFD recommendations and parts of the Locate, Evaluate, Assess and Prepare (LEAP) approach by undertaking a biodiversity screening in the supply chain of the Biomaterials division. The pilot was undertaken to help prepare for future disclosure requirements, and anticipated investor and market interest on the potential biodiversity risks and opportunities across the supply chain. This pilot focused on transparency in selected chemicals, logistics and energy sub-categories of the supply-chain. High-level findings included that the Group's current nature-related risks included: policy and legal risks in relation to forestry legislation, potential reputational risks and location-based risks associated with the functioning of underpinning natural capital assets and supply chain operations.

In addition to nature-related risks, potential nature-related opportunities were also identified including the development of nature-based solutions and recognition of the multiple nature-related benefits associated with different types of ecosystems. The pilot provides the starting point for further qualitative and quantitative assessments of Stora Enso's business activities and supply chains to prioritise areas for action across the Group by applying an adapted process to other supply chains. For further details about the pilot, please see the case study at littleblueresearch.com.

pathways for efficient alignment of the financial system with the requirements of biodiversity.

As announced by the TNFD in January 2024, after the reporting date, Stora Enso has signed up as a 'TNFD Early Adopter' which means that Stora Enso intend to adopt the recommendations and publish its first TNFD-aligned report in the financial year 2024.

Corporate governance in Stora Enso

Stora Enso complies with the Finnish Corporate Governance Code 2020 issued by the Securities Market Association (the "Code"). The Code is available at *cgfinland.fi*. Stora Enso also complies with the Swedish Corporate Governance Code ("Swedish Code"), with the exception of the deviations listed in Appendix 1 of the Corporate Governance part of this report. The deviations are due to differences between Swedish and Finnish legislation, governance code rules and practices, and in these cases Stora Enso follows the practice in its domicile. The Swedish Code is issued by the Swedish Corporate Governance Board and is available at corporategovernanceboard.se.

Legal proceedings

Contingent liabilities

Stora Enso has undertaken significant restructuring actions in recent years which have included the divestment of companies, sale of assets and mill closures. These transactions include a risk of possible environmental or other obligations the existence of which would be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the Group. A provision has been recognised for obligations for which the related amount can be estimated reliably and for which the related future cost is considered to be at least probable.

Stora Enso is party to legal proceedings that arise in the ordinary course of business and which primarily involve claims arising out of commercial law. The management does not consider that liabilities related to such proceedings before insurance recoveries, if any, are likely to be material to the Group's financial condition or results of operations.

Veracel

On 11 July 2008, Stora Enso announced that a federal judge in Brazil had issued a decision claiming that the permits issued by the State of Bahia for the operations of Stora Enso's joint operations company Veracel were not valid. The judge also ordered Veracel to take certain actions, including reforestation with native trees on part of Veracel's plantations and a possible fine of, at the time of the decision, BRL 20 (EUR 4) million. Veracel disputes the decision and has filed an appeal against it. Veracel operates in full compliance with all Brazilian laws and has obtained all the necessary environmental and operating licences for its industrial and forestry activities from the relevant authorities. In November 2008, a Federal Court suspended the effects of the decision. No provisions have been recorded in Veracel's or Stora Enso's accounts for the reforestation or the possible fine.

Changes in the Group management

Micaela Thorström was appointed EVP Legal and General Counsel and a member of the Group Leadership Team as of 1 April 2023.

René Hansen EVP, Brand and Communications and a member of the Group Leadership Team, left his position at Stora Enso in May 2023.

Annette Stube, Executive Vice President Sustainability, and a member of the Group Leadership Team, left her position at Stora Enso in December 2023.

Minna Björkman, Executive Vice President Sourcing and Logistics, and a member of the

Major shareholders as of 31 December 2023

By voting power	A shares	R shares	% of shares	% of votes
1 Solidium Oy[1]	62,655,036	21,792,540	10,7 %	27,3 %
2 FAM AB[2]	63,123,386	17,000,000	10,2 %	27,3 %
3 Social Insurance Institution of Finland	23,825,086	–	3,0 %	10,0 %
4 Ilmarinen Mutual Pension Insurance Company	4,159,992	15,290,638	2,5 %	2,4 %
5 Varma Mutual Pension Insurance Company	5,163,018	1,140,874	0,8 %	2,2 %
6 MP-Bolagen i Vetlanda AB	4,885,000	1,000,000	0,7 %	2,1 %

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Group Leadership Team (GLT), left her position in the GLT to assume a business leadership role in Stora Enso's Packaging Materials division in November 2023.

Ad Smit started as Executive Vice President of the Packaging Solutions division and a member of the Group Leadership Team in December 2023. Prior to that, he led the Business Unit Western Europe within Stora Enso's Packaging Solutions division.

David Ekberg left his position as Executive Vice President of the Packaging Solutions division on 30 November 2023.

Share capital

Stora Enso Oyj's shares are divided into A and R shares. The A and R shares entitle holders to the same dividend but different number of votes. Each A share and every ten R shares carry one vote at a shareholders' meeting. However, each shareholder has at least one vote. During 2023, a total of 7,364 A shares converted into R shares were recorded in the Finnish Trade Register.

Number of shares as at 31 December 2023

	A shares	R shares	Total
Number of shares	176,230,916	612,389,071	788,619,987
Number of votes (at least)	176,230,916	61,238,907	237,469,823

Board of Directors is authorised to decide on the repurchase and on the issuance of Stora Enso R shares. The amount of shares to be issued or repurchased shall not exceed a total of 2,000,000 R shares, corresponding to approximately 0.25% of all shares and 0.33% of all R shares.

7	Elo Mutual Pension Insurance Company	2,010,000	9,987,000	1.5 %	1.3 %
8	Bergslagell's Healthcare Foundation	626,260	1,609,483	0.3 %	0.3 %
9	The State Pension Fund		5,600,000	0.7 %	0.2 %
10	The Society of Swedish Literature in Finland		3,000,000	0.4 %	0.1 %
11	Avanza Pension Insurance	142,664	1,372,545	0.2 %	0.1 %
12	OP Finland Fund		2,549,753	0.3 %	0.1 %
13	Danske Invest Finnish Equity Fund		2,435,000	0.3 %	0.1 %
14	Unionen (Swedish trade union)		2,312,750	0.3 %	0.1 %
15	EVLI Finland Select Fund		1,940,000	0.2 %	0.1 %
	Total	166,590,451	87,030,553	32.2 %	73.8 %
	Nominee-registered shares[3]	75,045,090	487,121,848	71.3 %	52.1 %

[1] Entirely owned by the Finnish State
[2] As confirmed to Stora Enso
[3] According to Euroclear Finland

The list has been compiled by the Company on the basis of shareholder information obtained from Euroclear Finland, Euroclear Sweden and a database managed by Citibank, N.A. (Citi). This information includes only directly registered holdings, thus certain holdings (which may be substantial) of shares held in nominee or brokerage accounts are not included. The list is therefore incomplete.

Share distribution as at 31 December 2023

By size of holding, A share[1]

	Shareholders	% of shareholders	Shares	% of shares
1–100	7,111	59.83%	273,712	0.16%
101–1,000	4,211	35.43%	1,474,615	0.84%
1,001–10,000	529	4.45%	1,222,373	0.69%
10,001–100,000	24	0.20%	559,602	0.32%
100,001–1,000,000	2	0.02%	347,113	0.20%
1,000,001–	8	0.07%	172,353,501	97.80%
Total	11,885	100.00%	176,230,916	100.00%

By size of holding, R share[1]

	Shareholders	% of shareholders	Shares	% of shares
1–100	17,659	37.87%	840,387	0.14%
101–1,000	22,681	48.64%	8,919,537	1.45%
1,001–10,000	5,813	12.47%	15,389,391	2.51%
10,001–100,000	408	0.88%	10,699,825	1.75%
100,001–1,000,000	47	0.10%	16,081,788	2.63%
1,000,001–	23	0.05%	560,458,143	91.53%
Total	46,631	100.00%	612,389,071	100.00%

1) According to Euroclear Finland. This list includes only directly registered shares in Euroclear Finland. E.g. Stora Enso's Swedish shareholders are listed under their nominee bank in this list. Therefore, this listing is not comparable with the table Major shareholders as of 31 December 2023

Ownership distribution as at 31 December 2023

	% of shares	% of votes
Solidium Oy[1]	10.7%	27.3%
FAM AB[2]	10.2%	27.3%
Social Insurance Institution of Finland (KELA)	3.0%	10.0%
Finnish institutions (excl. Solidium and KELA)	11.0%	8.1%
Swedish institutions (excl. FAM)	1.1%	0.9%
Finnish private shareholders	3.9%	2.4%
Swedish private shareholders	3.0%	2.2%
ADR holders	1.6%	0.5%
Under nominee names (non-Finnish/non-Swedish shareholders)	55.4%	21.3%

[1] Entirely owned by the Finnish State

further impact market demand, prices, profit margin and volumes of the Group's products. New capacity and volume entering the market might distort demand, volumes, inventories and pricing, with the risk of a deepening margin squeeze. Moreover, forced capacity cuts might further impact on profitability.

There is a risk of continued high interest rates along with increased price volatility for raw materials such as wood, chemicals, other components and energy in Europe. The continued tight wood market could cause increased costs, limit harvesting and cause disruptions such as delays and/or lack of wood supply to the Group's production sites.

Stora Enso has been granted various investment subsidies and has given certain investment commitments in several countries e.g., Finland, China and Sweden. If commitments to planning conditions are not met, local officials may pursue administrative measures to reclaim some of the formerly granted investment subsidies or to impose penalties on Stora Enso, the outcome of

[2] As confirmed to Stora Enso

Short-term outlook

Stora Enso expects market conditions to remain uncertain in 2024, with ongoing pressure on demand, prices and margins. However, there are some positive signs such as increasing pulp prices, declining global pulp inventories, less customer destocking, and lower inflation and interest rates.

The first quarter is not expected to show a significant market improvement following a historical low fourth quarter in 2023 and a slow recovery. All variable costs continued to ease in the fourth quarter, except for wood, which are expected to follow similar trends also in the first quarter this year. The potential risk of logistical challenges from the Red Sea area could disrupt the flow of goods and increase costs.

During the second half of 2023, Stora Enso implemented significant restructuring measures to enhance its financial performance going forward. These included the closure of sites and production lines, the sale of assets, the adoption of a more decentralised operating model, and a reduction of employees by approximately 1,150. These actions are expected to improve the Group's cost competitiveness and streamline its organisation, leading to a stronger financial performance in the years to come.

Guidance

Stora Enso's full year 2024 operational EBIT is expected to be higher than for the full year 2023, EUR 342 million.

Short-term risks and uncertainties

Risk is characterised by both threats and opportunities, which may affect future performance and the financial results of Stora Enso, reputation, as well as its ability to meet certain social and environmental objectives.

The geopolitical unrest could have an adverse impact on the Group. Retaliatory measures, conflict-related risks to people, operations, trade credit, cyber security, supply, and demand, could also affect the Group negatively.

The risk of a prolonged global economic downturn and recession, continued high inflation, as well as sudden interest rate increases, currency fluctuations, trade union strike actions, and logistical chain disruptions could all adversely affect the Group's profits, cash flow and financial position, as well as access to material, flow of goods and transport.

The challenging and rapidly changing macroeconomic and geopolitical disruption may increase cost, add complexity and lower short-term visibility. A slow market recovery might such a process could result in adverse financial impact on Stora Enso.

Sensitivity analysis

Energy sensitivity analysis: the direct effect of a 10% change in electricity and fossil fuel market prices would have an impact of approximately EUR 5 million on operational EBIT for the next 12 months.

Wood sensitivity analysis: the direct effect of a 10% change in wood prices would have an impact of approximately EUR 200 million on operational EBIT for the next 12 months.

Pulp sensitivity analysis: the direct effect of a 10% change in pulp market prices would have an impact of approximately EUR 120 million on operational EBIT for the next 12 months.

Chemical and filler sensitivity analysis: the direct effect of a 10% change in chemical and filler prices would have an impact of approximately EUR 54 million on operational EBIT for the next 12 months.

Foreign exchange rates transaction risk sensitivity analysis for the next twelve months: the direct effect on operational EBIT of a 10% strengthening in the value of the US dollar, Swedish krona and British pound would be approximately positive EUR 81 million, negative EUR 9 million and positive EUR 9 million annual impact, respectively. Weakening of the currencies would have the opposite impact. These numbers are net of hedges and assuming no changes occur other than a single currency exchange rate movement in an exposure currency.

The Group's consolidated income statement on operational EBIT level is exposed to a foreign-currency translation risk worth approximately EUR 179 million expense exposure in Brazilian real (BRL) and approximately EUR 67 million income exposure in Chinese Renminbi (CNY). These exposures arise from the foreign subsidiaries and joint operations located in Brazil and China, respectively. For these exposures a 10% strengthening in the value of a foreign currency would have a negative EUR 18 million and a positive EUR 7 million impact on operational EBIT, respectively.

Annual General Meeting

Stora Enso Oyj's Annual General Meeting (AGM) will be held on Wednesday 20 March 2024 at 16:00 EET at the Marina Congress Center in Helsinki, Finland. More information is available at storaenso.com/agm

Proposal for the distribution of dividend

The Board of Directors proposes to the AGM that a dividend of EUR 0.10 per share be distributed on the basis of the balance sheet adopted for the year 2023. In addition, the Board of Directors proposes that the AGM would authorise the Board of Directors to decide at its discretion on the payment of an additional dividend up to a maximum of EUR 0.20 per share. The authorisation would be valid until 31 December 2024.

The Board of Directors has assessed the Company's financial situation and liquidity before making the proposal. There have been no material changes in the parent company's financial position since 31 December 2023, the liquidity of the parent company remains good and the proposed dividend does not risk the solvency of the Company. Stora Enso's policy is to distribute 50% of earnings per share (EPS) excluding fair valuation over the cycle. In 2023, EPS excluding fair valuation was EUR -0.73.

The Parent company distributable shareholders' equity on 31 December 2023 amounted to EUR 1,542,290,968.57 including the profit for the period of EUR 44,769,653.04. The Board of Directors proposes to the Annual General Meeting of the Company that the distributable funds be used as follows: A dividend of EUR 0.10 per share from the distributable shareholders' equity to be distributed on 788,619,987 shares, not to exceed EUR 78,861,998.70, which would leave EUR 1,463,428,969.87 in distributable shareholders' equity.

It is proposed that the Board may at its discretion decide on a second dividend instalment of a

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maximum of EUR 0.20 latest during the fourth quarter of 2024, which would lead to a further decrease in distributable shareholders' equity of EUR 157,723,997.40, leaving EUR 1,305,704,972.47 in distributable shareholders' equity.

The first dividend instalment would be paid to shareholders who on the record date of the dividend payment, 22 March 2024, are recorded in the shareholders' register maintained by Euroclear Finland Oy or in the separate register of shareholders maintained by Euroclear Sweden AB for Euroclear Sweden registered shares. Dividends payable to Euroclear Sweden registered shares will be forwarded by Euroclear Sweden AB and paid in Swedish crowns. Dividends payable to ADR holders will be forwarded by Citibank N.A. and paid in US dollars.

The Board of Directors proposes to the AGM that the first instalment of the dividend be paid on or about 4 April 2024.

Alternative performance measures

According to the European Securities and Markets Authority (ESMA) Guidelines, an alternative performance measure is understood as a financial measure of historical or future financial performance, financial position, or cash flows, not defined under IFRS. Used together with the IFRS measures, alternative performance measures provide meaningful supplemental information to the management, investors, analysts and other parties with regards to the financial development of the business operations.

Alternative performance measures	Definition	Purpose
Operating result (IFRS)	Net result for the period excluding income tax and net financial items (finance costs).	Used in combination with below measures to determine the profitability of the Group.
Operational EBIT	Operating result (IFRS) excluding items affecting comparability (IAC) and fair valuations and non-operational items (FV) of the line-by-line consolidated entities and Stora Enso's share of operating result excluding IAC and FV of its associated companies.	The Group's key non-IFRS performance metric, which is used to evaluate the performance of operating segments and, in combination with below ratios, to steer allocation of resources to them.
Operational EBITDA	Operating result (IFRS) excluding silviculture costs and damage to forests, fixed asset depreciation and impairment, IACs and FV. The definition includes the respective items of subsidiaries, joint arrangements and associated companies.	Used by management to analyse the business and, from time-to-time, for short term and long-term target setting.
Operational return on capital employed, operational ROCE, LTM[3] (%)	$\frac{\text{Operational EBIT}^{3}}{\text{Capital employed}^{1}} \times 100$	Used for long-term Group financial targets setting.
Operational return on operating capital, operational ROOC, LTM[3] (%)	$\frac{\text{Operational EBIT}^{3}}{\text{Operating capital}^{1}} \times 100$	Used for long-term divisional financial targets setting.
Return on equity, ROE, LTM[3] (%)	$\frac{\text{Net result for the period}}{\text{Total equity}^{1}} \times 100$	A measure of the profitability in relation to equity.

Net debt	Interest-bearing liabilities – interest-bearing assets, marked with "I" in the statement of financial position.	Used for long-term Group financial targets setting.
Net debt/equity ratio	Net debt / Equity[2]	Used for long-term Group financial targets setting.
Net debt/last 12 months' operational EBITDA ratio	Net debt / LTM operational EBITDA	Used for long-term Group financial targets setting.
Earnings per share (EPS) excluding FV	Net result for the period excluding fair valuations and non-operational items after tax divided by the weighted average number of shares	Stora Enso's dividend policy is to distribute 50% of earnings per share (EPS) excluding fair valuation over the cycle.
Operating capital and capital employed	Operating capital is comprised of items marked with "O" in the statement of financial position. Capital employed = Operating capital – Net tax liabilities. Net tax liabilities are marked with "T" in the statement of financial position.	Used for long-term Group financial targets setting.
Items affecting comparability (IAC)	The most common IAC are significant capital gains and losses, impairments or impairment reversals, disposal gains and losses relating to Group companies, provisions for planned restructurings, environmental provisions, changes in depreciation due to restructuring and penalties. Items affecting comparability are normally disclosed individually if they exceed one cent per share.	Represent certain significant items, identified by the management, considered not indicative of the operating business performance due to their nature and/or frequency.
Fair valuations and non-operational items (FV)	Fair valuations and non-operational items include non-cash income and expenses related to CO_2 emission rights and liabilities, non-operational fair valuation changes of biological assets, adjustments for differences between fair value and acquisition cost of forest assets upon disposal and the Group's share of income tax and net financial items of associated companies. Non-operational fair value changes of biological assets reflect changes made to valuation assumptions and parameters. The adjustments for differences between fair value and acquisition cost of forest assets upon disposal are a result of the fact that the cumulative non-operational fair valuation changes of disposed forest assets were included in previous periods in IFRS operating result (biological assets) and other comprehensive income (forest land) and are included in operational EBIT only at the disposal date (for non-strategic forest assets disposals).	Represent adjustments for certain items considered by the management less relevant for understanding operating business performance. These adjustments result in differences in the recognition and measurement principles applicable under IFRS.
Operational fair value change of biological assets	Operational fair value changes of biological assets contain all other fair value changes (see above about non-operational fair value changes of biological assets), mainly due to inflation and differences in actual harvesting levels compared to the harvesting plan.	The long-term value change of the growing forests is an important component of the forestry business profitability.
Cash flow from operations (non-IFRS) and Cash flow after investing activities (non-IFRS)	Cash flow from operations (non-IFRS) is equal to Net cash provided by operating activities (IFRS) before cash flows related to financial items and income taxes. Cash flow after investing activities (non-IFRS) is equal to Cash flow from operations (non-IFRS) minus cash spent on intangible assets, property, plant and equipment, and biological assets and acquisitions of associated companies.	These are measures of cash generation, working capital efficiency and capital expenditure outflows.
Capital expenditure	Capital expenditure on fixed assets includes investments in and acquisitions of tangible and intangible assets as well as internally generated assets and capitalised borrowing costs, net of any related subsidies. Capital expenditure on leased assets includes new capitalised leasing contracts. Capital expenditure on biological assets consists of acquisitions of biological assets and capitalisation of costs directly linked to growing trees in plantation forests. The cash flow impact of capital expenditure is presented in cash flow from investing activities, excluding lease capex, where the cash flow impact is based on paid lease liabilities and presented in cash flow from financing and operating activities.	A measure of the operating business investments capitalised as tangible and intangibles assets.
Fixed costs	Maintenance, personnel and other administration type of costs, excluding IAC and FV.	A measure of the costs that are less variable in nature.

[1] Average for the last five quarter ends [2] Attributable to the owners of the Parent [3] Last 12 months prior to the end of reporting period

Changes in the calculation of operational ROCE and ROOC

Presenting return measures based on the last 12 months is an effective way to analyse the most recent financial data on an annualised basis and is considered more suitable for tracking the development of long-term targets.

From Q1/2023 onwards, Stora Enso presents the operational return on capital employed (operational ROCE) based on the last 12 months prior to the end of the reporting period. This is calculated by dividing the operational EBIT of the last 12 months with the average capital employed. The average capital employed for the last 12 months is determined as the average of the published capital employed of the last five quarter-ends.

Similarly, the return on operating capital (operational ROOC) for the divisions and the return on equity (ROE) for the Group will be based on the last 12 months prior to the end of the reporting period.

The presentation of operational ROCE, operational ROOC and ROE based on quarter or year-to-date figures has been discontinued.

Reconciliation of key figures

EUR million	2023	2022	2021
Operational EBIT	342	1,891	1,528
Capital employed, average	14,230	13,795	12,243
Operational ROCE	2.4%	13.7 %	12.5 %

Earnings per share (EPS) excl. fair valuation

EUR million	2023	2022	2021
Earnings per share (EPS) excl. FV EUR			
Net result for the period attributable to owners of the Parent	-357	1,550	1,266
FV on net result for the period attributable to owners of the Parent	218	324	330
Net result for the period attributable to owners of the parent excl. FV	-575	1,225	936
Average number of shares	789	789	789
Earnings per share (EPS) excl. FV EUR	-0.73	1.55	1.19

Reconciliation of operational profitability

EUR million	2023	2022	2021
Operational EBITDA	989	2,529	2,184
Depreciation and silviculture costs of associated companies	-11	-11	-11
Silviculture costs[1]	-102	-100	-89
Depreciation and impairment excl. IAC	-534	-527	-555
Operational EBIT	342	1,891	1,528

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Operational EBIT excl. Forest division	89	1,687	1,262
Capital employed excl. Forest division, average	8,490	8,276	7,120
Operational ROCE excl. Forest division	1.0%	20.4%	17.7%
Net result for the period	-431	1,536	1,268
Total equity, average	11,413	11,532	9,730
Return on equity (ROE)	-3.8%	13.3%	13.0%
Net debt	3,167	1,853	2,309
Operational EBITDA	989	2,529	2,184
Net debt to operational EBITDA ratio	3.2	0.7	1.1

Fair valuations and non-operational items	231	363	394
Items affecting comparability (IAC)	-895	-245	-354
Operating result (IFRS)	-322	2,009	1,568

[1] Including damages to forests

Segment share of operational EBIT, IAC, fair valuations and non-operational items and operating profit/loss

	Operational EBIT		IAC, fair valuations and non-operational items		Operating profit/loss	
EUR million	2023	2022	2023	2022	2023	2022
Packaging Materials	-57	655	-585	-2	-642	653
Packaging Solutions	43	16	-27	-98	17	-81
Biomaterials	118	687	-199	-19	-81	668
Wood Products	-64	309	-22	-56	-86	253
Forest	253	204	208	319	461	523
Other	1	63	-42	-27	-41	36
Total	**342**	**1,891**	**-664**	**118**	**-322**	**2,009**
Net financial items					-173	-151
Profit before Tax					**-495**	**1,858**
Income tax expense					64	-322
Net Profit					**-431**	**1,536**

Items affecting comparability in 2023

EUR million	2023
Impairments - Packaging Materials	-468
Impairments - Biomaterials	-103
Impairments - Wood Products	-16
Impairments - Segment Other	-14
Impairment reversal - Forest	5
Disposal of Nymölla	-30
Disposal of Hylte	-45
Disposal of Maxau	52
Disposal of biocomposite business	-15
Disposal of Wood Products DIY unit	-4
Disposals related transaction costs	-6
Acquisition of De Jong Packaging Group	-16
Closure of Sunila pulp mill	-116
Closure of De Hoop	-79
Restructuring - Anjala	-26
Restructuring - Packaging Materials	-21
Restructuring - Packaging Solutions	-10
Restructuring - Wood Products	-5
Restructuring - Biomaterials	-4
Restructuring - Group functions	-15
Restructuring (2021 announced) - Kvarnsveden	29

Items affecting comparability in 2022

EUR million	2022
Disposal of Russian operations - Packaging Solutions	-93
Disposal of Russian operations - Wood Products	-56
Disposal of Russian operations - Forest	-43
Disposal of Russian operations - other divisions	-6
Impairments, transaction costs and other items related to the upcoming paper site disposals (Nymölla, Hylte and Maxau)	-28
Disposal of Kvarnsveden site	8
Impairments - Forest	-5
Impairments - Segment Other	-2
Restructuring (2021 announced) - Kvarnsveden	13
Restructuring (2021 announced) - Veitsiluoto	-10
Restructuring - Packaging Materials	-4
Restructuring - Packaging Solutions	-5
Restructuring - Biomaterials	-4
Updates in environmental provisions (mainly closed Finnish sites	-13
Other items	-3
Total	-245

Fair valuations and non-operational items in 2023 and 2022

EUR million	2023	2022
Non-operational fair valuation changes of biological assets, Packaging Materials	12	7

Restructuring (2021 announced) - Veitsiluoto	9
Updates in environmental provisions	-5
Other items	-2
Total	-895

Non-operational fair valuation changes of biological assets, Biomaterials	25	-17
Non-operational fair valuation changes of biological assets, Forest	156	201
Non-cash income and expenses related to CO_2 emission rights and liabilities, Other	-13	6
Non-operational items of associated companies, Forest	56	169
Adjustments for differences between fair value and acquisition cost of forest assets upon disposal, Forest	-5	-3
Total	231	363

Calculation of net debt

EUR million	31 Dec 2023	31 Dec 2022
Listed securities	9	8
Non-current interest-bearing receivables	76	120
Current interest-bearing receivables	54	77
Cash and cash equivalents	2,464	1,917
Interest-bearing assets	**2,613**	**2,122**
Non-current interest-bearing liabilities	4,446	2,792
Current portion of non-current debt	286	667
Current interest-bearing liabilities	476	513
Interest-bearing liabilities held-for-sale	571	4
Interest-bearing liabilities	**5,780**	**3,976**
Net debt	**3,167**	**1,853**

Consolidated financial statements

Consolidated income statement

		Year ended 31 December	
EUR million	Note	2023	2022
Sales	2.1	9,396	11,680
Other operating income	2.2	378	326
Changes in inventories of finished goods and work in progress		-209	258
Materials and services		-6,133	-6,979
Freight and sales commissions		-883	-1,148
Personnel expenses	3.1	-1,275	-1,315
Other operating expenses	2.2	-638	-594
Share of results of associated companies	4.3	136	221
Change in net value of biological assets	4.2	209	195
Depreciation, amortisation and impairment charges	2.3	-1,303	-635
Operating result	2.1	-322	2,009
Financial income	2.4	91	40
Financial expense	2.4	-264	-191
Result before Tax		-495	1,858
Income tax	2.5	64	-322
Net result for the year		-431	1,536
Attributable to			
Owners of the Parent	5.5	-357	1,550
Non-controlling interests	5.7	-74	-13
Net result for the year		-431	1,536

Consolidated statement of comprehensive income

		Year ended 31 December	
EUR million	Note	2023	2022
Net result for the year		-431	1,536
Other Comprehensive Income (OCI)			
Items that will not be reclassified to profit and loss			
Equity instruments at fair value through OCI	4.4	-645	519
Actuarial gains and losses on defined benefit plans	3.3	-52	147
Revaluation of forest land	4.2	-49	259
Share of OCI of associated companies	4.3	-23	58
Income tax relating to items that will not be reclassified	2.5	22	-77
		-748	906
Items that may be reclassified subsequently to profit and loss			
Cumulative translation adjustment (CTA)	5.6	56	-197
Net investment hedges and loans	5.6	-15	-27
Cash flow hedges and cost of hedging	5.4	-1	52
Share of OCI of non-controlling interests (NCI)	5.7	5	0
Income tax relating to items that may be reclassified	2.5	-1	-6
		44	-177
Total comprehensive income		-1,135	2,265
Attributable to			

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Earnings per share			
Basic earnings per share, EUR	2.6	-0.45	1.97
Diluted earnings per share, EUR	2.6	-0.45	1.96

Owners of the Parent		-1,066	2,278
Non-controlling interests	5.7	-69	-13
Total comprehensive income		**-1,135**	**2,265**

The accompanying Notes are an integral part of these consolidated financial statements.

Consolidated statement of financial position

			As at 31 December	
EUR million		Note	2023	2022
Assets				
Goodwill	O	4.1	505	244
Other intangible assets	O	4.1	283	121
Property, plant and equipment	O	4.1	4,544	4,860
Right-of-use assets	O	4.1	323	418
			5,656	5,643
Forest assets	O	4.2	6,921	6,846
Biological assets	O	4.2	4,652	4,531
Forest land	O	4.2	2,269	2,315
Emission rights	O	4.5	108	123
Investments in associated companies	O	4.3	926	832
Listed securities	I	4.4	9	8
Unlisted securities	O	4.4	810	1,437
Non-current interest-bearing receivables	I	5.3	76	120
Deferred tax assets	T	2.5	134	74
Other non-current assets	O	4.5	58	38
Non-current assets			**14,699**	**15,120**
Inventories	O	4.6	1,466	1,810
Tax receivables	T		31	11
Operative receivables	O	4.7	1,191	1,473
Interest-bearing receivables	I	5.3	64	77
Cash and cash equivalents	I		2,464	1,917
Current assets			**5,216**	**5,287**
Assets held for sale		6.1	839	514
Total assets			**20,754**	**20,922**

			As at 31 December	
EUR million		Note	2023	2022
Equity and liabilities				
Share capital		5.5	1,342	1,342
Share premium			77	77
Invested non-restricted equity fund			633	633
Fair value reserve			2,293	3,002
Cumulative translation adjustment		5.6	-375	-415
Retained earnings			7,015	7,893
Equity attributable to owners of the Parent			**10,985**	**12,532**
Non-controlling interests		5.7	-97	-30
Total equity			**10,889**	**12,502**
Post-employment benefit obligations	O	3.3	217	159
Provisions	O	4.9	83	81
Deferred tax liabilities	T	2.5	1,433	1,443
Non-current interest-bearing liabilities	I	5.3	4,446	2,792
Non-current operative liabilities	O	4.8	11	11
Non-current liabilities			**6,190**	**4,486**
Current portion of non-current debt	I	5.3	286	667
Interest-bearing liabilities	I	5.3	476	513
Provisions	O	4.9	85	43
Operative liabilities	O	4.8	2,112	2,410
Tax liabilities	T	2.5	45	64
Current liabilities			**3,004**	**3,697**
Liabilities related to assets held for sale		6.1	671	237
Total liabilities			**9,865**	**8,419**
Total equity and liabilities			**20,754**	**20,922**

Items designated "O" comprise Operating Capital, items designated "I" comprise Interest-bearing Net Liabilities, items designated "T" comprise Net Tax Liabilities.

The accompanying Notes are an integral part of these consolidated financial statements.

Consolidated cash flow statement

EUR million	Note	Year ended 31 December 2023	2022
Cash flow from operating activities			
Net result for the year		-431	1,536
Adjustments and reversal of non-cash items:			
Taxes	2.5	-64	322
Depreciation and impairment charges	2.3	1,303	635
Change in value of biological assets	4.2	-209	-195
Change in fair value of share awards		-2	7
Share of results of associated companies	4.3	-136	-221
CTA and profits and losses on sale of fixed assets and investments[1]	2.2	-20	52
Net financial items	2.4	173	151
Other adjustments		16	22
Dividends received from associated companies	4.3	25	25
Interest received		64	13
Interest paid		-149	-119
Other financial items, net		-31	-7
Income taxes paid	2.5	-85	-178
Change in net working capital, net of businesses acquired or sold		300	-461
Net cash provided by operating activities		752	1,582
Cash flow from investing activities			
Acquisition of subsidiary shares and business operations, net of acquired cash	6.1	-584	0
Acquisition of shares in associated companies	4.3	-5	-7
Acquisition of unlisted securities	4.4	-18	-11
Cash flow on disposal of subsidiary shares and business operations, net of disposed cash	6.1	237	-77
Cash flow on disposal of shares in associated companies	4.3	0	10
Cash flow on disposal of intangible assets and property, plant and equipment	4.1	47	17
Capital expenditure	2.1, 4.1	-897	-603
Investment in biological assets	4.2	-92	-101
Proceeds from/payment of non-current receivables, net		-1	31
Net cash used in investing activities		-1,313	-742

EUR million	Note	Year ended 31 December 2023	2022
Cash flow from financing activities			
Proceeds from issue of new long-term debt	5.3	2,006	366
Repayment of long-term debt and lease liabilities	5.3	-716	-390
Change in short-term interest-bearing liabilities	5.3	272	9
Dividends paid		-472	-434
Purchase of own shares		-6	-1
Net cash used in financing activities		1,084	-450
Net change in cash and cash equivalents		523	389
Translation adjustment		24	48
Net cash and cash equivalents at beginning of year		1,917	1,480
Net cash and cash equivalents at year end		2,464	1,917
Cash and cash equivalents at year end[2]		2,464	1,917
Bank overdrafts at year end		0	0
Net cash and cash equivalents at year end		2,464	1,917

[1] CTA = Cumulative Translation Adjustment

[2] Cash and cash equivalents comprise cash-in-hand, deposits held at call with banks and other liquid investments with original maturity of less than three months. Bank overdrafts are included in current liabilities.

The accompanying Notes are an integral part of these consolidated financial statements.

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Consolidated cash flow statement

Supplemental cash flow information

		Year ended 31 December	
EUR million	Note	2023	2022
Change in net working capital consists of:			
Change in inventories		328	-454
Change in interest-free receivables:			
Current		347	-165
Non-current		-19	-1
Change in interest-free liabilities:			
Current		-355	163
Non-current		-2	-3
Change in net working capital, net of businesses acquired or sold		**300**	**-461**
Cash and cash equivalents consist of:			
Cash on hand and at banks		825	1,272
Cash equivalents		1,639	646
Cash and cash equivalents		**2,464**	**1,917**
Non-cash investing activities			
Total capital expenditure excluding right-of-use assets		946	656
Amounts paid		-897	-603
Non-cash part of additions to intangible assets and property, plant and equipment		**49**	**53**
Cash flow on acquisitions of subsidiaries and business operations			
Purchase consideration on acquisitions, cash part	6.1	-612	0
Cash and cash equivalents in acquired companies, net of bank overdraft	6.1	27	0
Net cash flow on acquisition		**-584**	**0**
Cash flow on disposals of subsidiaries and business operations			
Cash part of the consideration	6.1	266	13
Cash and cash equivalents in divested companies	6.1	-29	-90
Net cash flow from disposal		**237**	**-77**

The accompanying Notes are an integral part of these consolidated financial statements.

Statement of changes in equity

EUR million	Share capital	Share premium and reserve fund	Invested non-restricted equity fund	Treasury shares	Fair value reserve: Equity instruments through OCI	Fair value reserve: Cash flow hedges	Fair value reserve: Revaluation reserve	Fair value reserve: OCI of associated companies	CTA and net investment hedges and loans	Retained earnings	Attributable to owners of the parent	Non-controlling interests	Total
Balance at 1 January 2022	1,342	77	633	–	778	-4	1,373	29	-195	6,650	10,683	-16	10,666
Net result for the year	–	–	–	–	–	–	–	–	–	1,550	1,550	-13	1,536
OCI before tax	–	–	–	–	519	52	259	58	-224	147	812	–	812
Income tax relating to OCI	–	–	–	–	1	-9	-53	–	3	-25	-83	–	-83
Total Comprehensive Income	–	–	–	–	520	43	206	58	-220	1,672	2,278	-13	2,265
Dividend	–	–	–	–	–	–	–	–	–	-434	-434	–	-434
Acquisitions and disposals	–	–	–	–	–	–	–	–	–	–	–	–	–
Purchase of treasury shares	–	–	–	-1	–	–	–	–	–	–	-1	–	-1
Share-based payments	–	–	–	1	–	–	–	–	–	5	6	–	6
Balance at 31 December 2022	1,342	77	633	–	1,298	39	1,579	87	-415	7,893	12,532	-30	12,502
Net result for the year	–	–	–	–	–	–	–	–	–	-357	-357	-74	-431
OCI before tax	–	–	–	–	-645	-1	-49	-23	41	-52	-730	5	-726
Income tax relating to OCI	–	–	–	–	–	–	10	–	–	12	22	–	22
Total Comprehensive Income	–	–	–	–	-645	-1	-39	-23	41	-397	-1,066	-69	-1,135
Dividend	–	–	–	–	–	–	–	–	–	-473	-473	–	-473
Acquisitions and disposals	–	–	–	–	–	–	–	–	–	–	–	2	2
Purchase of treasury shares	–	–	–	-6	–	–	–	–	–	–	-6	–	-6
Share-based payments	–	–	–	6	–	–	–	–	–	-8	-2	–	-2
Balance at 31 December 2023	1,342	77	633	–	653	38	1,540	63	-375	7,015	10,985	-97	10,889

CTA = Cumulative Translation Adjustment; NCI = Non-controlling Interests; OCI = Other Comprehensive Income

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Notes to the consolidated financial statements

1 Basis for reporting

1.1 Accounting principles

Principal activities

Stora Enso Oyj ("the Company") is a Finnish public limited liability company organised under the laws of the Republic of Finland and with its registered address at Salmisaarenaukio 2, 00180 Helsinki. Its shares are currently listed on Nasdaq Helsinki and Stockholm. The operations of Stora Enso Oyj and its subsidiaries (together "Stora Enso" or "the Group") are organised into the following reportable segments: Packaging Materials, Packaging Solutions, Biomaterials, Wood Products, Forest and segment Other. The Group's main market is Europe.

The Financial Statements were authorised for issue by the Board of Directors on 31 January 2024.

Basis of preparation

The consolidated financial statements of Stora Enso have been prepared in accordance with IFRS Accounting Standards as adopted by the European Union. The consolidated financial statements of Stora Enso have been prepared according to the historical cost convention, except as disclosed in the accounting policies. The detailed accounting principles are explained in the related notes with a few exceptions where the accounting principles are presented in this note. The consolidated financial statements are presented in euros, which is the parent company's functional currency.

All figures in these consolidated financial statements have been rounded to the nearest million, unless otherwise stated. Therefore, the sum of individual figures may not add up precisely to the totals presented and may vary from previously published financial information.

New and amended standards and interpretations adopted in 2023

The Group has applied the following new and amended standards and interpretations which are effective from 1 January 2023:

- Amendments to IAS 1 Presentation of Financial Statements: Disclosure of Accounting policies. The amendment requires entities to disclose their material accounting policy information rather than their significant accounting policies. The effective date is 1 January 2023. The amendment had a minor impact on the disclosures.
- Amendments to IAS 8 Accounting policies, Changes in Accounting Estimates and Errors: Definition of Accounting Estimates. The amendments introduce the definition of accounting estimates and includes other amendments to IAS 8 to help entities distinguish changes in accounting estimates from changes in accounting policies. The effective date is 1 January 2023. The amendment did not have a significant impact on the Group.
- Amendments to IAS 12 Income Taxes: Deferred Tax related to Assets and Liabilities arising from a Single Transaction. The amendments clarify how entities account for deferred tax on transactions such as leases and decommissioning obligations. The main change is related to the initial recognition in which equal amounts of deductible and taxable temporary differences arise on initial recognition. The effective date is 1 January 2023. The amendment did not have a significant impact on the Group.
- Amendment to IAS 12 Income taxes: Pillar Two rules. The amendment includes 1) a mandatory temporary exception to IAS 12 meaning that an entity does not recognise or disclose information about deferred tax assets and liabilities related to Pillar Two, and a requirement to disclose that the exception has been applied; 2) a requirement to disclose separately the current tax expense (income) related to Pillar Two; and 3) for periods in which Pillar Two legislation is enacted or substantively enacted, but not yet in effect, a requirement to disclose the known or reasonably estimable information about the entity's exposure to Pillar Two income taxes. The effective date is 1 January 2023. The Group has applied the exception and provides an estimate of the impact of Pillar Two in note 2.5 Income taxes.
- Other standards, standard amendments and interpretations did not have any significant impact on the Group's consolidated financial statements or disclosures.

Changes in segment reporting

Due to the divestments and reorganisation of retained Paper division operations, Stora Enso's segment reporting was changed as of 1 January 2023. The Paper division was discontinued and not reported as a separate previously sold and closed sites are reported as part of the segment Other. The retained sites Langerbrugge and Anjala are reported as part of the Packaging Materials division.

As of 1 January 2023, emerging business related units in the Packaging Solutions division were moved to the segment Other. These units include Formed Fiber, Circular Solutions (biocomposites) and Selfly Store.

The comparative figures have been restated accordingly. As of 1 January 2023, the reportable segments are Packaging Materials, Packaging Solutions, Biomaterials, Wood Products, Forest, and segment Other.

Consolidation principles

The consolidated financial statements include the parent company, Stora Enso Oyj, and all companies controlled by the Group. Control is defined as when the Group:

- has power over the investee,
- is exposed, or has rights, to variable returns from its involvement with the investee; and
- has the ability to use its power to affect its returns.

If facts and circumstances indicate that there are changes to the three elements of control listed above the Group reassess whether or not it controls an investee. Acquired companies are accounted for under the acquisition method whereby they are included in the consolidated financial statements from the date the control over the subsidiary is obtained, whereas, conversely, disposed companies are included up to the date when the control is lost. The subsidiaries and joint operations are listed in

nearest million, unless otherwise stated. Therefore, figures in this report may not add

exemption and is in accordance with the amendment; the initial recognition exemption does not apply to transactions

segment from 1 January 2023 onwards. The paper sites divested in 2023 (Maxau, Nymölla and Hylte) together with all

note 6.2 Group companies.

All intercompany transactions, receivables, liabilities and unrealised profits,

as well as intragroup profit distributions, are eliminated. Accounting policies for subsidiaries, joint arrangements and associated companies are adjusted where necessary to ensure consistency with the policies adopted by Stora Enso.

Associated companies over which Stora Enso exercises significant influence are accounted for by using the equity method. These companies are investments in which the Group has significant influence, but which it does not control. Significant influence means the power to participate in the financial and operating policy decisions of the company without control or joint control over those policies. More detailed information is presented in note 4.3 Associates.

Joint control is the contractually agreed sharing of control of the joint arrangement, which exists only when decisions on relevant activities require the unanimous consent of the parties sharing control. Joint operations are joint arrangements, whereby the partners who have joint control of the arrangement have rights to the assets, and obligations for the liabilities, relating to the arrangement. Joint ventures are joint arrangements, whereby the partners who have joint control of the arrangement have rights to the net assets of the joint arrangement.

The Group has two joint operations, Veracel and Montes del Plata. In both companies, Stora Enso's ownership is 50%. The arrangements are based on shareholders' agreements, which give Stora Enso rights to a share of returns and make the Group indirectly liable for the liabilities, as its ability to pay for the pulp is used to finance debts. In relation to its interest in joint operations, the Group recognises its share of assets, liabilities, revenues, expenses and cash flows of the joint operation. The share is determined based on rights to the assets and obligations for the liabilities of each joint operator.

- Veracel is a jointly owned company of Stora Enso and Suzano located in Brazil. The pulp mill produces 1.2 million tonnes of bleached eucalyptus hard wood pulp per year and both owners are entitled to half of the mill's output. The eucalyptus is sourced mostly from the company's own forest plantations. The mill commenced production in 2005.
- Montes del Plata is a jointly owned company of Stora Enso and Arauco located in Uruguay. The Montes del Plata Pulp Mill's annual capacity is 1.4 million tonnes of bleached eucalyptus hard wood pulp and Stora Enso's part, 0.7 million tonnes, is sold entirely as market pulp. The eucalyptus is sourced mostly from the company's own forest plantations. The mill commenced production in 2014.

Revenue recognition

Sales comprise products, raw materials and services less indirect sales tax and discounts, and are adjusted for cash flow hedging result on sales in foreign currencies. Sales are recognised after Stora Enso has transferred the control of goods and services to a customer and the Group retains neither a continuing right to dispose of the goods, nor effective control of those goods; usually, this means that sales are recorded upon the delivery of goods to customers in accordance with the agreed terms of delivery.

Stora Enso's terms of delivery are based on Incoterms 2020, which are the official rules for the interpretation of trade terms as issued by the International Chamber of Commerce (ICC). The main categories of the terms covering Group sales are:

- "D" terms, under which the group is obliged to deliver the goods to the buyer at the agreed place in the manner specified in the chosen rule, in which case the point of sale is the moment of delivery to the buyer.
- "C" terms, whereby the Group arranges and pays for the external carriage and certain other costs, though the Group ceases to be responsible for the goods once they have been handed over to the carrier in accordance with the relevant term. The point of sale is thus the handing over of the goods to the carrier contracted by the seller for the carriage to the agreed destination.
- "F" terms, being where the buyer arranges and pays for the carriage, thus the point of sale is the handing over of the goods to the carrier contracted by the buyer at the agreed point.

Where local rules may result in invoices being raised in advance of the above, the effect of this revenue advancement is quantified, and an adjustment is made accordingly. Stora Enso's sales mainly comprise sales of products and the revenue is typically recognised at a point in time when Stora Enso transfers control of these products to a customer. Revenues from services are recognised over time once the service has been performed. More detailed information regarding Stora Enso's principal activities from which the Group generates its revenue and disaggregation of revenue is presented in note 2.1 Segment information.

Foreign currency transactions

Transactions in foreign currencies are recorded at the rate of exchange prevailing at the transaction date, but at the end of the month foreign-currency-denominated receivables and liabilities are translated using the month-end exchange rate. Foreign exchange differences for operating items are presented in the appropriate income statement line in the operating profit, and, for financial assets and liabilities, they are presented in the financial items in the consolidated income statement, except when deferred in equity as qualifying cash flow hedges, net investment hedges or net investment loans. Translation differences on non-monetary financial assets, such as equities classified at fair value through other comprehensive income (FVTOCI), are included in equity.

Foreign currency translations

The income statements of Group companies with functional and presentational currencies other than the euro are translated into the Group reporting currency using the average exchange rates of the year, whereas the statements of the financial position of these companies are translated using the exchange rates at the reporting date. The Group is exposed to currency risks arising from exchange rate fluctuations on the value of its net investment in non-euro foreign entities. Exchange differences arising from the retranslation of net investments in foreign entities that are non-euro foreign subsidiaries, joint operations or associated companies and of financial instruments that are designated to hedge such investments, are recorded directly in equity as cumulative translation adjustment (CTA). See note 5.6 Cumulative translation adjustment and equity hedging for more details.

Future standard changes endorsed by the EU but not yet effective in 2023

- Amendments to IAS 1 Presentation of Financial Statements: Information about long-term debt with covenants. IAS 1 requires a company to classify debt as non-current only if the company can avoid settling the debt in the 12 months after the reporting date. However, a company's ability to do so is often subject to complying with covenants. The amendments specify that covenants to be complied with after the reporting date do not affect the classification of debt as current or non-current at the reporting date. Instead, the amendments require a company to disclose information about these covenants in the notes to the financial statements. The effective date is 1 January 2024. The Group is evaluating the impact of the amendments and expects that the amendment does not have significant impact.

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- Amendments to IAS 1 Presentation of Financial Statements: Classification of liabilities as current or non-current. The amendments clarify a criterion for classifying a liability as non-current. The amendments specify that an entity's right to defer settlement must exist at the end of the reporting period; clarify that classification is unaffected by management's intentions or expectations about whether the entity will exercise its right to defer settlement; clarify how lending conditions affect classification; and clarify requirements for classifying liabilities an entity will or may settle by issuing its own equity instruments. The effective date is 1 January 2024. The Group is evaluating the impact of the amendment and expects that the amendment does not have significant impact.
- Amendments to IFRS 16 Leases: Lease Liability in Sale and Leaseback. Amendment requires a seller-lessee to subsequently measure lease liabilities arising from a leaseback in a way that it does not recognise any amount of the gain or loss that relates to the right of use it retains. The new requirements do not prevent a seller-lessee from recognising in profit or loss any gain or loss relating to the partial or full termination of a lease. The effective date is 1 January 2024. The Group expects that the amendment does not have a significant impact.
- No other published standards, standard amendments or interpretations which would be expected to have any significant impact on the Group's consolidated financial statements or disclosures.

Future standard changes not yet effective and not yet endorsed by the EU in 2023

- Amendments to IAS 7 Statement of Cash Flows and IFRS 7 Financial Instruments: Disclosures: Supplier Finance Arrangements. The amendments require entities to add disclosure requirements, and 'signposts' within existing disclosure requirements that ask entities to provide qualitative and quantitative information about supplier finance arrangements. The effective date is 1 January 2024. The Group is engaged in supply chain financing and is evaluating the impact of the amendment and expects that the amendment will result in additional disclosures in the notes of the consolidated financial statements.
- Amendments to IAS 21 The Effects of Changes in Foreign Exchange Rates: Lack of Exchangeability. The amendment contains guidance to specify when a currency is exchangeable and how to determine the exchange rate when it is not. The effective date is 1 January 2025. The Group expects that the amendment does not have a significant impact.
- Other published standards, standard amendments or interpretations are not expected to have any significant impact on the Group's consolidated financial statements or disclosures.

1.2 Critical accounting estimates and judgements

The preparation of consolidated financial statements in accordance with IFRS requires management to make estimates, judgements and assumptions that affect the reported assets and liabilities, as well as the disclosure of contingent assets and liabilities at the reporting date and the reported revenues and expenses during the period. These estimates, judgments and assumptions might have a significant impact on the amounts recognised in the consolidated financial statements. The estimates are based on historical experience and various other assumptions that are believed to be reasonable and reflect management's best estimates, though actual result and timing could differ from these. The estimates, judgements and assumptions are reviewed regularly and updated if there are changes in circumstances or as a result of new information. The accounting items presented below represent those matters which include the most estimation uncertainty and exercise of judgement.

Property, plant and equipment, intangible assets and right-of-use assets

The carrying amounts of property, plant and equipment and intangible assets and right-of-use assets are assessed at each reporting date to determine whether there is any indication that an asset may be impaired. If an indicator of impairment exists, the asset's recoverable amount is determined and compared with its carrying amount. The recoverable amount of an asset is estimated as the higher of fair value less the cost of disposal and the value in use, and an impairment charge is recognised whenever the carrying amount exceeds the recoverable amount. The value in use is calculated using a discounted cash flow method which is most sensitive to the discount rate as well as the expected future cash flows. The key assumptions used in the impairment testing, are explained further in note 2.3 Depreciation, amortisation and impairment charges.

Management believes that the assigned values and useful lives, as well as the underlying assumptions, are reasonable, though different assumptions and assigned useful lives could have a significant impact on the reported amounts. For material intangible assets and property, plant and equipment in an acquisition, an external advisor makes a fair valuation of the acquired intangible assets and property, plant and equipment and assists in determining their remaining useful life.

Goodwill

Goodwill is tested per cash generating unit (CGU) or by a group of CGUs at least on an annual basis and recoverable amount is determined as the higher of fair value less cost to sell and their value in use (discounted cash flow method). Impairment is recognised if the carrying amount exceeds the recoverable amount. The discounted cash flow method uses future projections of cash flows from each of the reporting units in a CGU or a group of CGUs and includes, among other estimates, projections of future product pricing, production levels, product costs, market supply and demand, projected capital expenditures and an assumption of the weighted average cost of capital. The discount rates used reflect the best estimate of the weighted average cost of capital.

The Group has evaluated the most sensitive estimates and assumptions, which, when changed, could have a material impact on the valuation of the assets including goodwill and, therefore, could lead to an impairment. These estimates and assumptions are expected sales prices, expected operating costs and the discount rate. The key assumptions used in the impairment testing are presented in note 2.3 Depreciation, amortisation and impairment charges.

Leases

When assessing the lease term and if an extension or renewal options are included or not, the Group considers all relevant facts, circumstances and incentives that might have an impact on the assessment. Options to extend or renew the lease are included in the lease term only if it is reasonably certain that Stora Enso will exercise the option. The Group will do a reassessment, for example upon changes in circumstances, receiving new information or an occurrence of a significant event that is within the control of the lessee and might have an impact on the assessment. See note 4.1 Intangible assets, property, plant and equipment and right-of-

use assets for more details about right-of-use assets and note 5.3 Interest-bearing assets and liabilities for more details about lease liabilities.

Biological assets

The Group has biological assets in subsidiaries, joint operations and associated company. Biological assets, in the form of standing trees, are measured at fair value less the costs to sell. Fair value is determined by using discounted cash flows from continuous operations based on sustainable forest management plans taking into account the growth potential of one cycle. These discounted cash flows require estimates of growth, harvesting, sales price, costs and discount rate. In determining the fair value of biological assets, the management needs to make estimates of future price levels and trends for sales and costs, and to undertake regular surveys of the forest to establish the volumes of wood available for harvesting and their current growth rates.

See next chapter for estimates and judgement applied in valuation of Nordic forest assets and note 4.2 Forest assets for more detailed information about Nordic and plantation forest assets.

Nordic forest assets

The fair value of forest assets in the Nordics is determined using a market approach, which is based on the forest market transactions in the areas where Stora Enso's forests are located. Market prices between areas vary significantly and judgement is applied to define relevant areas for market transactions used in valuation. The valuation of the forest assets is based on detailed transaction data and price statistics as provided by market data suppliers. Market transaction data is adjusted to consider characteristics and nature of Stora Enso's forest assets and to exclude certain non-forest assets and transactions considered as outliers compared to other transactions. The valuation takes into account where the forest land is located, price levels and volume of standing stock. The value of the forest assets will be affected by changes in transaction prices and by how the volume of standing stock develops. Stora Enso is applying weighted three-year average market transaction prices and this is considered to include a sufficient amount of transactions and estimated to represent market conditions at the reporting date.

The value of the forest assets is allocated to biological assets and forest land. Allocation of the combined fair value of forest assets is based on the income approach where separate present values of expected net cash flows are calculated for both biological assets and forest land. The discount rate is determined as the rate at which the valuation based on market transaction prices matches the total forest assets combined cash flows for biological assets and forest land. The total net cash flows for each of the components include estimates in respect of future harvesting volumes, sales price levels, and cost development. See note 4.2 Forest assets for more information.

Fair value of financial instruments

Where the fair value of financial assets and liabilities cannot be derived directly from publicly quoted market prices, other valuation techniques, such as discounted cash flow models, transaction multiples, the Black and Scholes model and the Gordon model, are applied. The key judgements include future cash flows, credit risk, volatility and changes in assumptions about these factors which could affect the reported fair value of the financial instruments. Investments in debt and equity instruments of unlisted entities, such as Pohjolan Voima Oyj (PVO), represent a significant portion of the Group's assets and require management judgement, as explained in more detail in notes 4.4 Equity instruments and 5.1 Financial risk management.

Income taxes

Tax assets and liabilities are reviewed on a regular basis and balances are adjusted appropriately. The deferred tax assets, whether arising from temporary differences or from tax losses, are recognised only to the extent that it is probable that future taxable profits will be available against which the assets can be utilised. Management considers that adequate provision has been made for future tax consequences based on the current facts, circumstances and tax laws. However, should any tax positions be challenged and not prevail, different outcomes could result and have a significant impact on the amounts reported in the consolidated financial statements. See note 2.5 Income taxes for more detailed information.

Post-employment benefits

The determination of the Group pension obligation and expense is subject to the selection of certain assumptions used by actuaries in calculating such amounts, including, among others, the discount rate, the annual rate of increase in future compensation levels and estimated lifespans. Amounts charged in the income statement are determined by independent actuaries; however, where actual results differ from the initial estimates, together with the effect of any change in assumptions or other factors, these differences are recognised directly in equity, as disclosed in the statement of comprehensive income. See note 3.3 Post-employment benefit obligations for detailed information on the assumptions used in the pension obligation calculations.

Provisions

The Group has recognised provisions for known environmental, restructuring and other obligations, where legal or constructive obligation exist as a result of past events. The amounts recognised as provisions are based on the management's best estimate of the costs required to settle the obligation. Due to uncertainty regarding the timing and amount of these costs, the actual costs might differ significantly from the original estimate. The carrying amounts of provisions are reviewed regularly and adjusted when needed to consider changes in cost estimates, regulations, applied technologies and conditions. See note 4.9 Provisions for more detailed information.

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2 Financial performance

2.1 Segment information

Accounting principles

Stora Enso's reportable segments are Packaging Materials, Packaging Solutions, Biomaterials, Wood Products, Forest and the segment Other. Operating segments reflect the Group's management structure and the way financial information is regularly reviewed by Stora Enso's President and CEO who is responsible for allocating resources and assessing the performance of the operating segments. Costs, revenues, assets and liabilities are allocated to operating segments on a consistent basis. Transactions between operating segments are based on arm's length terms, and they are eliminated on consolidation. The activities of the reportable segments are:

Packaging Materials

The Packaging Materials division is a global leader and expert in circular packaging providing premium packaging materials based on virgin and recycled fiber. Stora Enso helps customers replace fossil-based materials with low-carbon, renewable and recyclable alternatives for their food, beverage and transport packaging with a wide selection of base boards and barrier coatings.

Packaging Solutions

The Packaging Solutions division is a packaging converter that provides premium fiber-based packaging products and services used by leading brands across multiple market areas, including retail, e-commerce, fresh produce, and industrial applications. The division also provides design and sustainability services for customers to optimise material use, logistics and to reduce CO2 emissions.

Biomaterials

The Biomaterials division's business opportunities are strongly driven by the need to replace fossil-based and other non-renewable materials. Stora Enso uses all fractions of a tree to develop new biobased solutions for various applications. The division's long-term growth is driven by new products and innovations, while pulp continues to be the foundation.

Wood Products

The Wood Products division is Europe's largest sawn timber producer and a leading provider of sustainable wood-based solutions for the global construction industry. Additionally, it offers window and door components, and co-products such as pellets made from wood residuals.

Forest

The Forest division is responsible for wood sourcing for Stora Enso's Nordic and Baltic operations and B2B customers. It manages the Group's forest assets in Sweden and a 41% share of Tornator, whose forests are mainly located in Finland. The division's operations are based on sustainable forest management from planning and logistics to harvesting and forest regeneration.

Segment Other

The segment Other includes the divested paper sites until the completion of the divestments, the reporting of the emerging businesses (including Formed Fiber and Selfly Stores), as well as Stora Enso's shareholding in the energy company Pohjolan Voima (PVO), and the Group's shared services and administration.

Read more about the changes in segment reporting in 2023 in the note 1.1 Accounting principles. The comparative figures for 2022 have been restated accordingly.

Operating segments 2023

EUR million	Packaging Materials	Packaging Solutions	Biomaterials	Wood Products	Forest	Other	Eliminations	Group
External sales	4,362	1,066	1,363	1,453	989	162	0	9,396
Internal sales	195	11	223	127	1,501	801	-2,859	0
Sales total	**4,557**	**1,077**	**1,587**	**1,580**	**2,490**	**964**	**-2,859**	**9,396**
Product sales								9,317
Service sales								79
Sales total								**9,396**
Operating result	-642	17	-81	-86	461	-41	49	-322
Net financial expense								-173
Income taxes								64
Result for the period								**-431**
Operative assets	3,562	1,223	2,772	855	7,906	1,189	-371	17,136
Tax receivables								166
Interest-bearing receivables								2,613
Assets held for sale								839
Total assets								**20,754**
Operative liabilities	1,059	195	321	238	549	505	-356	2,508
Tax liabilities								1,478
Interest-bearing liabilities								5,209
Liabilities related to assets held for sale								671
Total liabilities								**9,865**
Other items								
Depreciations/impairments/impairment reversals	-805	-74	-297	-67	-21	-38	0	-1,303
Capital expenditures	636	161	162	51	29	15	0	1,054
Operating capital[1]	3,243	1,028	2,451	617	7,358	684	-13	15,368
Average personnel	7,269	4,389	2,196	4,079	1,434	1,455	0	20,822

[1] Including assets held for sale and related liabilities.

Operating segments 2022

EUR million	Packaging Materials	Packaging Solutions	Biomaterials	Wood Products	Forest	Other	Eliminations	Group
External sales	5,257	704	1,798	2,058	848	1,014	0	11,680

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Internal sales	239	23	382	137	1,671	1,136	-3,589	0
Sales total	**5,496**	**727**	**2,180**	**2,195**	**2,519**	**2,150**	**-3,589**	**11,680**
Product sales								11,521
Service sales								159
Sales total								11,680
Operating result	653	81	668	253	523	36	42	2,009
Net financial expense								151
Income taxes								322
Result for the period								1,536
Operative assets	4,792	351	3,995	998	7,481	1,924	440	18,201
Tax receivables								85
Interest-bearing receivables								2,122
Assets held for sale								514
Total assets								20,922
Operative liabilities	1,265	146	299	280	518	574	377	2,704
Tax liabilities								1,307
Interest-bearing liabilities								3,972
Liabilities related to assets held for sale								237
Total liabilities								8,419
Other items								
Depreciations/impairments/impairment reversals	287	62	110	59	50	67	0	635
Capital expenditures	363	36	121	87	35	59	0	701
Operating capital[1]	3,527	205	2,796	718	6,963	1,660	63	15,806
Average personnel	7,143	3,865	2,135	4,445	1,412	2,822	0	21,790

[1] Including assets held for sale and related liabilities.
Comparative figures have been restated as described in the Group's release from 29 March 2023.

Geographical information

	External sales by destination		Non-current assets by country[1]		Capital expenditure by country[2]	
EUR million	2023	2022	2023	2022	2023	2022
Austria	347	450	134	128	15	16
Baltic States	271	377	66	74	9	12
Czech Republic	189	231	193	198	8	41
Finland	664	759	2,872	2,729	587	311

Other operating income and expense

EUR million	2023	2022
Other operating income		
Emission rights allocated and disposal gains	145	177
Sale of green certificates	12	10
Gains on disposal of fixed assets	44	4
Gains on disposal of Group companies and business operations	52	18

France	299	449	2	2	0	0
Germany	862	1,208	34	53	9	10
Italy	453	650	0	0	1	0
Netherlands	597	317	797	9	131	7
Poland	511	733	407	379	30	35
Sweden	1,111	1,071	7,127	6,837	174	173
UK	344	444	8	0	0	0
Other Europe	901	1,245	126	135	12	16
Total Europe	6,548	7,934	11,767	10,543	975	623
China (incl. Hong Kong)	991	1,125	43	1,044	15	25
Japan	242	417	0	0	0	0
Uruguay	33	31	1,543	1,580	35	31
USA	302	397	0	32	0	0
Other countries	1,279	1,776	316	282	29	22
Total	9,395	11,680	13,669	13,481	1,054	701

[1] Non-current assets excluding assets held for sale, financial instruments and deferred tax assets.
[2] Excluding biological asset capital expenditure

Dividend and gain on sale of unlisted shares	1	1
Insurance compensation	8	10
CTA release	0	5
Government grants	40	16
Other[1]	76	85
Total	378	326

[1] Including rent income, fair value changes for non-hedge accounted derivatives and other items. Derivatives are discussed in more detail in note 5.4 Derivatives.

EUR million	2023	2022
Other operating expenses		
Lease expenses	43	40
Credit losses, net of reversals	9	13
Losses on disposal of fixed assets	4	0
Losses on disposal of Group companies and business operations	19	26
CTA release	56	52
Provision changes in income statement	94	31
Other[1]	414	431
Total	638	594

[1] Including expenses related to, among others, consultancy and other services, IT and telecommunications, properties and administration, audit, training, travelling, insurance, penalties, and currency translation differences on operative payables.

Materials and services include	2023	2022
Emissions rights to be delivered	82	112

2.2 Other operating income and expense

Accounting principles

Research and development

Research costs are expensed as incurred in other operating expenses in the consolidated income statement. Development costs are also expensed as incurred unless they meet the criteria to be recognised as intangible assets in accordance with IAS 38, in which case they are capitalised as intangible assets and amortised over their expected useful lives.

Government grants

Government grants relating to the purchase of property, plant and equipment are deducted from the carrying value of the asset, while the net cost is capitalised. Other government grants are recognised as income on a systematic basis over the periods necessary to match them with the related costs which they were intended to compensate.

Green certificates

Stora Enso is part of the local green energy production system which entitles selected mills in Europe to receive green certificates based on megawatt hours of green energy produced. Green certificates received are recognised at grant date market value only in the balance sheet. As such, subsequent changes in market prices do not have an impact on the income statement and the income is recognised only when certificates are sold.

The Group has recorded an other operating income of EUR 145 (177) million related to emission rights. Actual realised profits amounted to EUR 75 (59) million on the disposal of surplus rights. Under Materials and Services an expense of EUR 82 (112) million has been booked related to the cost of CO_2 emissions from production. See note 4.5 Emission rights and other non-current assets for more details related to emission rights. The income from the sale of green certificates amounted to EUR 12 (10) million.

Lease expenses include expenses relating to short-term leases of EUR 12 (12) million, low-value assets of EUR 26 (21) million and variable lease payments not included in the measurement of lease liabilities of EUR 2 (2) million. Lease expenses also include service payments included in lease contracts, which are not included in the measurement of lease liabilities.

In 2023, research and development expenses of EUR 98 (89) million were recorded.

Auditor's fees and services

EUR million	2023	2022
Audit fees	4	4
Audit-related fees	0	0
Tax fees	0	0
Other fees	0	0
Total	5	4

Aggregate fees for professional services rendered to the Group principal auditor PwC amounted to EUR 5 (4) million. Audit fees relate to the auditing of the annual financial statements or ancillary services normally provided in connection with statutory and regulatory filings. Audit-

Depreciation, amortisation and impairment charges

EUR million	2023	2022
Depreciation and amortisation		
Intangible assets	41	24
Buildings and structures	76	81
Plant and equipment	349	371
Right-of-use assets	59	50
Other tangible assets	8	8
Total	533	533
Impairment		
Goodwill	85	11
Intangible assets	24	1

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related fees are incurred for assurance and associated services that are reasonably related to the performance of the audit or for the review of financial statements.

2.3 Depreciation, amortisation and impairment charges

Accounting principles

Depreciation, amortisation and impairment charges

Depreciation or amortisation of an asset begins when it is available for use in the location and condition necessary for it to be operated in the manner intended by management. Depreciation or amortisation ceases when the asset is derecognised or classified as held for sale. Depreciation or amortisation does not cease when the asset becomes idle. Tangible and intangible assets are depreciated and amortised on a straight-line basis during their useful lives. Useful lives are reviewed annually. If an asset is disposed and the asset's book value is higher than the disposal proceeds, the difference is recognised as an impairment in the period when reliable estimate of disposal loss is available, at the latest when a binding sales contract is signed. Right-of-use (ROU) assets are depreciated using the straight line method from the commencement date of the contract to the earlier of the end of the lease term or the end of the useful life of the ROU assets.

The carrying amounts of intangible assets, property, plant and equipment and ROU assets are reviewed at each reporting date to determine whether there is any indication of impairment, whereas goodwill is tested annually. If any such indication exists, the recoverable amount is estimated as the higher of the fair value less costs of disposal and the value in use, with an impairment loss being recognised whenever the carrying amount exceeds the recoverable amount.

A previously recognised impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount, however, not to an extent higher than the carrying amount that would have existed had no impairment loss been recognised in prior years. For goodwill, however, a recognised impairment loss is not reversed.

Whilst intangible assets, property, plant and equipment and ROU assets are subject to impairment testing at the cash generating unit (CGU) level, goodwill is subject to impairment testing at the CGU level for groups of CGUs, which represents the lowest level within the Group at which goodwill is monitored for internal management purposes.

Buildings and structures	134	25
Plant and equipment	494	75
Right-of-use assets	33	0
Other tangible assets	6	2
Total	776	114
Reversal of impairment		
Plant and equipment	-6	-7
Total	-6	-7
Disposal gains/losses		
Gain on sale of assets	0	-10
Loss on sale of assets	0	4
Total	0	-5
Depreciation, amortisation and impairment charges	1,303	635

Impairment testing

The recoverable amount for the cash generating units (CGUs) has been determined as the higher of fair value less cost to sell and their value in use. Value in use is determined by using cash flow projections from financial estimates approved by the Board of Directors and management. The pre-tax discount rates are calculated for each CGU, taking into account the business environment of the CGU and the tax and risk profile of the country in which the cash flow is generated. The table in the goodwill impairment testing section below sets out the pre-tax discount rates used for goodwill impairment testing, which are similar to those used in the impairment testing of other intangible assets, property, plant and equipment, and ROU assets.

The following assumptions were used in calculating value in use for each CGU:

- Sales price estimates in accordance with internal and external specialist analysis;
- Cash flows and discount rates were prepared in nominal terms;
- Current cost structure to remain unchanged;
- For goodwill testing, a five-year future period was used, after which the perpetuity value was determined using inflation based growth rates;
- For intangible assets, property, plant and equipment, and ROU assets testing period was the remaining expected economic life of the assets.

Property, plant and equipment, other intangible assets and ROU assets impairments

The total impairment charges on property, plant and equipment, other intangible assets and ROU assets in 2023 amounted to EUR 691 (103) million and resulted from business restructuring, Group company disposals and predictions of a weaker outlook compared to previous estimates.

In 2023, impairments were mainly related to Biomaterials and Packaging Materials divisions. Biomaterials related impairments of EUR 146 million concerned Nordic Mills CGU and are mainly related to Sunila due to the closure of pulp production site Finland and Uimaharju site due to predictions of a weaker outlook compared to previous estimates. Packaging Materials related impairments of EUR 490 million concerned mainly Containerboard Oulu CGU of EUR 228 million due to predictions of a weaker outlook compared to previous estimates, Consumer Board China CGU of EUR 202 million in connection to potential disposal transaction and based on fair value less cost to sell, and CGU De Hoop of EUR 42 million due to the closure of the site result in an impairment. In 2023, any reasonably possible change in key assumptions would not cause carrying amount to exceed its recoverable amount.

Summary of impairments and impairment reversals per division

EUR million	2023	2022
Packaging Materials	530	0
Packaging Solutions	5	36
Biomaterials	190	0
Wood Products	20	10
Forest	1	31
Other	23	28
Total (impairment +) / (Impairment reversal -)	770	107

in the Netherlands.

In 2022, impairments were mainly related to Group company disposals in Russia and disposals in the Paper division. Russia related impairments of EUR 75 million concerned Wood Products Baltic and Russia CGU, Packaging Solutions Corrugated Nordics, and CEE CGU and Forest operations CGU. Paper related impairments of EUR 22 million concerned News and Office CGUs. Due to disposals, Wood Products Baltic and Russia CGU no longer exists as its own CGU. Due to segment changes in 2023, News and Office CGUs, previously part of Paper, are presented as part of the segment Other.

Goodwill impairments

In 2023, a goodwill impairment of EUR 28 million was recognised in Anjala Mill CGU and EUR 13 million in De Hoop mill CGU mainly due to restructurings in the Packaging Materials division. Additionally, a goodwill impairment of EUR 44 million was recognised in the Biomaterials division's CGU Nordic Mills, due to predictions of a weaker outlook compared to previous estimates.

Due to disposals in 2022 in the Paper division, a goodwill impairment of EUR 11 million was recognised in News and Office CGUs. Due to segment changes in 2023, News and Office CGUs, previously part of Paper, are presented as part of the segment Other.

The most material groups of CGUs containing goodwill

	2023		2022	
EUR million	Goodwill at year end	Pre-tax discount rate	Goodwill at year end[1]	Pre-tax discount rate
Packaging Solutions - Western Europe	277	9.3%	0	–
Wood Products - Southern Europe	110	11.8%	111	9.9%
Biomaterials - Nordic Mills	0	10.1%	45	8.2%
Other CGUs	119		88	
Total	505		244	

[1] Goodwill excluding assets held for sale

The calculation of value in use is highly sensitive to discount rates, sales prices and costs. Sensitivity analysis are conducted to calculate the amounts by which the value assigned to the key assumption must change in order for the unit's recoverable amount to be equal to its carrying amount for the CGUs for which a reasonably possible change in an assumption could

2.4 Net financial items

Accounting principles

Net financial items comprise net interest expenses, foreign exchange gains and losses and other financial income and expenses mainly arising from interest-bearing assets and liabilities.

Financial income and expense

EUR million	2023	2022
Net financial expense in the income statement		
Financial income	91	40
Financial expense	-264	-191
Total	-173	-151
Represented by		
Interest expense		
Interest expense from borrowings measured at amortised cost	-167	-96
Interest component of the effective hedges under cash flow hedge	9	-12
Interest expense on leases	-23	-17
Interest capitalised	7	0
Interest income on loans and receivables measured at amortised cost	61	20
Net interest expense	-113	-105
Foreign exchange gains and losses		
Currency derivatives	-12	8
Borrowings, cash equivalents, lease liabilities and other	-10	-10

2.5 Income taxes

Accounting principles

The Group income tax expense/benefit includes taxes of Group companies based on taxable profit/loss for the period, together with tax adjustments for previous periods and the change in deferred taxes. Tax assets and liabilities reflect uncertainty related to income taxes, if any.

Deferred taxes are provided using the liability method, as measured with enacted, or substantially enacted, tax rates, to reflect the net tax effects of all temporary differences between the tax bases and the accounting bases of assets and liabilities. No deferred tax is recognised for the initial recognition of goodwill and the initial recognition of an asset or liability in a transaction which is not a business combination, and at the time of the transaction this affects neither accounting profit nor taxable profit. Deferred tax is recognised on transactions in which equal amounts of deductible and taxable temporary differences arise on initial recognition. Deferred tax assets reduce income taxes payable on taxable income in future years. The deferred tax assets, whether arising from temporary differences or from tax losses, are recognised only to the extent that it is probable that future taxable profits will be available against which the assets can be utilised.

Tax expense

EUR million	2023	2022

Net foreign exchange gains and losses	-22	-1
Other financial income	6	2
Other financial expense		
Financial fees	-28	-8
Fair valuation losses	0	-4
Impairments of interest-bearing assets	-11	-30
Net interest on net defined benefit liabilities	-5	-3
Net other financial expense	-38	-45
Total	-173	-151

Gains and losses on derivative financial instruments are shown in note 5.4 Derivatives.

In 2023, the net interest expense increased mainly as a result of higher interest rates on borrowings and higher amount of gross debt. The negative impact was partly offset by higher interest income on loans and receivables.

The amount of interest costs capitalised during the year amounted to EUR 7 (EUR 0) million, and were mainly related to the Oulu site conversion project in Finland. The average interest rate used for capitalisation was 3.6% (-). Costs on long-term debt issues capitalised as part of non-current debt amounted to EUR 9 (6) million in the statement of financial position. During the year, EUR 2 (2) million was amortised through interest expense by using the effective interest rate method.

Exchange gains and losses for currency derivatives mainly relate to non-hedge accounted instruments fair valued in the income statement. In 2023, the amount reported as other financial income mainly consists of fair valuation gains, while other financial expense in the table above relates to net financial fees for unused committed credit facilities, guarantees, and factoring and supply chain financing programmes. Impairments of interest-bearing assets relate to receivables originating from the sale of the Russia operations in 2022 and are discussed in more detail in note 5.3 Interest-bearing assets and liabilities.

Current tax	-54	-196
Deferred tax	119	-126
Total income tax	64	-322

Income tax rate reconciliation

EUR million	2023	2022
Profit before tax	-495	1,858
Tax at statutory rates applicable to profits in the country concerned[1]	121	-337
Non-deductible expenses and tax exempt income[2]	-10	-15
Valuation of deferred tax assets	-60	15
Taxes from prior years	-3	2
Changes in tax rates and tax laws	-1	0
Results from associated companies	27	44
Other	-10	-31
Total income taxes	64	-322
Effective tax rate	13.0%	17.3%
Statutory tax rate (blended)	24.5%	18.2%

[1] Includes a EUR 22 million impact from countries with tax holidays and tax benefits in 2023 and a EUR 55 million impact from tax holidays and other tax benefits in 2022.
[2] The tax value of non-deductible expenses of EUR 12 million has been netted against tax exempt income of 3 EUR million in 2023, and tax value of non-deductible expenses of EUR 16 million has been netted against tax exempt income of EUR 1 million in 2022.

The statutory tax rate is a weighted average of the statutory tax rates prevailing in jurisdictions where Stora Enso operates.

Change in deferred taxes in 2023

EUR million	Value at 1 Jan 2023	Income statement	OCI	Acquisitions / disposals	Translation difference	Value at 31 Dec 2023
Forest assets	-1,267	-54	9	0	-4	-1,315
Fixed assets	-123	58	0	-60	-3	-128
Financial instruments	-10	-2	-1	0	0	-12
Untaxed reserves	-85	77	0	0	2	-6
Pensions and provisions	26	-3	9	0	1	34
Tax losses and tax credits carried forward	74	40	0	0	-2	112
Other deferred taxes	15	2	0	-2	1	17
Total	-1,370	119	18	-62	-4	-1,299
Equity hedges and net investment loans (CTA)		0	0			
Cash flow hedging		0	0			
Change in deferred tax		119	18	-62	-4	
Assets[1]	74					134
Liabilities[1]	-1,443					-1,433

[1] Deferred tax assets and liabilities have been offset in accordance with IAS 12.
OCI = Other Comprehensive Income, CTA = Cumulative Translation Adjustment

Change in deferred taxes in 2022

Tax losses

	Tax losses carried forward		Recognised tax values		Unrecognised tax values	
EUR million	2023	2022	2023	2022	2023	2022
Expiry within five years	88	359	9	5	13	72
Expiry after five years	326	100	60	9	6	14
No expiry	1,213	1,173	42	58	219	198
Total	1,626	1,633	111	73	237	283

At the end of 2023 tax losses of EUR 259 million related to Finland and a deferred tax asset of EUR 52 million was recognized of these tax losses. At the end of 2022, there were no material tax losses related to Finland.

Uncertain tax positions

At balance sheet date there were on-going tax audits in several jurisdictions. It is not expected that any significant additional taxes in excess of those already recorded for will arise as a result of these audits.

Impact of OECD Pillar Two model rules

The Group is within the scope of the OECD Pillar Two model rules as from 1 January 2024. The Group has no related current tax exposure for the financial year 2023. The Group applies the exception to recognising and disclosing information about deferred tax assets and liabilities related to Pillar Two income taxes, as provided in the amendments to IAS 12.

EUR million	Value at 1 Jan 2022	Income statement	OCI	Acquisitions / disposals[1]	Translation difference	Value at 31 Dec 2022
Forest assets	-1,268	-43	-53	0	97	-1,267
Fixed assets	-103	-44	0	17	7	-123
Financial instruments	1	-3	-8	0	0	-10
Untaxed reserves	-80	-16	0	4	7	-85
Pensions and provisions	58	-1	-25	-4	-2	26
Tax losses and tax credits carried forward	107	-34	0	0	1	74
Other deferred taxes	-2	19	0	-2	0	15
Total	-1,287	-122	-86	15	110	-1,370
Equity hedges and net investment loans (CTA)		-3	3			
Change in deferred tax		-125	-83	15	110	
Assets[2]	143					74
Liabilities[2]	-1,430					-1,443

[1] Includes assets held for sale.
[2] Deferred tax assets and liabilities have been offset in accordance with IAS 12.
OCI = Other Comprehensive income. CTA = Cumulative Translation Adjustment

The recognition of deferred tax assets is based on the Group's estimations of future taxable profits available against which the Group can utilise the benefits.

Non-recognised deferred tax assets on deductible temporary differences amounted to EUR 50 (50) million. There is no expiry date for these differences. Taxable temporary differences in respect of investments in subsidiaries, branches and associates and interests in joint operations, for which deferred tax liabilities have not been recognised amounted to EUR 428 (367) million.

The Group has initially assessed its exposure to the legislation. Part of the Group's operation in Uruguay may become subject to the Pillar Two minimum tax. The impact of the legislation to the Group's average effective tax rate is expected to vary from year to year, and the Group estimates the tax impact in the short term to be between 0–15 million EUR per year. Estimates are based on the current understanding of the interpretation of the new rules.

2.6 Earnings per share

Accounting principles

Basic earnings per share, attributable to the owners of the parent company, are calculated by dividing the net result attributable to shareholders by the weighted average number of ordinary shares in issue during the year, excluding ordinary shares purchased by the group and held as treasury shares. Diluted earnings per share are calculated by adjusting the weighted average number of ordinary shares plus the diluted effect of all potential dilutive ordinary shares, such as shares from share-based payments.

Earnings per share

	2023	2022
Net result for the period attributable to the owners of the parent, EUR million	-357	1,550
Weighted average number of A and R shares	788,619,987	788,619,987
Weighted average number of share awards	1,094,121	771,150
Weighted diluted number of shares	789,714,108	789,391,137
Basic earnings per share, EUR	**-0.45**	**1.97**
Diluted earnings per share, EUR	**-0.45**	**1.96**

3 Employee remuneration

3.1 Personnel expenses

Personnel expenses

EUR million	2023	2022
Wages and salaries	962	996
Pension expenses	147	152
Share-based remuneration	4	8
Other statutory employer costs	139	140
Other voluntary costs	23	20
Total	1,275	1,315

Pension expenses

EUR million	2023	2022
Defined benefit plans	7	5
Defined contribution plans	140	146
Total	147	152

The average number of employees in 2023 amounted to 20,822 (21,790). Pension costs are discussed further in note 3.3 Post-employment benefit obligations.

In 2023, the expense of the share-based remuneration was EUR 4 (8) million. Share-based remuneration comprising of share awards is described in more detail in note 3.4 Employee

3.2 Board and executive remuneration

Board and committee remuneration

EUR thousand (before taxes)	2023 Cash	2023 Value of shares[1]	2023 Total[4]	2022 Total	Committee memberships
Board members at 31 December 2023					
Karl Jordan, Chair	135	85	220	86	People and Culture, Nomination[2,3]
Håkan Buskhe, Vice Chair	77	48	125	122	People and Culture, Nomination[2,3]
Elisabeth Fleuriot	64	33	97	94	Financial and Audit
Helena Hedblom	55	33	88	86	Sustainability and Ethics
Astrid Hermann	64	33	97	–	Financial and Audit
Christiane Kuehne	60	33	93	90	Sustainability and Ethics
Antti Mäkinen	55	33	88	214	People and Culture
Richard Nilsson	71	33	104	101	Financial and Audit
Former Board members					
Hock Goh (until 16 March, 2023)	–	–	–	94	Financial and Audit
Hans Sohlström (until 18 September, 2023)	55	33	88	86	Sustainability and Ethics
Total remuneration as Directors[1]	**636**	**364**	**1,000**	**972**	

[1] 40% of the Board remuneration, excluding Committee remuneration, in 2023 was paid in Stora Enso R shares purchased from the market and distributed as follows: to Chair 7,326 R shares, Vice Chair 4,136 R shares, and members 2,839 R shares each. The Company has no formal policy requirements for the Board members to retain shares received as remuneration.
[2] Stora Enso's Shareholders' Nomination Board has been appointed by the AGM in 2016 to exist until otherwise decided. The Shareholders' Nomination Board according to its Charter as approved by the AGM comprises of four members: the Chair and Vice Chair

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variable compensation and equity incentive schemes. Remuneration of the Group Leadership Team and Board are described in note 3.2 Board and executive remuneration.

of the Board of Directors, as well as two members appointed by the two largest shareholders (one each) as of 31 August each year. No separate remuneration is paid to members of the Nomination Board.

[3] Marcus Wallenberg, appointed by FAM AB, is Chair of the Nomination Board. Jouko Karvinen is the member of the Shareholders' Nomination Board appointed by Solidium Oy. Kari Jordan and Håkan Buskhe were appointed as members of the Shareholders' Nomination Board in their roles as Chair and Vice Chair of the Board of Directors.

[4] The Company additionally pays the transfer tax for share purchases for each member, in line with AGM decision, which amount is considered also taxable income for each member.

Shareholders at the Annual General Meeting (AGM) have established a Shareholders' Nomination Board to exist until otherwise decided and to annually prepare proposals for the AGM's approval concerning the number of members of the Board of Directors, the Chair, Vice Chair and other members of the Board, as well as the remuneration for the Chair, Vice Chair and members of the Board and its committees.

Board share interests at 31 December 2023

	Shares held (direct and indirect ownership)	
	A	R
Board members at 31 December 2023		
Kari Jordan, Chair		9,012
Håkan Buskhe, Vice Chair		12,069
Elisabeth Fleuriot		32,868
Helena Hedblom		6,356
Astrid Hermann		2,839
Christiane Kuehne		17,429
Antti Mäkinen		19,415
Richard Nilsson[1]	127	30,207
Total shares held	**127**	**130,195**

[1] Spouse holds 127 of A shares and 236 of R shares

The following Board members also served in 2023

	Shares held when Board membership ended (direct and indirect)	Effective date of Board membership ending
Hock Goh	34,782	16 March 2023
Hans Sohlström[1]	16,535	18 September 2023

1 Spouse holds 179 of the shares

Group Leadership Team (GLT) remuneration and share interests

The table below includes the remuneration earned by GLT members during the year, including those shares with performance conditions that have ended and are due to vest in the coming year. The Company recommends and expects the CEO and GLT members to hold Stora Enso shares at a value corresponding to at least one annual base salary. Stora Enso shares received

Group Leadership Team remuneration

	2023				2022		
EUR thousand	CEO[2]	Former CEO[2]	Others[3,6]	GLT Total	CEO	Others	GLT Total
Remuneration[4,5]							
Annual salary	290	669	3,656	4,615	953	4,802	5,755
Local housing (actual costs)	–	–	3	3	0	2	2
Other benefits	–	26	263	289	32	272	304
Termination benefits	–	933	300	1,233	0	0	0
Short Term Incentive programme[4]	–	157	1,024	1,181	845	2,167	3,012
Long Term Incentive programme[4]	–	912	1,652	2,564	987	2,848	3,835
	290	2,697	6,898	9,885	2,817	10,091	12,908
Pension costs							
Mandatory plans	48	428	920	1,396	477	1,154	1,631
Stora Enso voluntary plans	–	–	730	730	0	933	933
	48	428	1,650	2,126	477	2,087	2,564
Total compensation	338	3,125	8,548	12,011	3,294	12,178	15,472

[1] The Finnish Corporate Governance code requires companies to report remuneration that is paid or due, and due to this the figures presented in the above table do not directly reconcile with the amounts recognised as personnel expenses in the income statement as presented in the below table Group Leadership Team remuneration in Income statement.

[2] CEO remuneration consists of remuneration delivered to Hans Sohlström as of 18 September 2023 and Annica Bresky until 18 September 2023.

[3] Includes earnings related to René Hansen until 4 May 2023, Minna Björkman until 30 September 2023 and David Ekberg until 30 November 2023, And Micaela Thorström as of 1 April 2023 and Ad Smit as of 1 December 2023.

[4] Related to amounts due at year end, which will be paid in 2024. LTI value is calculated using the 29 December 2023 closing price of EUR 12.53. The final value of the vested shares will depend on the share price on vesting date 1 March 2024.

[5] Remuneration for executives is disclosed only for the period during which they were GLT members.

[6] Remuneration of GLT members decreased in 2023 compared to 2022 mainly due to the performance outcome of variable pay programmes. The average number of GLT members during 2023 was 10.40.

as remuneration are therefore recommended not to be sold until this level has been reached.

The aggregate cost of earned remuneration for GLT in 2023 amounted to EUR 12 (15) million. The total number of GLT members was 11 (11) at the year end in 2023.

In accordance with their respective pension arrangements, GLT members may retire at sixty-five years of age with pensions consistent with local practices in their respective home countries. Contracts of employment provide for six months' notice prior to termination with severance compensation of twelve months basic salary if the termination is at the Company's request.

The outcome of the financial targets relating to the Short term incentive programmes for the performance year 2023, and Long term incentive programmes for the performance years 2021 to 2023 were reviewed and confirmed by the People and Culture Committee, and approved by the Board of Directors in January 2024.

Note 3.4 Employee variable compensation and equity incentive schemes includes details of incentive schemes and share opportunity programmes for the management and staff of Stora Enso.

Group Leadership Team remuneration in Income statement

	2023				2022		
EUR thousand	CEO	Former CEO	Others	GLT Total	CEO	Others	GLT Total
Salaries and other short-term employee benefits	290	852	4,946	6,088	1,830	7,243	9,073
Long Term Incentive programme[1]	137	432	1,245	1,814	714	1,581	2,295
Post-employment benefits	48	428	1,650	2,126	477	2,087	2,564
Total recognised in income statement	**475**	**1,712**	**7,841**	**10,028**	**3,021**	**10,911**	**13,932**

[1] The costs of long-term incentive (LTI) programmes are recognised as costs over the three year vesting period based on the share price at grant date and the estimate of equity instruments that will eventually vest.

Executives other than CEO

Short term incentive (STI) programmes for management

In 2023, GLT members have STI programmes with up to a maximum of 70% or 80% of their annual fixed salary, payable the year after the performance period. 80–100% of the STI for 2023 was based on financial measures and 0–20% on individual strategic key targets.

Long term incentive (LTI) programmes for management

The 2021 programme has three one-year performance periods which are accumulated after three years. The 2022 and 2023 programmes feature performance metrics with one-year performance periods, which are accumulated after three years, as well as three-year performance periods. All three programmes will be settled in only one portion after three years, and the absolute maximum vesting level is 100% of the number of shares granted. The 2021 programme is related to performance period 2021–2023, the 2022 programme is related to performance period 2022–2024 and the 2023 programme is related to performance periods 2023–2025. The opportunity under the programmes is in Performance Shares, where the shares are vested in accordance with performance criteria proposed by the People and Culture Committee and approved by the Board of Directors.

During the year the 2023 programme was launched, in which the GLT members (in GLT at year end) can potentially receive a value corresponding to 227,130 shares before taxes, assuming the maximum vesting level during the three-year vesting period (2023–2025) is achieved. The total number of shares actually transferred will be lower because a portion of shares corresponding to the tax obligation will be withheld to cover income tax.

The fair value of employee services received in exchange for share-based compensation payments is accounted for in a manner that is consistent with the method of settlement and is either cash or equity settled as described in more detail in note 3.4 Employee variable compensation and equity incentive schemes. For the equity settled part, it is possible that the actual cash cost does not agree with the accounting charges because the share price is not updated at the time of the vesting. The figures in the Group Leadership Team Remuneration table refer to individuals who were executives at year end or during part of the year.

At the end of the year, the performance period for the 2021 programme ended, and will be

Short term incentive (STI) programme for CEO

As of 18 September 2023, for the next 12+12 months, the CEO is entitled to an STI programme with a maximum opportunity of 100% of the annual fixed salary for each 12 month period.

Long term incentive (LTI) programme for CEO

As of 18 September 2023, there is a two-year CEO Performance Plan initiated with a vesting date in Q4/2025. The CEO has the potential to receive a value corresponding to a maximum of 169,420 shares before taxes. The performance targets are related to balance sheet, capital expenditure, strategy and sustainability. The CEO is not eligible to participate in LTI 2023–25 or other potential LTI programmes starting during 2024.

Former President & Chief Executive Officer – Annica Bresky

Annica Bresky was employed by Stora Enso since 1 May 2017 and assumed the position of CEO on 1 December 2019 until 18 September 2023. She had a notice period of six months with a severance payment of twelve months salary on termination by the Company. The severance payment is due to be paid in 2024. In 2023, the former CEO was entitled to an STI programme decided by the Board giving a maximum opportunity of 100% of the annual fixed salary. The payout is prorated to employment during Jan–Sep, 2023. The former CEO participated in the 2021, 2022 and 2023 share based LTI programmes. Each programme has cliff vesting after three years. At the payout, the actual value of these plans is prorated according to active employment in the Company.

Group Leadership Team share interests

Executives in office at the year end	R shares held[1]	Shares due 2024[2]	Performance share opportunity 2025–2026[3]	Restricted share opportunity 2024–2025[3]
Hans Sohlström[5]	100,799	–	169,420	–
Seppo Parvi	63,162	16,457	61,160	–
Tobias Bäärnman	4,196	9,892	25,980	–
Johanna Hagelberg	35,645	12,047	43,520	–
Hannu Kasurinen	52,736	19,961	57,810	–
Katarina Kravi	10,383	11,945	33,600	–

settled in one portion after three years in March 2024, dependent on Economic Value Added (EVA) for the Stora Enso Group and Earnings Per Share (EPS) for the Stora Enso Group. The Performance Share programme resulted in a 89 % performance outcome. The number of shares due for executives (GLT members at year end) from programmes that ended during 2023 amounted to 115,580 shares. The total number of shares actually transferred will be lower because a portion of shares corresponding to the tax obligation will be withheld to cover income tax.

CEO

President & Chief Executive Officer – Hans Sohlström

The CEO has been employed by Stora Enso and assumed the position of CEO on 18 September 2023. He has a notice period of six months with a severance payment of twelve months salary on termination by the Company but with no contractual payments on any change of control. The CEO's pension plan and retirement age is according to the Finnish statutory TyEL plan.

Per Lyrvall[3]	84,143	15,074	47,840	–
Annette Stube	9,054	11,218	31,570	–
Ad Smit	–	–	8,168	22,722
Micaela Thorström	–	1,677	12,858	302
Lars Völkel	16,477	17,309	51,280	–
Total, serving officers[4]	376,595	115,580	543,206	23,024

1 Direct and indirect ownership. None of the GLT members holds A shares.

2 Shares due to GLT member are gross of taxes for the LTI programmes with performance periods that ended in 2023 and are due to be paid 2024. The Performance Share programme resulted in a 89% performance outcome due to be paid in 2024 partly in shares and cash. Some GLT members hold restricted shares in the Restricted Shares programme that ended in 2023 and those shares are due to be paid 2024.

3 Spouse holds 1,257 of the shares.

4 The Company recommends and expects GLT members to hold Stora Enso shares at a value corresponding to at least one annual base salary. Stora Enso shares received as remuneration are therefore recommended not to be sold until this level has been reached.

5 Potential shares to GLT members are gross of taxes for LTI programmes with performance periods that end in 2024–2025 and are due to be paid 2025–2026.

6 Spouse holds 179 of the shares.

The following Executive Officers also served in 2023	R shares held when GLT membership ended	Performance Share Awards when GLT membership ended	Restricted Share Awards when GLT membership ended	Effective date of GLT membership ending
Annica Bresky	52,594	79,197		17 September 2023
Minna Björkman	2,344	16,508	1,122	30 September 2023
David Ekberg[1]	8,830	37,820		30 November 2023
René Hansen[1]	1,462	27,100	3,400	4 May 2023

[1] Unvested shares are forfeited at end of employment

3.3 Post-employment benefit obligations

Accounting principles

Employee benefits

The Group operates a number of defined benefit and contribution plans throughout the world, the assets of which are generally held in separate trustee administered funds. Such pension and post-retirement plans are generally funded by payments from employees and by the relevant Group companies, taking into account the recommendations of independent qualified actuaries. Employer contributions to the defined contribution pension plans are charged to the consolidated income statement in the year they relate to.

For defined benefit plans, accounting values are assessed using the projected unit credit method. Under this method, the cost of providing pensions is charged to the consolidated income statement to spread the regular cost over the service lives of employees in accordance with the advice of qualified actuaries who carry out a full valuation of the plan every year in all major pension countries. The pension obligation is measured as the present value of the estimated future cash outflows using interest rates of highly rated corporate bonds or government securities, as appropriate, that match the currency and expected duration of the related liability.

The Group recognises all actuarial gains and losses arising from defined benefit plans directly in equity, as disclosed in its consolidated statement of comprehensive income. Past service costs are identified at the time of any amendments to the plans and are recognised immediately in the consolidated income statement regardless of vesting requirements. In the Group's consolidated statement of financial position, the full liability for all plan deficits is recorded.

The Group's pension expenses amounted to EUR 147 (152) million in 2023, as shown in note 3.1 Personnel expenses. Pensions are classified as defined contribution plans and defined benefit plans. The majority of the Group's pensions plans are defined contribution plans for which the charge amounted to EUR 140 (146) million. The priority of the Group is to provide defined contribution plans as its post-employment benefits.

Net defined benefit obligation reconciliation

	Defined benefit obligation		Fair value of plan assets		Net defined benefit obligation / (asset)	
EUR million	2023	2022	2023	2022	2023	2022
At 1 January	736	1,108	-577	-762	159	347
Current service cost	7	12	0	0	7	12
Past service cost	0	-6	0	0	0	-6
Settlements	0	-7	0	7	0	0
Interest expense (+) income (-)	27	13	-22	-10	5	3
Total included in income statement	**34**	**11**	**-22**	**-3**	**12**	**9**
Actuarial changes in demographic assumptions	1	-13	0	0	1	-13
Actuarial changes in financial assumptions	31	-306	0	0	31	-306
Actuarial changes from experience adjustments	19	63	0	0	19	63
Return on plan assets[1]	0	0	-1	105	-1	105
Asset ceiling impact[1]	0	0	2	5	2	5
Total remeasurement gains (-) / losses (+) included in OCI	**52**	**-256**	**0**	**109**	**52**	**-147**
Benefit payments	-56	-54	45	41	-12	-13
Employer contributions and refunds	0	0	-20	4	-20	4
Translation difference	3	-38	-3	33	0	-5
Disposals and classification as held for sale	6	-35	-1	0	5	-35
At 31 December	**775**	**736**	**-578**	**-577**	**197**	**159**

[1] Excluding amounts included in interest expense (+) income (-)

In 2024, contributions of EUR 22 (19) million are expected to be paid to Group's defined benefit plans.

Significant actuarial assumptions used in the valuation of defined benefit obligations

	Finland		Germany		Sweden	
	2023	2022	2023	2022	2023	2022
Discount rate %	3.1	3.6	3.3	3.6	3.1	4.0
Future salary increase %	3.0	3.0	2.5	2.5	2.9	2.9
Future pension increase %	2.2	2.2	2.0	2.0	2.0	2.0

Duration of pension plans	8.0	8.0	8.8	10.2	12.7	13.1

Sensitivity of the defined benefit obligation

		Impact on defined benefit obligation	
	Change in assumption	Increase in assumption	Decrease in assumption
Discount rate	0.50%	Decrease by 4.9%	Increase by 5.5%
Salary growth rate	0.50%	Increase by 1.1%	Decrease by 1.0%
Pension growth rate	0.50%	Increase by 4.1%	Decrease by 3.7%
Life expectancy	1 year	Increase by 3.6%	Decrease by 3.5%

The Group defines following actuarial risks associated with defined benefit plans:

Interest risk

The obligations are assessed using market rates of high-quality corporate or government bonds to discount the obligations and are therefore subject to any volatility in the movement of the market rate. The net interest income or expense recognised in profit and loss are also calculated using the market rate of interest.

Life expectancy

In the event that members live longer than assumed, the obligations may be understated originally and a deficit may emerge if funding has not adequately provided for the increased life expectancy.

Defined benefit plan summary by country as at 31 December 2023

EUR million	Finland	Germany	Sweden	Other	Total
Present value of funded obligations	167	5	277	151	600
Present value of unfunded obligations	0	131	20	23	174
Defined benefit obligations (DBO)	167	136	297	174	775
Fair value of plan assets	-160	-5	-271	-142	-578
Net obligation in the balance sheet	7	131	26	32	197
Represented by					
Defined benefit pension plans	7	131	26	9	174
Other post-employment benefits	0	0	0	23	23
Net obligation in the balance sheet	7	131	26	32	197

Defined benefit plan summary by country as at 31 December 2022

EUR million	Finland	Germany	Sweden	Other	Total
Present value of funded obligations	172	3	226	163	563
Present value of unfunded obligations	0	134	15	24	173
Defined benefit obligations (DBO)	172	137	241	187	736
Fair value of plan assets	-157	-4	-266	-150	-577
Net obligation in the balance sheet	15	134	-26	36	159
Represented by					
Defined benefit pension plans	15	134	-26	13	136
Other post-employment benefits	0	0	0	23	23
Net obligation in the balance sheet	15	134	-26	36	159

Finland

and also national requirements, under which there is an obligation to pay guaranteed benefits irrespective of market conditions.

Germany

German pension costs amounted to EUR 3 (6) million, of which EUR 3 (6) million related to defined contribution plans and EUR 0 (1) million to defined benefits excluding finance costs. The net defined benefit obligation amounted to EUR 131 (134) million.

Defined benefit pension plans are mainly accounted for in the statement of financial position through book reserves with some minor plans using insurance companies or independent trustees. Retirement benefits are based on years worked and salaries received during the pensionable service and the commencement of pension payments are linked to the national pension scheme's retirement age. Pensions are paid directly by the companies themselves to their former employees. The security for the pensioners is provided by the legal requirement that the book reserves held in the statement of financial position are insured up to certain limits.

Sweden

In Sweden, all blue-collar staff and part of white-collar staff are covered by defined contribution plans, the charge in the income statement being EUR 53 (54) million. Defined benefit plans are covering the remaining white-collar staff and resulted in a charge of EUR 3 (1) million excluding finance costs. The net defined benefit obligation amounted to EUR 26 (net asset EUR -26) million. The increase in net obligation arose mainly from changes in actuarial assumptions, especially from an decrease in discount rate. Stora Enso has undertaken to pay all local legal pension obligation for the main ITP scheme to the foundation, thus the remaining obligation relates to other small plans. The long-term investment return target for the foundation is a 3% real return after tax.

Other countries

The net defined benefit obligation in the remaining countries amounted to EUR 32 (EUR 36) million. The change in net obligation arose mainly from changes in actuarial assumptions.

Plan assets

	2023				2022			
EUR million	Quoted	Unquoted	Total	% of total	Quoted	Unquoted	Total	% of total
Equity	89	7	96	17%	88	12	101	17%
Debt	41	51	92	16%	46	44	90	16%
Property	0	62	62	11%	0	55	55	9%
Cash	5	0	5	1%	10	0	10	2%
Assets held by insurance companies	0	228	228	39%	0	226	226	39%

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In Finland the employees are entitled to a statutory pensions benefit determined by Employee's pension Act (TyEL). These benefits are defined as contribution benefits. They are insured with an insurance company and provide coverage for old age, disability and death. Charge in the income statement from contribution benefits is EUR 62 (64) million.

In addition, the Group has additional defined benefit plans which resulted in a charge of EUR 0 (0) million excluding finance costs. Defined benefit plans and plan assets are managed by insurance companies. Details of the exact structure and investment strategy surrounding plan assets are not available to participating employers, as the assets actually belong to the insurance companies themselves. The assets are managed in accordance with EU regulations,

Others	7	89	96	17%	0	96	96	17%
Total pension fund assets	142	436	578	100%	144	433	577	100%

Plan assets do not include any real estate or other assets occupied by the group or the Company's own financial instruments.

The two main financial factors affecting Group's pension obligation are changes in interest rates and inflation expectations. The aim of asset investment allocations is to neutralise these effects, secure solvency for benefit payments and maximise returns.

3.4 Employee variable compensation and equity incentive schemes

Accounting principles

Share awards

The costs of all employee-related share-based payments are charged to the consolidated income statement as personnel expenses over the vesting period.

All share-based payment transactions are classified as equity-settled share awards. The equity-settled share awards (net of tax), are measured at the fair value of the equity instruments on the grant date, and are adjusted for the present value of expected dividends. The fair value of the equity-settled share-based payments determined on the grant date is expensed on a straight-line basis over the vesting period, based on the estimate of equity instruments that will eventually vest, with a corresponding increase in equity.

Short term incentive (STI) programmes

Salaries for senior management are negotiated individually. Stora Enso has incentive plans that take into account the performance, development and results of both business units and individual employees. This performance-based variable compensation system is based on profitability as well as on attaining key business targets.

Group Executives, as well as division and business unit management have STI programmes in which the payment is calculated as a percentage of the annual base salary with a maximum level ranging from 7% to 100%. Non-management employees participate in an STI programme with a maximum incentive level of 7%. All incentives are discretionary. These performance-based programmes cover most employees globally, where allowed by local practice and regulations. For the performance year 2023, the annual incentive programmes were based on financial measures as well as targets related to operational efficiency, emission reduction, safety and individual targets. The financial success metrics in the STI programme 2023 are Sales growth and EBITDA.

Long term incentive (LTI) programmes

Since 2005, new share based programmes for executives have been launched every year. The 2021 programme, ending in 2023 and settled in 2024 has a three one-year performance periods which are accumulated after three years. The 2022 and 2023 programmes, features performance metrics with one-year performance periods which are accumulated after three years as well as three-years performance periods. All outstanding programmes will be settled in one portion after three years.

For the vast majority of awarded employees, three quarters (75%) of the opportunity under the programmes are in performance shares, where shares will vest in accordance with performance criteria proposed by the People and Culture Committee and approved by the Board of Directors. The financial performance metrics are 3-year Economic Value Added (EVA) and Earnings Per Share (EPS) for the Stora Enso Group for the 2021 programme and EPS and Relative Total Shareholder Return for the 2022 and 2023 programme, which in addition feature ESG metrics (emissions reduction and diversity). One quarter (25%) of the opportunity under the

Share awards at 31 December 2023

	Outstanding restricted and performance share awards at year end			
Number of shares	2024	2025	2026	Total
2021 programme	649,329			649,329
2022 programme		719,101		719,101
2023 programme			1,060,720	1,060,720
Total	**649,329**	**719,101**	**1,060,720**	**2,429,150**

The costs of the Stora Enso share-based programmes are recognised as costs over the vesting period, which is the period between the grant and vesting. The total impact of share-based programmes in the income statement amounted to an expense of EUR 4 (EUR 8) million, all of which were related to restricted and performance share awards.

programmes are in Restricted Shares, for which vesting is only subject to continued employment. Members of the GLT have been awarded performance shares only.

Outstanding restricted and performance share opportunities before taxes are shown in the table below. The total number of shares actually transferred will be less than that shown below because a portion of shares corresponding to employees' tax obligation will be withheld to cover income tax.

4 Operating capital

4.1 Intangible assets, property, plant and equipment and right-of-use assets

Accounting principles

Goodwill

Goodwill represents future economic benefits arising from assets that are not capable of being individually identified and separately recognised by the Group on an acquisition. Goodwill is computed as the excess of the cost of an acquisition over the fair value of the Group's share of the fair value of net assets of the acquired subsidiary at the acquisition date and is allocated to those groups of cash generating units expected to benefit from the acquisition. Goodwill arising on the acquisition of non-euro foreign entities is treated as an asset of the foreign entity denominated in the local currency and translated at the closing rate.

Goodwill is not amortised but tested for impairment on an annual basis, or more frequently if there is an indication of impairment.

Other intangible assets

Intangible assets are stated at their historical cost and amortised on a straight-line basis over their expected useful lives, which usually varies from 3 to 10 years and up to 20 years for patents. An adjustment is made for any impairment. Intangible items acquired must be recognised as assets separately from goodwill if they meet the definition of an asset, are either separable or arise from contractual or other legal rights, and their fair value can be measured reliably.

The cost of development or acquisition of new software clearly associated with an identifiable asset that will be controlled by the Group and has a probable benefit exceeding its cost beyond one year is recognised as an intangible asset and will be amortised over the expected useful life of the software between 3 to 10 years.

Intangible assets recognised separately from goodwill in acquisitions consist of marketing and customer-related or contract and technology-based intangible assets. Typical marketing and customer-related assets include trademarks, trade names, service marks, collective marks, certification marks, customer lists, order or production backlogs, customer contracts and the related customer relationships. Contract and technology-based intangible assets are normally licensing and royalty agreements or patented technology and trade secrets, such as confidential formulas, processes or recipes. The initial fair value of customer contracts and related relationships is derived from expected retention rates and cash flow over the customers' remaining estimated lifetime using excess earnings method. The initial fair value of trademarks is derived from a discounted cash flow analysis using the relief from royalty method.

Property, plant and equipment

Property, plant and equipment acquired by Group companies are stated at their historical cost, which are augmented where appropriate by asset retirement costs. Assets arising on the acquisition of a new subsidiary are stated at fair value at the date of acquisition. Depreciation is computed on a straight-line basis and adjusted for any impairment and disposal charges. The carrying amount represents the cost deducted by received grants and subsidies and less the accumulated depreciation and any impairment charges. Interest costs on borrowings to finance the construction of assets are capitalised as part of the cost during the construction period when the requirements are fulfilled.

Land and water areas are not depreciated, as these are deemed to have an indefinite life, but otherwise depreciation is based on the following expected useful lives:

Asset class	Depreciation years
Buildings, industrial	10-50
Buildings, office & residential	20-50
Groundwood mills	15-20
Hydroelectric power	40
Paper, board and pulp mills, main machines	20-30
Heavy machinery	10-20
Converting factories	10-15
Sawmills	10-15
Computers	3-5
Vehicles	5
Office equipment	3-5
Railway, harbours	20-25
Forest roads	10-15
Roads, fields, bridges	15-20

Ordinary maintenance and repair charges are written as expensed when incurred, but the costs of significant renewals and improvements are capitalised and depreciated over the remaining useful lives of the related assets. Retirements, sales and disposals of property, plant and equipment are recorded by deducting the cost and accumulated depreciation from the accounting records with any resulting terminal depreciation adjustments reflected in impairment charges in the consolidated income statement. Capital gains are shown in other operating income.

Spare parts are accounted for as property, plant and equipment if they are major and used over more than one period, or if they are used only in connection with an item of property, plant and equipment. In all other cases, spare parts are carried as part of the inventory and recognised in profit or loss as consumed items.

Right-of-use (ROU) assets

At inception of a contract, the Group assesses whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. ROU assets are initially measured at cost, which comprises the initial amount of the lease liability adjusted mainly for lease payments made at or before the commencement date. The Group allocates the consideration in the contract to each lease component and will separate non-lease components if these are identifiable. Lease terms are negotiated on an individual basis and contain a wide range of different terms and conditions.

The ROU assets are subsequently depreciated using the straight line method from the commencement date to the earlier of the end of the lease term or the end of the useful life of the ROU asset. In addition, the ROU asset is adjusted for certain remeasurements of the lease liability.

The Group has elected not to recognise ROU assets for short-term leases that have a lease term of 12 months or less and leases of low value assets. Leases of low value assets mainly include IT and office equipment, certain vehicles and machinery and other low value items. The Group recognises the lease payments associated with these leases as an expense on a straight-line basis over the lease term, see note 2.2 Other operating income and expense, for more information.

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Intangible assets

EUR million	Computer software	Customer relationships and trademarks	Other intangible assets	Assets in progress	Goodwill	Total
Acquisition cost						
At 1 January 2022	226	0	103	7	532	867
Translation difference	0	0	-1	0	-2	-4
Reclassifications	5	0	2	-4	0	3
Additions	3	0	2	16	0	21
Disposals[1]	-11	0	-6	0	-28	-46
At 31 December 2022	222	0	100	18	502	842
Translation difference	-1	0	-3	0	-3	-7
Reclassifications	5	0	0	0	0	5
Additions	15	206	6	18	349	594
Disposals and classification as held for sale[1]	-13	0	77	0	0	64
At 31 December 2023	229	206	179	36	848	1,498
Accumulated amortisation and impairment						
At 1 January 2022	178	0	34	0	250	462
Translation difference	0	0	0	0	-3	-3
Disposals[1]	-11	0	-6	0	0	-17
Amortisation	17	0	8	0	0	24
Impairment	1	0	0	0	11	12
At 31 December 2022	185	0	35	0	258	478
Translation difference	-1	0	-2	0	-1	-3
Disposals and classification as held for sale[1]	-9	0	93	0	0	85
Amortisation	17	16	8	0	0	41
Impairment	6	0	14	3	85	109
At 31 December 2023	198	16	149	3	343	709
Net Book Value at 31 December 2023	31	190	30	32	505	789
Net Book Value at 31 December 2022	38	0	65	18	244	364

[1] Company disposals are included in Disposals line. Company disposals and classification of assets as held for sale are discussed in *more detail in note 6.1 Acquisitions, disposals and assets held for sale.*

Included in Customer relationships and trademarks, as part of the acquisition of De Jong Packaging Group, are customer related intangibles purchased with a carrying amount of EUR 156 million and a remaining amortisation period of 14 years and marketing related intangibles of EUR 34 million with remaining amortisation periods of between 4–19 years.

Property, plant and equipment

EUR million	Land and water	Buildings and structures	Plant and equipment	Other tangible assets	Assets in progress	Total
Acquisition cost						
At 1 January 2022	117	3,355	13,421	448	394	17,735
Translation difference	-1	-12	-266	-11	-10	-300
Reclassifications	0	57	207	10	-277	-3
Reclassifications to biological assets	0	-2	-1	0	0	-3
Additions	6	33	217	4	373	634
Disposals[1]	-19	-390	-2,668	-58	-27	-3,162
At 31 December 2022	103	3,041	10,909	393	454	14,900
Translation difference	1	-22	-17	-2	7	-32
Reclassifications	0	25	260	8	-298	-5
Reclassifications to biological assets	0	-2	-1	0	0	-3
Additions	5	77	434	14	583	1,113
Disposals and classification as held for sale[1]	-1	-286	-956	-10	-6	-1,259
At 31 December 2023	109	2,833	10,629	404	739	14,714
Accumulated depreciation and impairment						
At 1 January 2022	3	2,113	10,164	380	14	12,674
Translation difference	0	-30	-262	-9	0	-302
Disposals[1]	-1	-378	-2,458	-49	0	-2,886
Depreciation	0	78	371	10	1	460
Impairments and reversals	0	21	68	4	2	95
At 31 December 2022	2	1,804	7,882	336	16	10,040
Translation difference	0	-4	7	-1	0	1
Disposals and classification as held for sale[1]	0	-180	-742	-9	0	-931
Depreciation	0	74	349	10	0	433
Impairments and reversals	0	133	488	5	1	628
At 31 December 2023	2	1,827	7,984	340	17	10,170
Net Book Value at 31 December 2023	107	1,006	2,644	64	722	4,544
Net Book Value at 31 December 2022	101	1,237	3,027	57	437	4,860

[1] Company disposals are included in the Disposals line. Company disposals and classification of assets as held for sale are discussed in more detail in note 6.1 Acquisitions, disposals and assets held for sale.

Right-of-use assets

EUR million	Land and water	Forest land	Buildings and structures	Plant and equipment and other	Total
Acquisition cost					
At 1 January 2022	107	253	104	127	591
Translation difference	-2	-2	-3	-1	-7
Reclassifications to biological assets	0	-17	0	0	-17
Additions	1	6	20	18	45
Disposals[1]	-2	0	-23	-36	-62
Other changes	1	2	0	4	6
At 31 December 2022	**105**	**243**	**96**	**113**	**556**
Translation difference	-5	-14	-1	0	-19
Reclassifications to biological assets	0	-16	0	0	-16
Additions	0	5	188	14	207
Disposals and classification as held for sale[1]	-75	-181	-26	-21	-303
Other changes	1	15	7	3	26
At 31 December 2023	**25**	**52**	**264**	**109**	**451**
Accumulated depreciation and impairment					
At 1 January 2022	8	18	55	69	150
Translation difference	0	-1	-2	-2	-4
Disposals[1]	-1	0	-23	-34	-58
Depreciation	3	5	19	23	50
Impairment	0	0	1	0	0
At 31 December 2022	**10**	**22**	**49**	**56**	**138**
Translation difference	-1	-1	0	0	-3
Disposals and classification as held for sale[1]	-36	-24	-20	-20	-100
Depreciation	3	3	32	21	59
Impairment	28	0	3	2	33
At 31 December 2023	**4**	**0**	**64**	**60**	**128**
Net Book Value at 31 December 2023	**21**	**52**	**201**	**49**	**323**
Net Book Value at 31 December 2022	**95**	**221**	**47**	**57**	**418**

1 Company disposals are included in the Disposals line. Company disposals and classification of assets as held for sale are discussed in more detail in note 6.1 Acquisitions, disposals and assets held for sale.

Stora Enso's most material right-of-use assets capitalised consist of land areas used in forestry and industrial operations, various machinery and equipment leases including operative machinery and logistic equipment, as well as properties including offices, warehouses and other operative properties. Some of the leases contain renewal options and extension options that are considered in the lease term if the Group is reasonably certain to exercise the option.

See notes 5.3 Interest-bearing assets and liabilities for more details about lease liabilities and 2.2 Other operating income and expense for details about lease expenses included in the income statement.

Intangible assets and property, plant and equipment, and right-of-use asset additions

The total capital expenditure excluding investments in biological assets for the year amounted to EUR 1,054 (701) million. Details of ongoing projects and future plans are discussed in more detail in the Report of the Board of Directors.

4.2 Forest assets

Accounting principles

The forest assets of Stora Enso are defined as standing growing trees, classified as biological assets, and related forest land. The biological assets of Stora Enso consist of standing trees to be used as raw material in pulp and mechanical wood production and as biofuels.

Forest asset valuation is based on continuous operations and sustainable forest management, also taking into consideration environmental restrictions and other reservations. Biological assets are recognised and valued in accordance with the IAS 41 Agriculture standard at fair value and forest land assets are recognised in accordance with the IAS 16 Property, plant and equipment standard. Leased forest land assets are presented as part of right-of-use assets in note 4.1 Intangible assets, property, plant and equipment and right-of-use assets.

Nordic and plantation forest assets are classified as different classes of assets due to different nature, usage and characteristics of the assets. The main difference is the short-term growing cycle of 6–12 years in plantations versus the long-term growing cycle of 60-100 years in Nordic forests. There are also differences in regeneration methods, forest management, and the use of the assets for other purposes.

Nordic forest assets include holdings in Sweden and Finland and plantation forest assets include holdings in China, Brazil and Uruguay. Accounting policies for the different class of forest assets are presented separately below. In addition the Group has minor forest asset holdings in Estonia and Romania through associate company Tornator. The Group has forest assets in its own subsidiaries in Sweden and China as well as in joint operations in Brazil and Uruguay, and in associate company in Finland. Stora Enso also ensures that the Group's share of the valuation of forest holdings in associated companies and joint operations are consistent with Group accounting policies. At harvesting, biological assets are transferred to the inventory.

Nordic forest assets

Forest assets in Sweden and Finland are recognised at fair value and valued by using a market approach method on the basis of the forest market transactions in the areas where Stora Enso's forests are located. Stora Enso's forest assets create value by securing wood supply, increasing long-term yield, optimising land use and securing financial flexibility. They play an important role in mitigating climate change impacts, as growing trees absorb CO_2. The forests also offer opportunities for future value streams, such as wind power.

The total forest assets value is calculated with verified inventory data and regional standing stock prices, considering among others:

- regional market transaction data based on the forest assets' geographical locations,
- standing stock prices by forest cubic meter (m^3 fo) combined from traded forest estates and
- regional standing stock inventory.

Information relating to forest asset transactions are available from market data suppliers. Stora Enso is applying three-year weighted average market transaction prices and this is considered to include a sufficient amount of transactions and is estimated to represent market conditions at the reporting date. The market transaction information can be viewed as market-corroborated inputs. Certain adjustments are made to refine the market-corroborated inputs using unobservable inputs, therefore inputs are categorised to fair value hierarchy measurement level 3. The judgements are further explained in note 1.2 Critical accounting estimates and judgements.

The total value of the forest assets in Nordics is allocated across biological assets and forest land. Allocation of the combined fair value of forest assets is based on the income approach where separate present values of expected net cash flows are calculated for both biological assets and forest land. The

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discount rate is determined as the rate at which the valuation based on market transaction prices matches the total forest assets combined cash flows for biological assets and forest land. The discount rate is estimated to be the same for biological assets and forest land as the nature and timing of the cash flows are similar.

Biological assets are measured at fair value in accordance IAS 41. The fair value is based on the income approach and the discounted cash flow method whereby the fair value of the biological assets is calculated using cash flows from continuous operations, taking into account the growth potential of one cycle. Forest land is measured at fair value using the revaluation method as defined in the IAS 16 standard. Fair value of forest land is measured based on income approach, including net cash flows related to trees to-be-planted in the future as well as other land related income, such as hunting rights, wind power leases and soil material sales.

Changes in the fair value of biological assets are recognised in the income statement. Changes in the fair value of forest land, net of deferred taxes, are recognised in other comprehensive income (OCI) and accumulated in a revaluation reserve in equity. Revaluation reserve is not recycled to the income statement upon disposal. If the fair value of forest land were to be less than cost, the difference would be recognised in the income statement as an impairment loss.

Plantation forest assets

In plantation forest areas, biological assets are recognised at fair value in accordance with the IAS 41 standard and based on the income approach in those areas where the Group has forest land. Fair value measurement is based on fair value hierarchy measurement level 3. Forest land is measured initially and subsequently at cost, using the cost model as defined in IAS 16 standard.

The valuation of biological assets is based on the discounted cash flow method calculated using cash flows from continuous operations and based on sustainable forest management, taking into account growth potential of one cycle. The fair value of the biological assets is based on the productive forest land. The yearly harvest from the forecasted tree growth is multiplied by wood prices and the cost of silviculture and harvesting is deducted. The fair value of the biological assets is measured as the present value of the harvest from one growth cycle, taking into consideration environmental restrictions and other reservations. The discount rate applied is determined using the weighted average cost of capital method.

Young standing timber less than two years old (less than three years in Montes del Plata) is considered to be an immature asset and accounted at cost. Fair value is deemed to approximate the cost when little biological transformation has taken place or the impact of the transformation on the price is not expected to be significant, which varies according to the location and species of the assets.

Changes in the fair value of biological assets are recognised in the income statement. The forest land is measured at cost and not depreciated.

The value of forest assets disclosed in the consolidated statement of financial position from subsidiary companies and joint operations amounts to EUR 6,921 (6,846) million as shown below. The Group's indirect share of forest assets held by associated company amounts to EUR 1,417 (1,271) million. The total forest asset value, excluding leased forest land and including forest assets classified as held for sale, amounts to EUR 8,522 (8,117) million.

Forest assets

	Biological assets		Forest land[2]		Forest assets total	
EUR million	2023	2022	2023	2022	2023	2022
Subsidiaries and joint operations						
Value at 1 January	4,531	4,547	2,315	2,201	6,846	6,747
Translation differences	2	-305	0	-145	2	-449
Unrealized change in fair value[1]	385	336	-49	259	335	596
Additions	71	77	1	2	72	78
Disposals and classification as held for sale[3]	-181	-2	2	-2	-178	-4
Change due to harvesting[1]	-168	-141	0	0	-168	-141
Other operative changes[1]	-7	-1	0	0	-7	-1
Reclassification from PPE	20	20	0	0	20	20
Value at 31 December	4,652	4,531	2,269	2,315	6,921	6,846
Classified as held for sale	184	0	0	0	184	0
Associated company						
Tornator Oyj (41%)	1,287	1,122	130	149	1,417	1,271
Value at 31 December	1,287	1,122	130	149	1,417	1,271
Total	6,123	5,653	2,399	2,464	8,522	8,117

[1] For biological assets, changes are presented in the profit and loss. For forest land, changes in fair value are recognised directly in equity.
[2] Not including leased forest land.
[3] Assets held for sale are discussed in more detail in note 6.1 Acquisitions, disposals and assets held for sale.

Valuation and standing stock of forest assets

			As at 31 December 2023					
			Swedish forests	Guangxi [3]	Veracel (50%)	MdP (50%)	Tornator (41%)	Total
Total area		Thousand ha	1,383	70	116	138	310	2,016
- of which owned		Thousand ha	1,383	–	104	95	310	1,892
- of which leased		Thousand ha	–	70	12	43	–	125
Productive area		Thousand ha	1,139	61	49	92	285	1,627
Total area	Standing stock	million m^3 fo.[1]	151.9	4.3	6.1	15.0	33.7	210.8
Productive area	Standing stock	million m^3 fo.[1]	149.7	4.3	6.1	15.0	33.4	208.4
	Estimated growth	million m^3 fo.[1]	5.8	1.3	2.2	2.0	1.5	12.8
	Harvesting	million m^3 fo.[1]	-4.2	-1.2	-1.3	-2.3	-1.4	-10.5
	Other changes	million m^3 fo.[1]	-2.5	0.0	0.0	-0.3	0.6	-2.1
	Harvesting	million m^3 u.b.[2]	-3.5	-1.0	-1.1	-1.9	-1.1	-8.6
Biological assets		EUR million	4,239	184	124	268	1,287	6,123
Biological assets	Productive area	EUR/ha	3,723	3,010	2,531	3,121	4,509	3,764
Forest land		EUR million	2,072	–	30	167	130	2,399
Total forest assets		**EUR million**	6,312	184	154	455	1,417	8,522
Leased forest land		EUR million	–	157	4	48	–	209

[1] Forest cubic meters
[2] Solid under bark (sub) cubic meters
[3] Classified as held for sale

			As at 31 December 2022					
			Swedish forests	Guangxi	Veracel (50%)	MdP (50%)	Tornator (41%)	Total
Total area		Thousand ha	1,399	73	113	138	301	2,014
- of which owned		Thousand ha	1,399	–	105	95	300	1,890
- of which leased		Thousand ha	–	73	8	43	–	124
Productive area		Thousand ha	1,142	64	47	92	277	1,622
Total area	Standing stock	million m^3 fo.[1]	152.7	4.2	5.2	15.5	33.2	210.8
Productive area	Standing stock	million m^3 fo.[1]	150.5	4.1	5.2	15.5	32.8	208.1
	Estimated growth	million m^3 fo.[1]	5.8	1.3	1.8	3.2	1.5	13.6
	Harvesting	million m^3 fo.[1]	-4.6	-1.2	-1.7	-1.8	-1.3	-10.7
	Other changes	million m^3 fo.[1]	-1.1	-0.8	0.0	0.2	-0.1	-1.8
	Harvesting	million m^3 u.b.[2]	-3.8	-1.0	-1.4	-1.5	-1.2	-8.9
Biological assets		EUR million	3,963	196	103	269	1,122	5,653
Biological assets	Productive area	EUR/ha	3,471	3,062	2,162	2,922	4,054	3,485
Forest land		EUR million	2,113	–	29	173	149	2,464
Total forest assets		**EUR million**	6,076	196	131	441	1,271	8,117
Leased forest land		EUR million	–	166	3	52	–	221

[1] Forest cubic meters
[2] Solid under bark (sub) cubic meters

Subsidiaries and joint operations

At the end of 2023, forest assets, including assets held for sale in China (excluding leases), were located by value, in Sweden 89% (89%), China 3% (3%), Brazil 2% (2%) and Uruguay 6% (6%). The total area amounts to 1,706 (1,713) thousand hectares of which 7% (7%) is leased and under 0% (1%) is restricted. From Stora Enso's total forest holdings 1,341 (1,345) thousand hectares is productive forest area. The Montes del Plata and Veracel amounts take into account the ownership share.

Swedish forests

At the end of 2023, the value of the biological assets in Swedish forests amounted to EUR 4,239 (3,963) million, related forest land amounted to EUR 2,072 (2,113) million and the total forest assets amounted to EUR 6,312 (6,076) million. The increase in the forest assets value is mainly driven by higher market prices. Foreign exchange impact increased the value slightly. Deferred tax liabilities related to forest assets amounted to EUR 1,297 (1,250) million. The discount rate of 3.8% (3.6%) was applied in the valuation.

The productive area in Swedish forests amounted to 1,139 (1,142) thousand hectares with a standing stock of 149.7 (150.5) million forest m^3. The weighted three-year average market transaction price applied in the valuation for Swedish forests assets in 2023 is EUR 42 (40) per forest m^3. The forest asset value corresponds to an average of EUR 5,540 (5,320) per ha of productive forest area.

The valuation of the forest assets is based on detailed transaction data and price statistics as provided by different market data suppliers. Market transaction data is adjusted to consider the characteristics and nature of Stora Enso's forest assets and to exclude certain non-forest assets and outliers. The valuation takes into account where the forest land is located, price levels and volume of standing stock. Market prices between areas varies significantly. Future changes in value of Swedish forest assets are impacted by changes in market transaction prices and changes in volume of standing stock, considering growth and other changes. See also note 1.2 Critical accounting estimates and judgements for information related estimates and judgment applied in the valuation.

Forest asset location and volume

2023		North	Middle	South	Total
Productive area	Thousand ha	186	953	0	1,139
Percentage of total	%	16%	84%	0%	100%
Standing stock	million m^3 fo.	16.9	132.8	0.0	149.7
Percentage of total	%	11%	89%	0%	100%

2022		North	Middle	South	Total
Productive area	Thousand ha	190	951	0	1,142
Percentage of total	%	17%	83%	0%	100%
Standing stock	million m^3 fo.	17.5	133.0	0.0	150.5
Percentage of total	%	12%	88%	0%	100%

Guangxi

At the end of 2023, the value of the biological assets in Guangxi, China, amounted to EUR 184 (196) million. All the forest land in China is leased. The value decrease is mainly driven by harvesting depletion and foreign exchange impact, whereas capital expenditure and higher volume increased the value. The biological assets included young standing timber with a value of EUR 24 (27) million. The discount rate of 9.7% (10.2%) used in the discounted cash flows (DCF) decreased in 2023. These forestry operations were classified as held for sale at the end of 2023. See note 6.1 Acquisitions, disposals and assets held for sale for more details.

significant influence. The Group's share of the associated companies profit or loss is recognised in the

Veracel

Veracel is a 50% joint operation in Brazil. Stora Enso's share of the biological assets was EUR 124 (103) million. The increase is mainly driven by increased prices, volume and planting, whereas increased discount rate decreased the value. The biological assets included young standing timber with a value of EUR 40 (31) million. The discount rate of 10.2% (7.9%) used in the DCF increased in 2023. The related forest land is measured at cost.

Montes del Plata

Montes del Plata (MdP) is a 50% joint operation in Uruguay. Stora Enso's share of the biological assets was EUR 288 (269) million. The slight increase is mainly driven by higher wood price, harvesting volume estimates and additions, whereas foreign exchange impact decreased the value. During 2023 there were severe drought periods in Uruguay causing decreased annual forest growth estimate compared to the previous years. The biological assets included young standing timber with a value of EUR 48 (50) million. The discount rate of 9.0% (9.0%) is used in the DCF in 2023. The related forest land is measured at cost.

Associated company

Tornator

Tornator Oyj is a 41% owned Finnish associate company. Stora Enso's share of the biological assets was EUR 1,287 (EUR 1,122) million, related forest land amounted to EUR 130 (149) million, and total forest assets equalled to EUR 1,417 (1,271) million. The increase in the value of forest assets is mainly driven by higher market prices and acquisitions.

Stora Enso's share of the productive forest area totals to 285 (277) thousand hectares with a standing stock of 33.4 (32.8) million forest m^3. The weighted three-year average market transaction price applied in the valuation for forest assets located in Finland in 2023 is EUR 42 (42) per forest m^3. The forest asset value in Finland corresponds to an average of EUR 4,960 (4,750) per ha of productive forest area.

Valuation sensitivities of significant assumptions of a +/- 10% movement

EUR million	Wood market prices	Growth rate	Discount rate
Guangxi	+/-26	+/-1	+/-3
Veracel	+/-11	+/-11	+/-2
Montes del Plata	+/-32	+/-32	+12/-11

Swedish forest asset valuation is sensitive for changes in market transaction prices and volume of standing stock. A change in the average market price of forest assets of EUR 1 per forest m^3 would impact the value of forest assets by EUR 150 (151) million. A change in the volume of standing stock of 1 million forest m^3 would impact the value of forest assets by EUR 42 (40) million.

4.3 Associates

Accounting principles

Associated companies over which Stora Enso exercises significant influence are accounted for using the equity method. Stora Enso does not control associated companies alone or jointly with other parties, but has consolidated income statement. The Group's interest in an associated company is carried in the consolidated statement of financial position at an amount that reflects its share of the net assets of the associate together with goodwill. Goodwill arising from the acquisition of an associated companies is included in the carrying amount of the investment and is assessed for impairment as part of that investment. There is no material goodwill in the carrying amount of associated companies.

When the Group share of losses exceeds the carrying amount of an investment, the carrying amount is reduced to zero and any recognition of further losses ceases unless the Group is obliged to satisfy obligations of the investee that it has guaranteed or which it is otherwise committed to.

The Group's share of results in associated companies is reported in the operating result to reflect the operational nature of these investments. Similarly, dividends received from associated companies are presented in the net cash provided by operating activities in the consolidated cash flow statement.

Principal associated company investments

			Ownership interest %		EUR million	
Company	Reportable segment	Domicile and principal place of operations	2023	2022	2023	2022
Tornator Oyj	Forest	Finland	41.00	41.00	892	800
Others					35	32
Carrying amount					926	832

In 2022, Stora Enso divested its 30.41% participation in Encore Ympäristöpalvelut Oy. The transaction did not have a material impact on the Group.

Group share of associated companies income statements

EUR million	2023	2022
Sales	126	147
Net operating expenses	-89	-103
Biological asset valuation	121	189
Operating result	178	233
Net financial items	-12	40
Net result before tax	166	273
Income tax	-30	-52
Net result for the year	136	221

The average number of personnel in the associated companies was 1,046 in 2023, compared with 1,043 in 2022.

A summary of the financial information, prepared in accordance IFRS, in respect of the Group's material associate, Tornator Oyj is set out below. The Group's share of Tornator Oyj is reported in the Forest division and covers the majority of the Group's total carrying amount of associated companies.

Tornator Oyj

EUR million	2023	2022
Forest Assets	3,456	3,101
Other non-current assets	73	70

Associated company balances

EUR million	2023	2022
Receivables from associated companies		
Non-current loan receivables	2	2

Current assets	102	73
Non-current liabilities	851	752
Current liabilities	146	120
Tax liabilities	459	420
Sales	194	176
Net result for the year	341	542
Other comprehensive income	-57	141
Total comprehensive income	284	683
Dividends received during the financial year	60	25
Net assets of the associate	2,175	1,952
Ownership interest	41.00%	41.00%
Carrying amount of the Group's interest in Tornator Oyj	892	800

The Group's current 41% ownership is valued at EUR 892 (800) million at the year-end of 2023. The Group's share of Tornator's net profit was EUR 149 (222) million, including a biological asset valuation gain net of taxes of EUR 97 (152) million.

Aggregate information of associated companies that are not individually material

EUR million	2023	2022
Non-current assets	33	35
Current assets	13	12
Non-current liabilities	0	3
Current liabilities	11	12
Sales	47	74
Net result for the year	-4	-2
Dividends received during the financial year	0	1
Net assets of the associates	35	32
Associate company value	35	32
Associate company value for Tornator Oyj	892	800
Total associate company value	926	832

Trade receivables	2	1
Liabilities to associated companies		
Trade payables	128	101

Associated company transactions

EUR million	2023	2022
Sales to associated companies	16	19
Purchases from associated companies	181	163

The Group engages in transactions with associated companies such as sales and purchases of wood. All agreements are negotiated at arm's length and are conducted on terms that the Group considers customary in the industry and generally no less favourable than would be available from independent third parties.

4.4 Equity instruments

Accounting principles

The Group has elected to classify its equity investments in Pohjolan Voima shares and certain listed shares held by the Group at fair value through other comprehensive income (FVTOCI) under IFRS 9 by applying the irrevocable election for equity instruments under the standard due to the long-term nature of the ownership. The gains and losses resulting from changes in the fair value of equity investments under FVTOCI are not recycled to the income statement upon impairment or disposal, only the dividend income is recognised in the income statement. In addition, the Group also has certain equity investments in unlisted securities that are classified as fair value through income statement. The majority of the Group's equity instruments consist of investments in Pohjolan Voima Oyj (PVO).

Equity instruments

EUR million	2023	2022
Carrying amount at 1 January	1,445	918
Change in fair value - OCI	-645	519
Change in fair value - income statement	0	0
Additions	18	10
Disposals	0	0
Translation difference and other changes	0	-2
Carrying amount at 31 December	819	1,445

PVO shares

The Group holds a 15.7% (15.7%) interest in Pohjolan Voima Oyj (PVO), a public limited company in the energy sector that produces electricity and heat for its shareholders in Finland at cost-based and non-profit making principle (Mankala-principle). Each subsidiary of the PVO group has its own class of shares that, instead of dividends, entitle the shareholder to the energy produced in proportion to its ownership of that class of share. Also, the shareholders then have an obligation to cover the costs of production, which are generally lower than market prices.

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Principal equity instruments

EUR million	Holding %	Number of shares	Acquisition cost	Fair value
Packages Ltd, Pakistan - listed shares	6.4	5,396,650	3	9
Total listed securities			3	9
Pohjolan Voima Oyj	15.7	5,073,972	131	778
Other unlisted securities			32	32
Total unlisted securities			163	810

Stora Enso did not receive actual dividend payments from PVO during 2023. The holding is fair valued quarterly using the discounted cash flow method. The valuation is categorised at level 3 in the fair value hierarchy according to IFRS 13; levels are explained in 5.2 Fair values.

The electricity prices used in the valuation are based on market future derivative prices for the first two years and on long-term electricity price estimates for the years thereafter. The historical financial statements provide the basis for the cost structure for each power asset and for future periods, estimates from PVO shareholder information is used when available and these are adjusted by inflation factor in future years. The discount rate of 6.93% used in the valuation model is determined using the weighted average cost of capital method. A +/- 5% change in the electricity price used in the DCF would change the valuation by EUR +92 million and -92 million, respectively. A +/- percentage point change in the discount rate would change the valuation by EUR -140 million and +183 million, respectively.

PVO's shares are divided in different share series. The B and B2 series relate to PVO's shareholdings in Teollisuuden Voima Oyj (TVO), which operates three nuclear plants in Finland (Olkiluoto 1–3).Stora Enso holds an indirect share of approximately 8.9% of the capacity of the Olkiluoto 3 nuclear plant unit through its PVO B2 shares. The Olkiluoto 3 plant related test production was completed in April 2023 and regular electricity production was started. Olkiluoto 3 electricity production capacity is approximately 1,600 megawatt, which corresponds to about 15% of electricity demand in Finland. As the largest nuclear power plant in Europe, Olkiluoto in total will produce about 30% of Finland's electricity. The production of Olkiluoto 3 plays a key role in Finland's green transition, and accelerates the move towards a carbon-neutral society and electricity self-sufficiency.

PVO shareholding on 31 December 2023

EUR million	Share Series	% Holding	Asset Category	Fair value 2023	Fair value 2022
Pohjolan Voima Oyj	A	20.6	Hydro	226	307
Pohjolan Voima Oyj	B, B2	15.7, 14.8	Nuclear	546	1,113
Pohjolan Voima Oyj	C,C2,V,M	Various	Various	7	4
Total				**778**	**1,423**

The valuation in 2023 amounted to EUR 778 (1,423) million. The decrease in PVO's valuation is mainly caused by a decrease in the electricity price estimates. No deferred tax is recognised, as under Finnish tax regulations holdings above 10% are exempt from tax on disposal proceeds.

Total Equity instruments at 31 December 2023	**166**	**819**
Total Equity instruments at 31 December 2022	**147**	**1,445**

4.5 Emission rights and other non-current assets

Accounting principles

The Group participates in the European Emissions Trading Scheme, with the aim of reducing greenhouse gas emissions. The Group has been allocated allowances to emit a fixed tonnage of carbon dioxide (CO_2) over a fixed period of time, which are recognised as intangible assets, government grants and as liabilities for the obligation to deliver allowances equal to those emissions that have been made during the compliance period.

Intangible assets related to emission allowances are measured at level 1 fair value at the date of initial recognition. The liabilities to deliver allowances are recognised based on actual emissions and are settled using allowances on hand and measured at the carrying amount of those allowances. At the reporting date, if the market value for the emission allowances is less than the carrying amount, any surplus allowances that are not required to cover emissions made are impaired to the market value.

The Group expenses emissions made at the grant date fair value, under materials and services, together with purchased emission rights at their purchase price. Such costs will be offset under other operating income by the income from the original rights used at their grant date fair value. The consolidated income statement will, thus, be neutral in respect to all the rights consumed that were within the original grant of rights. Sales of excess emission allowances are recognised as income on the delivery date. Any net effect represents the costs of purchasing additional rights to cover excess emissions, or the sale of unused rights in case that the realised emissions are below the allowances received free of charge or the impairment of allowances that are not required for own use.

Emission rights

EUR million	2023	2022
Value at 1 January	**123**	**137**
Emission allowances allocated	146	160
Sales	-64	-62
Settlement with the government	-98	-85
Disposals and classification as held for sale	–	-27
Value at 31 December	**108**	**123**

The liability to deliver allowances is presented in the consolidated statement of financial position in line other operative liabilities. As of 31 December 2023, the liability to deliver allowances amounted to EUR 79 (91) million as presented in note 4.8 Operative liabilities. The excess emission rights held at the year end were valued at EUR 28 (32) million.

Other non-current assets

EUR million	2023	2022
Prepaid expenses and accrued income	25	22
Tax credit	4	4
Other non-current operative assets	29	12
Total	**58**	**38**

4.6 Inventories

Accounting principles

4.7 Operative receivables

Accounting principles

Trade receivables

Trade receivables are recognised initially at fair value and subsequently at their anticipated realisable value with an estimate made for loss allowance on expected credit losses based on a forward-looking and objective review of all outstanding amounts at period end. A simplified approach under IFRS 9 has been implemented for trade receivables and loss allowances are recognised based on expected lifetime credit losses in the consolidated income statement within other operating expenses. For non-defaulted receivables, expected credit losses are estimated based on externally generated customer level probability of default data that is

Inventories are reported at lower of cost and net realisable value with the cost determined by the first-in first-out (FIFO) method or, alternatively, by the weighted average cost where it approximates FIFO. The same cost formula is used for all inventories having a similar nature and use to the Group. The cost of finished goods and work in progress comprises raw material, direct labour, depreciation, other direct costs and related production overheads, but excludes interest expenses. Net realisable value is the estimated selling price in the ordinary course of business, less the costs of completion and sale.

Where market conditions result in the manufacturing costs of a product exceeding its net realisable value, a valuation allowance is made. Valuation allowances are also made for old, slow moving and obsolete finished goods and spare parts when needed. Such valuation allowances are deducted from the carrying value of the inventories in the consolidated statement of financial position.

EUR million	2023	2022
Materials and supplies	384	501
Work in progress	62	84
Finished goods	774	962
Spare parts and consumables	307	337
Other inventories	29	25
Advance payments and cutting rights	52	63
Obsolescence allowance - spare parts and consumables	-100	-103
Obsolescence allowance - finished goods	-18	-19
Net realisable value allowance	-25	-40
Total	1,466	1,810

EUR 6,271 (6,576) million of inventories in total have been expensed during the year. EUR 35 (78) million of inventory write-downs have been recognised as an expense. EUR 55 (9) million have been recognised as a reversal of previous write-downs.

used in the forward-looking loss allowance calculation model. The loss allowance model for non-defaulted receivables also takes into account a macroeconomic indicator that considers the macroeconomic developments and further incorporates forward-looking data to the calculation model. The rebuttable presumption that default does not occur later than when a financial asset is 90 days past due has been applied in the calculation model and a default is normally estimated to occur when trade receivables are at least 90 days overdue or there is otherwise objective evidence supporting the conclusion that a default has occurred. Trade receivables will be written off and booked as a credit loss only with the court's decision of bankruptcy or in some other cases when there is objective evidence supporting the write-off. Trade receivables are presented in current assets under operative receivables in the consolidated statement of financial position.

Trade receivables under factoring arrangements

Stora Enso uses factoring arrangements as one of the working capital management tools. Sold trade receivables are derecognised once significant related risks and rewards of ownership have been transferred to the buyer. Outstanding balances for trade receivables that were not yet sold at period end but qualify to be sold under factoring programmes in the next period, are classified as trade receivables fair valued through other comprehensive income in accordance with the business model and contractual cash flow characteristics tests under IFRS 9. Please refer to note 5.2 Fair values for further details.

Current operative receivables

EUR million	2023	2022
Trade receivables - gross carrying amount including amount held for sale	939	1,329
Trade receivables - gross carrying amount held for sale	-46	-92
Trade receivables - gross carrying amount	**893**	**1,236**
Loss allowance	-27	-32
Prepaid expenses and accrued income	80	68
Other receivables	245	200
Total	**1,191**	**1,473**

Age analysis of trade receivables

EUR million	2023	2022
Not overdue	841	1,213
Less than 30 days overdue	57	55
31 to 60 days overdue	1	10
61 to 90 days overdue	3	2
91 to 180 days overdue	1	3
Over 180 days overdue	36	47
Total	**939**	**1,329**

As at 31 December 2023, a gross amount of EUR 98 (116) million of trade receivables were overdue. These relate to a number of countries and unrelated customers that have no recent history of default. At 31 December 2023, lifetime expected credit losses for trade receivables amounted to EUR 27 (32) million. Loss allowances for trade receivables are estimated on an individual basis based on a forward-looking model where estimated probabilities of customer default are used in the calculation model. If the Group has concerns regarding the financial status of a customer, an advance payment or an irrevocable letter of credit drawn from a bank is required. At the year end, the letters of credit awaiting maturity totalled EUR 54 (74) million. Please refer to note 5.1 Financial risk management for details of customer credit risk management.

Age analysis of loss allowance

EUR million	2023	2022
Not overdue and less than 90 days overdue	2	5

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Current operative liabilities

EUR million	2023	2022
Trade payables	1,582	1,831
Payroll and staff-related accruals	224	245
Accrued liabilities and deferred income	112	130
Emission liabilities	79	91
Advances received	18	18
Other payables[1]	96	94
Total	2,112	2,410

[1] Other payables consist especially of taxes payable to government, such as VAT and payroll taxes.

4.9 Provisions

91 to 365 days overdue	2	7
Over 365 days overdue	23	21
Total	27	32

Reconciliation of loss allowance

EUR million	2023	2022
Opening balance at 1 January	32	26
Change in loss allowance booked through income statement	9	13
Write-offs	-15	-6
Other	1	0
Closing balance at 31 December	27	32

The actual credit losses during 2023 amounted to EUR 15 (6) million of trade receivables being written-off from the Group's balance sheet.

Stora Enso has entered into factoring agreements to sell trade receivables in order to accelerate cash conversion. These agreements resulted in full derecognition of trade receivables amounting to a nominal value of EUR 178 (174) million at the end of the year. The continuing involvement of Stora Enso in the sold receivables was estimated as being insignificant due to the non-recourse nature of the factoring arrangements involved.

4.8 Operative liabilities

Non-current operative liabilities

EUR million	2023	2022
Share-based payments	2	2
Other payables	9	9
Total	11	11

Accounting principles

Provisions

Provisions are recognised 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 the obligation can be made. Provisions are measured at the management's best estimate and there is some uncertainty regarding the timing and amount of the costs. Provisions for obligations to dismantle, remove or restore assets after their use are added to the carrying amount of the assets at acquisition date and depreciated over the useful life of the asset. Provisions are discounted to their current net present value if the effect of the time value of money is material.

Environmental provisions

Environmental expenditures resulting from the remediation of an existing condition caused by past operations, and which do not contribute to current or future revenues, are recognised as provisions. Environmental provisions are recorded when it is probable, based on current interpretations of environmental laws and regulations, that a present obligation has arisen and the amount of such liability can be reliably estimated.

Restructuring provisions

A restructuring provision is recognised in the period in which the Group becomes legally or constructively committed to the plan. The relevant costs are those that are incremental to, or incurred as a direct result of, the exit plan, or are the result of a continuing contractual obligation with no ongoing economic benefit, or represent a penalty incurred to cancel the obligation.

Other provisions

Other provisions are recognised regarding different legal or constructive obligations, such as reforestation, onerous contracts, ongoing lawsuits, claims, or similar.

Provisions

EUR million	Environmental provisions	Restructuring provisions	Other provisions	Total provisions
Carrying Value at 1 January 2022	75	88	67	231
Translation difference	-4	-3	-2	-9
Disposals and classification as held for sale	-3	-1	0	-4
Charge in Income Statement				
New provisions	14	8	19	40
Increase in existing provisions	1	12	2	15
Reversal of existing provisions	-1	-16	-8	-25
Payments	-9	-66	-50	-124
Carrying Value at 31 December 2022	73	21	30	124
Translation difference	0	0	1	1
Disposals and classification as held for sale	3	0	0	3
Charge in Income Statement				
New provisions	7	89	12	107
Increase in existing provisions	4	4	1	8
Reversal of existing provisions	-16	-7	0	-22
Payments	-9	-31	-14	-54

At 31 December 2023	63	77	28	168

Allocation between current and non-current provisions				
Current provisions: Payable within 12 months	1	72	12	85
Non-current provisions: Payable after 12 months	61	5	16	83
Total at 31 December 2023	63	77	28	168

The Group has undergone major restructuring in recent years, from divestments to mill closures and administrative cost-saving programmes. The most material restructuring provision included in the ending balance of 2023 is EUR 35 million related to closing down the De Hoop containerboard site in the Netherlands. Other restructuring provisions relate mainly to permanently closing down Sunila pulp production in Finland and restructuring programmes to reduce the number of office employees in Group functions and the Packaging Materials division. Material payments in 2022 in restructuring and other provisions are mainly related to closing down pulp and paper production at the Kvarnsveden site in Sweden and the Veitsiluoto site in Finland.

The most material environmental provision is based on an agreement between Stora Enso and the City of Falun that obligates the Group to purify runoff from the Kopparberg mine before releasing the water into the environment. The provision at year end amounted to EUR 27 (EUR 31) million. The most material case in other provisions is related to an obligation in some Nordic countries to take care of reforestation within a specified time after final harvesting.

5 Capital structure and financing

5.1 Financial risk management

Risk management principles and process

Stora Enso is exposed to several financial market risks that the Group is managing under the policies approved by the Board of Directors. The objective is to ensure cost-effective funding of Group companies and manage financial risks effectively. The Stora Enso Group Financial Risk Policy governs all financial transactions in Stora Enso. This policy and any future amendments take effect once they are approved by the Board of Directors and all policies covering the use of financial instruments must comply with it. The Group's joint operations companies operate under their own financial risk policies, which may not be fully similar to the Group's policies.

The major financial market risks are detailed below with the main exposures for the Group being interest rate risk, currency risk, liquidity risk, refinancing risk, and commodity price risk, especially for fiber, pulp, and energy.

Interest rate risk

The Group is exposed to an interest rate risk that is the risk of fluctuating interest rates affecting the interest expense of the Group and value of its assets and liabilities. Stora Enso is exposed to the interest rate risk through interest-bearing assets and liabilities, such as loans, financial

As of 31 December 2023, one percentage point increase in interest rates would increase annual net interest expenses by approximately EUR 10 (EUR 4) million and a similar decrease in interest rates would decrease net interest expenses by EUR 10 (EUR 4) million. This assumes that the duration and the funding structure of the Group remain constant throughout the year. This simulation calculates the interest effect of a 100 basis point parallel shift in interest rates on all floating rate instruments excluding cash equivalents from their next reset date to the end of the year. In addition, all short-term loans maturing during the year are assumed to be rolled over on maturity to year end using the new higher or lower interest rate.

A one percentage point parallel change up or down in interest rates would also result in fair valuation gains or losses of EUR 6 (EUR 10) million before taxes in the cash flow hedge reserve in OCI regarding interest rate swaps under cash flow hedge accounting. Note 5.4 Derivatives summarises the nominal and fair values of the outstanding interest rate derivative contracts.

Foreign exchange risk - transaction risk

The Group operates globally and is exposed to a foreign-currency transaction risk arising from exchange rate fluctuations. Foreign exchange transaction risk exposure comprises both the geographical location of Stora Enso production facilities around the world, sourcing of raw materials and sales of end products in foreign currencies, mainly denominated in US dollars, British pounds and Swedish crowns. Stora Enso Group companies with functional currency other than euro are also exposed to a foreign-currency transaction risk arising from EUR denominated net cash flows. These EUR exposures mainly arise from Stora Enso subsidiaries located in

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instruments and lease liabilities, but also through commercial agreements and operative assets and liabilities such as biological assets. The Group's aim is to keep interest costs stable. The Group's aggregate duration should not exceed the average loan maturity, but should aim towards a long duration. A duration above the average loan maturity is approved by the Board of Directors.

The Group may use interest-rate swaps and cross-currency swaps to manage the interest-rate risk by synthetically converting floating-rate loans into fixed-rate loans through the use of derivatives. The Group's floating and fixed rate interest-rate position as per the year-end is presented in the following table. The table includes the respective assets and liabilities classified as held for sale.

Floating and fixed interest-rate position

	As at 31 December 2023		As at 31 December 2022	
EUR million	Floating rate	Fixed rate	Floating rate	Fixed rate
Non-current interest-bearing receivables[1]	11	51	11	80
Current interest-bearing receivables[1]	1	14	1	—
Cash and cash equivalents	2,464		1,917	
Interest-bearing liabilities[2]	-1,422	-4,293	-1,074	-2,818
Interest-bearing assets and liabilities excluding interest rate derivatives	1,053	-4,229	855	-2,738
Interest-rate and cross-currency swaps	488	-488	650	-650
Interest-bearing assets and liabilities, net of interest rate derivatives	1,541	-4,717	1,506	-3,388

[1] Excluding interest receivable, listed securities, and derivative assets

[2] Non-current interest-bearing liabilities, current portion of non-current debt, short-term interest bearing liabilities and bank overdrafts excluding derivative liabilities and interest payable

The average interest duration for the Group's net interest-bearing liabilities, including all interest rate derivatives but excluding cash and cash equivalents, is 2.7 (3.3) years.

Sweden, Czech Republic and Poland.

The currency transaction risk is the impact of exchange rate fluctuations on the Group's income statement, which is the effect of currency rates on expected future cash flows and subsequent trade receivables or payables. The Group's standard policy to mitigate the risk is to hedge 15–60% of the highly probable forecast cash flows in major currencies for the next 12 months by using derivative financial instruments, such as foreign exchange forwards and foreign exchange options. The Group may also hedge periods between 12 months and 36 months, or change the above mentioned hedging ratio for the next 12 months upon the discretion of the Group's management.

For operative receivables and payables in foreign currencies, the objective is to hedge 50–100% of the outstanding net receivable balance in major currency pairs.

The table below presents the estimated net operative foreign currency transaction risk exposures for the main currencies for the next 12 months and the related foreign-currency hedges in place as at 31 December, retranslated using year-end exchange rates. The net operative receivables and payable exposures, representing the balances as at 31 December, include foreign currency exposures generated by external and intercompany transactions in line with the requirements of IFRS 7. A positive amount of exposure in the table below represents an estimated future inflow or receivable of a foreign currency amount.

Operative foreign currency transaction risk exposure

	As at 31 December 2023						As at 31 December 2022					
EUR million	EUR	SEK	USD	GBP	AUD	UYU	EUR	SEK	USD	GBP	AUD	UYU
Estimated annual net cash flow exposure in hedged foreign-currency flows[1]	674	-278	1,446	126	63	-48	960	-238	1,983	240	83	-48
Cash flow hedges for the next 12 months	-394	188	-632	-34	-15	27	-525	119	-843	-59	-26	26
Estimated annual net cash flow exposure, net of hedges	280	-90	814	93	47	-21	435	-119	1,139	181	57	-22
Hedging percentage as at 31 December for next 12 months	58 %	68 %	44 %	27 %	25 %	57 %	55 %	50 %	43 %	24 %	31 %	54 %
Weighted-average hedged rate against EUR[2]		11.57	1.10	0.87	1.66	45.07		10.63	1.09	0.87	1.52	45.20
Operative receivables and payables net exposure	-38	-23	181	18	18	-5	-22	8	284	30	49	-5
Net receivable currency hedges	-7	7	-119	-15	-20	—	-18	-3	-186	-16	-51	—
Net operative receivables exposure, net of hedges	-45	-15	62	3	-2	-5	-39	5	98	14	-2	-5
Estimated annual net transaction risk exposure after hedges	235	-105	876	96	46	-26	396	-113	1,238	195	55	-27

[1] Cash flows are forecasted highly probable net operating foreign-currency cash flows in hedged currencies. The exposure presented in a product becoming cheaper to produce in a different geographical location, have not been considered in this calculation.

Sensitivity analysis of operative foreign currency transaction risk exposure

	As at 31 December 2023						As at 31 December 2022					
EUR million	EUR	SEK	USD	GBP	AUD	UYU	EUR	SEK	USD	GBP	AUD	UYU
Exposure currency change by[1]	-5%	-5%	-5%	-5%	-5%	-10%	-5%	-5%	-5%	-5%	-5%	-10%
Effect on estimated annual net cash flows in hedged flows	-34	14	-72	-6	-3	5	-48	12	-99	-12	-4	5
Effect on cash flow hedging OCI reserve before taxes as at year end[2]	20	-9	32	2	1	-3	26	-6	42	3	1	-3
Effect on net operative receivables and payables after hedges[3]	2	1	-3	—	—	1	2	—	-5	-1	—	—
Estimated annual EBIT impact[4]	-12	5	-44	-5	-2	3	-20	6	-62	-10	-3	3

[1] The sensitivity analysis for EUR denominated annual net cash flows, operative net receivables and related hedges refer to the EUR denominated transaction risk arising from EUR denominated foreign-currency cash flows in Sweden, Czech Republic and Poland with functional currency other than EUR.

[2] The effect on OCI cash flow hedging reserve before taxes at year end is related to the fair value change in derivative contracts qualifying as cash flow hedges of highly probable forecast transactions under IFRS 9. Amount effecting OCI will be recycled to operative result when the transaction realises.

[3] Currency effect related to net operative receivables or payables and related hedges.

[4] The estimated annual EBIT impact includes currency effects in respect of operative exposures in the Statement of Financial Position, forecast cash flows and the related hedges.

The following table presents the financial foreign currency exposure and the related hedges in

the EUR column relates to operative transaction risk exposure from EUR denominated cash flows in Group companies located in Sweden, Czech Republic and Poland with functional currency other than EUR.

[2] The weighted-average exchange rate against EUR is calculated based on bought leg of option collar structure and forward contracts' forward rate and therefore represents the weighted-average hedged rate based on the least favourable hedged rate from the Group's point-of-view.

The following table includes the estimated effect on the annual operating result of a weakening of an exposure currency against the functional currencies of exposed subsidiaries. The sensitivities have been calculated based on a 5% movement in EUR, SEK, USD, GBP and AUD while 10% movement in UYU. These changes are estimated as reasonably possible changes in exchange rates, measured against year-end closing rates. A corresponding strengthening of the exposure currency would have an approximately equal opposite impact. A negative amount in the table reflects a potential net loss in the income statement or equity and, conversely, a positive amount reflects a potential net gain. In practice, the actual foreign currency results may differ from the sensitivity analysis presented below, since the income statements of subsidiaries with functional currencies other than the euro are translated into the Group reporting currency using the average exchange rates for the year, whereas the statements of the financial position of such subsidiaries, including currency hedges, trade receivables and payable, are translated using the exchange rates at the reporting date. The translation risk exposures are discussed more in detail under the Translation risk chapter below.

The calculation includes currency hedges and assumes that there are no changes in other underlying currencies. The currency effects are based on estimated operative foreign currency flows for the next twelve months, hedging levels at the year end, and the assumption that the currency cash flow hedging levels and all other variables will remain constant during the next twelve months. Hedging instruments include foreign exchange forward contracts and foreign exchange options. Indirect currency effects with an impact on prices and product flows, such as

place as at 31 December for the main currencies. Net debt includes foreign-currency external loan payables and receivables, foreign-currency internal loan payables and loan receivables and cash equivalents. Loans designated as net investment loans under IAS 21 are excluded from the table as they reduce the foreign-currency exposures on a Group level. Internal transaction exposure includes foreign-currency payables and receivables outstanding within the Group at reporting date. The currency derivatives mainly hedge financial exposures in the statement of financial position. A negative amount of exposure in the table represents a net payable of a foreign currency amount.

Additionally, the table includes the estimated effect on the income statement of a currency weakening of an exposure currency against EUR. The sensitivities have been calculated based on a 5% movement in SEK, USD, CNY, PLN, and CZK. These changes are estimated as reasonably possible changes in exchange rates, measured against year-end closing rates. A corresponding strengthening of the exposure currency would have an approximately equal opposite impact. A negative amount in the table reflects a potential net loss in the income statement and, conversely, a positive amount reflects a net potential gain. In practice, the actual foreign currency results may differ from the sensitivity analysis below as the exposure amounts may change during the year.

Financial foreign currency exposure and estimated currency effects in income statement

	As at 31 December 2023					As at 31 December 2022				
EUR million	SEK	USD	CNY	PLN	CZK	SEK	USD	CNY	PLN	CZK
Foreign-currency net debt[1]	140	-121	185	-3	24	-418	-101	355	-6	-62
Currency hedges	-158	-5	–	-5	-21	-3	-46	-211	-7	62
Net exposure after hedges	-18	-126	185	-8	3	-422	-146	144	-12	–
Internal transaction exposure	137			13					138	45
Currency hedges	–			–					-124	-41
Net non-operative exposure	137	–	–	13	–	–	–	–	14	3
Exposure currency change by	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%	-5%
Effect in the Income Statement[2]	-6	6	-9	-1	–	21	7	-7	–	6

[1] The Group has designated certain internal loans to Chinese subsidiaries as net investment loans under IAS 21. The loans are denominated in EUR, USD, and CNY. The underlying foreign currency gain or loss will be posted as part of CTA in Equity. The nominal amount of net investment loans amounted to EUR 591 (EUR 398) million as per the year end and reduces the currency exposure for relevant currencies in the above table.

[2] Gains and losses are recognised as part of Net financial items in the Income Statement

Foreign exchange risk – translation risk

Translation risk results from fluctuations in exchange rates affecting the value of Stora Enso's consolidated net foreign currency denominated assets, liabilities, and income. Translation risk is reduced by funding assets, whenever economically possible, in the same currency as the asset itself. The Group may also enter into foreign exchange forwards, foreign exchange options or foreign currency denominated loans to hedge its net investments in foreign entities with different functional currencies than the Group.

The balance sheets of foreign subsidiaries, associated companies and foreign currency denominated equity instruments in the scope of IFRS 9 are translated into euros using exchange

in the consolidated equity. In practise, the Group also incurs material unhedged translation risk exposures in other geographical areas such as Sweden and China. The exposures used in the calculations are based on the foreign currency denominated equity and the hedging levels as at 31 December. Full details of actual CTA movements and hedging results are given in note 5.6 Cumulative translation adjustment and equity hedging. The sensitivity analysis includes the effects of currency hedges of net investments in foreign entities and assumes that no changes take place other than a single currency exchange rate movement on 31 December each year.

Hedged translation exposure in Equity

	As at 31 December	
EUR million	2023	2022
Translation exposure on equity in USD area[1]	1,625	1,686
EUR/USD equity hedges[2]	-271	-281
Translation exposure after hedges	1,354	1,405
Sensitivity before hedges - EUR strengthening 5%	-81	-84
Sensitivity after hedges - EUR strengthening 5%	-68	-70

[1] Includes the joint operation Montes del Plata in Uruguay, which has USD as its functional currency.

[2] USD denominated bonds classified as hedges of net investments in foreign assets.

Liquidity and refinancing risk

Liquidity risk arises from the difficulty of obtaining finance for operations at a given point in time. Stora Enso's financial risk policy states that the average maturity of outstanding loans and committed credit facilities covering short-term borrowings should be at least four years. The policy further states that the Group must have cash equivalents and undrawn committed credit facilities to cover all debt maturing within the next 12 months, including supply chain financing and factoring. At 31 December 2023, undrawn committed credit facilities and undrawn loans were at EUR 800 (EUR 1,100) million. The credit facilities are used as a backup for general corporate purposes and are fully undrawn. Additionally, Stora Enso has access to various

rates prevailing on the reporting date, thus exposing consolidated Group equity to fluctuations in currency rates. The resulting translation differences, along with other movements such as the translation rate difference in the income statement, are recorded directly in shareholders' equity. These cumulative differences materialise through the income statement on the disposal, in whole or in part, of the foreign entity.

The following table presents the translation risk exposure in the Group's income statement arising from the translation of subsidiaries' and joint operations' foreign-currency income statements into the presentation currency of the Group in the consolidated financial statements.

Translation exposure in income statement

	As at 31 December 2023					As at 31 December 2022				
EUR million	SEK	USD	BRL	CZK	CNY	SEK	USD	BRL	CZK	CNY
Translation exposure in income statement	-357	-196	-179	-65	67	-147	-192	-164	-38	77
Exposure currency change by	-5%	-5%	-10%	-5%	-5%	-5%	-5%	-10%	-5%	-5%
Effect on EBIT from translation risk exposure	18	10	18	3	-3	7	10	16	2	-4

The next table presents the translation exposure for geographical areas for which the Group has applied net investment hedging techniques to reduce the foreign-currency translation exposure

additional long-term sources of funding up to EUR 1,100 (EUR 1,050) million. These mainly relate to available funding sources from Finnish pension funds.

During 2023, Stora Enso issued or refinanced altogether EUR 2,006 million of long-term debt, including both bonds and bilateral bank loans. Funding events from during 2023 are described in more detail in note 5.3 Interest-bearing assets and liabilities

Refinancing risk, or the risk that maturing debt is not refinanced in the markets, is mitigated by Stora Enso's target of maintaining an even maturity profile of outstanding debt. The table below shows maturity analysis for the Group's contractual financial liabilities classified under principal headings based on the remaining period to contractual maturity at the reporting date. Forward interest rates as at the year-end were used for estimating contractual finance charges for the upcoming years. The table includes the respective assets and liabilities classified as held for sale.

Contractual maturity repayments of financial liabilities, settlement net: 2023

EUR million	2024	2025	2026	2027	2028	2029+	Total
Bond loans	136	440	590	591	548	1,310	3,615
Loans from credit institutions	140	717	105	5	5	27	998
Lease liabilities	71	57	48	43	39	263	520
Other non-current financial liabilities	0	2	0	0	0	0	2
Non-current borrowings including current portion	347	1,217	742	639	592	1,600	5,137
Estimated contractual finance charges	193	152	113	82	69	194	802
Estimated contractual lease charges	29	26	25	23	22	225	350
Contractual repayments on non-current borrowings	569	1,395	880	744	683	2,018	6,289
Current borrowings, carrying amounts	595	0	0	0	0	0	595
Gross-settled derivative liabilities - receipts	-2,154	0	0	0	0	0	-2,154
Gross-settled derivative liabilities - payments	2,132	0	0	0	0	0	2,132
Trade payables	1,666	0	0	0	0	0	1,666
Estimated contractual finance charges	9	0	0	0	0	0	9
Total contractual repayments at 31 December 2023	2,817	1,395	880	744	683	2,018	8,537

Contractual maturity repayments of financial liabilities, settlement net: 2022

EUR million	2023	2024	2025	2026	2027	2028+	Total
Bond loans	300	270	404	90	325	1,081	2,470
Loans from credit institutions	306	40	273	5	0	0	624
Lease liabilities	63	49	44	33	30	159	377
Other non-current financial liabilities	0	2	0	0	0	0	2
Non-current borrowings including current portion	668	361	721	128	355	1,240	3,472
Estimated contractual finance charges	108	90	74	43	40	190	545
Estimated contractual lease charges	16	14	13	11	10	58	123
Contractual repayments on non-current borrowings	792	465	807	182	405	1,489	4,140

- entering into transactions only with leading financial institutions and with industrial companies that have a good credit rating;
- only investing in liquid funds and deposits with financial institutions or companies that have a minimum credit rating of A-3 or BBB-.
- at least the higher of 50% of cash equivalents, or EUR 150 million, of cash equivalents to be held at counterparties with a minimum rating of A- or equivalent using credit ratings from main rating agencies;
- investing at least EUR 75 million of the Group's cash and cash equivalents at counterparties other than the counterparty at which most of Stora Enso's cash and cash equivalents are held;
- requiring parent company guarantees when dealing with any subsidiary of a rated company.

The Group Financial Risk Policy defines the limits for accepted counterparty risk, based on the tenor of financial contract and counterparty's credit rating.

At the year end 2023, there were no significant concentrations of risk with respect to counterparties of derivative contracts, with the highest counterparty mark-to-market exposure being at EUR 13 (41) million and credit rating of A+ (A+) using Standard and Poor's credit rating symbols.

Customer credit risk

Customer credit risk is Stora Enso's exposure to contracts arising from deterioration in the financial health of its customers. The Group uses various measures to reduce customer credit risks, including, but not limited to, letters of credit, prepayments and bank guarantees. The Group has also obtained export guarantees, covering both political and commercial risks, which are used in connection with individual customers outside the OECD area. Management considers that no significant concentration of credit risk with any individual customer, counterparty or geographical region exists for Stora Enso. The ageing information of trade receivables and related loss allowances are given in note 4.7 Operative receivables.

Commodity price risk

Short-term borrowings, carrying amounts	425	0	0	0	0	0	429
Gross-settled derivative liabilities - receipts	-2,405	0	0	0	0	0	-2,405
Gross-settled derivative liabilities - payments	2,401	0	0	0	0	0	2,401
Net-settled derivative liabilities	-4	0	0	0	0	0	-5
Trade payables	1,831	0	0	0	0	0	1,831
Bank overdrafts	0	0	0	0	0	0	0
Estimated contractual finance charges	6	0	0	0	0	0	6
Total contractual repayments at 31 December 2022	3,050	464	807	182	105	1,189	6,398

Financial transactions counterparty credit risk

Financial counterparty risk is the risk of fluctuations in the value of the Group's assets as a result of counterparties being unable to meet their obligations arising from financial contracts. The exposure to a financial counterparty risk is measured as the maximum loss that Stora Enso can suffer directly in the event of a single counterparty's credit default. This risk is minimised by:

Outstanding commodity hedges

	As at 31 December 2023				As at 31 December 2022			
	Underlying amount of commodity hedged	Average hedged commodity price	Nominal amount hedged in EUR million	Fair value EUR million	Underlying amount of commodity hedged	Average hedged commodity price	Nominal amount hedged in EUR million	Fair value EUR million
Electricity purchases								
- Nordic region	245,712 MWh	EUR 55.6	14	-1	175,200 MWh	EUR 29.1	5	18
Oil purchases	205,058 barrels	USD 75.9	14	-1	200,474 barrels	USD 73.5	14	0

The Group is exposed to commodity and energy price volatility that will have an impact on the Group's profitability. Electricity, natural gas and oil hedge derivatives are part of energy price risk management in the Group, whilst other commodity risks are measured and hedged if economically possible. In addition to electricity hedge derivatives, the Group also manages energy price risk by entering into long-term physical fixed price purchase agreements, and by holding a 15.7% stake in Pohjolan Voima Oy (PVO), which is a privately owned Group of companies in the energy sector in Finland. The fair value of the shares amounted to EUR 778 (EUR 1,423) million as per the year-end. The fair value of these shares is dependent on electricity market prices and discussed in more detail in note 4.4 Equity instruments.

A 10% movement in energy and raw material prices would result in a EUR 5 (EUR 6) million change in the fair value of commodity financial hedges described in the above table. The majority of these fair value changes, after taxes, are recorded directly in Equity under Hedging Reserves, until the contracts mature and the result is entered in the Income statement. These estimates only represent the sensitivity of commodity financial instruments to market risk and not the Group's full exposure to raw material and energy price risks as a whole, since the actual underlying purchases are not financial instruments within the scope of the IFRS 7 standard. At the end of 2023, the maturities of the energy and commodity contracts, including both financial hedges and fixed-price physical purchase agreements, ranged between 2024 and 2025. In 2022, the maturities ranged between 2023 and 2024.

In an effort to mitigate other commodity price risk exposures in relation to wood fiber price risk, the Group is a significant owner of forest assets in the Nordic region. In Sweden the Group owns 1.4 million hectares of forest land. In addition, Stora Enso holds 41% share in Tornator Oyj, which is a significant forest owner in Finland. The Group's share in Tornator is reported as an associate company and discussed in more detail in note 4.3 Associates. The Group's forest assets are discussed in more detail in note 4.2 Forest assets.

Equity price risk

The Group has certain investments in publicly traded securities. Currently these relate to Packages Ltd shares in Pakistan. The market value of these equity investments was EUR 9 (EUR 8) million at the year end. Market value changes in these investments are recorded, after taxes, directly under Shareholders' Equity in the Equity instruments through OCI reserve. More details on the publicly traded securities can be found from note 4.4 Equity instruments.

Capital risk management

Stora Enso's debt structure is focused on capital markets and commercial banks. Group objectives when managing capital are to safeguard the ability to continue as a going concern in order to provide returns for shareholders and benefits for other stakeholders, as well as to maintain an optimal capital structure to maintain reasonable cost of capital. In order to maintain

Capital structure

EUR million	As at 31 December 2023	2022
Interest-bearing liabilities[1]	5,780	3,976
Interest-bearing assets[1]	2,613	2,122
Net debt	3,167	1,853
Equity attributable to owners of the parent	10,985	12,532
Operational EBITDA[2]	989	2,529
Net debt to equity ratio	0.29	0.15
Net debt to operational EBITDA	3.2	0.7

[1] Interest-bearing liabilities and assets in the table include the respective amounts classified as held for sale. More detailed reconciliation of net debt is included in the "Alternative performance measures" chapter in the Report of the Board of Directors.
[2] Operational EBITDA definition is included in the "Alternative performance measures" chapter in the Report of the Board of Directors.

Montes del Plata, a joint operation of Stora Enso, and the Group's subsidiary Stora Enso (Guangxi) Packaging and Forestry Company Ltd have complied with financial covenants related to debt-to-assets ratio during the reported periods. There are no other covenants in the Group's financing contracts.

5.2 Fair values

Accounting principles

Financial assets

The Group classifies its financial assets into three categories, which are amortised cost, fair value through other comprehensive income and fair value through profit and loss. The classification is made according to the IFRS 9 standard and management determines the classification of investments at the time of initial recognition.

With investments in debt instruments, the classification is made based on the business model and contractual cash flow characteristics of debt instruments. Investments in debt instruments, for which the business model objective is to hold the financial instruments to collect contractual cash flows and those cash flows are solely payments of principal and interest, are classified as amortised cost and presented under current or non-current assets in the consolidated statement of financial position. Investments in debt instruments, for which the business model objective is to hold the financial instruments for both to collect contractual cash flows and sell financial instruments and the cash flows are solely payments of principal and

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or adjust the capital structure, the Group may, subject to shareholder approval as appropriate, vary the dividends paid to shareholders, buy its own shares on financial markets, return capital to shareholders, issue new shares or sell assets to reduce debt. The Group strives to pay stable dividends linked to the long-term performance with the aim of distributing 50% of Earnings per share (EPS) excluding fair valuations over the cycle.

The Group monitors its capital on the basis of a target net debt-to-equity ratio of 0.60 or less, and aiming that the Net-debt-to-Operational EBITDA ratio remains below 2.0, indicating a solid financial position and financial flexibility.

Derivatives

Derivative financial assets and liabilities are measured at fair value and classified as fair value through profit and loss or, if the Group has applied hedge accounting, at fair value through other comprehensive income according to the IFRS 9 standard. Derivative financial instruments and hedge accounting are discussed in more detail in note 5.4 Derivatives.

Fair value of financial instruments

The fair values of publicly traded derivatives and listed securities, are based on quoted market prices at the reporting date; the fair values of interest rate swaps are calculated as the present value of the estimated future cash flows, and the fair values of foreign exchange forward contracts are determined using forward exchange rates at the reporting date. The valuation principles for derivative financial instruments have been described in more detail in note 5.4 Derivatives.

In assessing the fair values of non-traded derivatives and other financial instruments, the Group uses a variety of methods and makes assumptions based on the market conditions at each reporting date. Quoted market prices or dealer quotes for identical or similar instruments are used for non-current debt. Other techniques, such as option pricing models and estimated discounted value of future cash flows, are used to determine fair values for the remaining financial instruments. The face values, less any estimated credit adjustments, for financial assets and liabilities with a maturity of less than one year are assumed to approximate their fair values. The fair values of financial liabilities for disclosure purposes are estimated by discounting the future contractual cash flows at the current market interest rates available to the Group for similar financial instruments.

Purchases and sales of financial instruments are recognised based on trade date accounting, which is the date on which the Group commits to purchasing or selling the financial instrument. Financial instruments are derecognised when the rights to receive or the cash flows from the financial instruments have expired or have been transferred and the Group has substantially transferred all risks, rewards and obligations of the ownership of the financial asset or liability.

Fair value hierarchy

The Group uses the following hierarchy for determining and disclosing the fair value of financial instruments by valuation technique:

- Level 1: quoted (unadjusted) prices in active markets for identical assets or liabilities;
- Level 2: other techniques, for which all inputs which have a significant effect on the recorded fair value are observable, either directly or indirectly;
- Level 3: techniques which use inputs which have a significant effect on the recorded fair values that are not based on observable market data.

The Group evaluates the categorisation of its fair value measurements within the fair value hierarchy on a regular basis at the end of the reporting period. There were no transfers recognised in the fair value hierarchy between Levels 1 and 2 and no transfers into or out of Level 3 fair value measurements during 2023 and 2022. See note 4.4 Equity instruments for more information on Level 3 fair value measurement of listed and unlisted securities.

interest, are classified as fair value through other comprehensive income and presented under current or non-current assets in the consolidated statement of financial position.

The Group's investments into equity instruments, such as listed and unlisted securities, are classified as fair value through profit and loss unless the Group has at inception decided to apply the irrevocable election under IFRS 9 to classify the investments as fair value through other comprehensive income with only dividend income from the investments being recognised in the income statement.

Investments that are not measured at amortised cost or at fair value through other comprehensive income are classified as fair value through profit and loss and are therefore fair valued through the consolidated income statement and presented under current or non-current assets in the consolidated statement of financial position.

Financial liabilities

The Group's financial liabilities are classified into amortised cost or fair value through profit and loss categories. Financial liabilities are measured at amortised cost unless the Group has decided to apply a fair value option to designate a financial liability to be measured at fair value through profit and loss.

Carrying amounts of financial assets and liabilities by measurement and fair value categories: 2023

EUR million	Amortised cost	Fair value through OCI	Fair value through income statement	Total carrying amount	Fair value	Fair value hierarchy Level 1	Level 2	Level 3	Note
Financial assets									
Listed securities	–	9	–	9	9	9	–	–	4.4
Unlisted securities	–	794	15	810	810	–	–	810	4.4
Non-current interest-bearing receivables	62	14	–	76	76	–	15	–	5.3
Derivative assets	–	14	–	15	15	–	15	–	
Loan receivables	62	–	–	62	62	–	–	–	
Trade and other operative receivables	835	30	–	865	865	–	30	–	4.7
Current interest-bearing receivables	21	39	4	64	64	–	43	–	5.3
Derivative assets	–	39	4	43	43	–	43	–	
Other short-term receivables	21	–	–	21	21	–	–	–	
Cash and cash equivalents	2,464	–	–	2,464	2,464	–	–	–	
Total	3,382	887	19	4,288	4,288	9	87	810	

EUR million	Amortised cost	Fair value through OCI	Fair value through income statement	Total carrying amount	Fair value	Fair value hierarchy Level 1	Level 2	Level 3	Note
Financial liabilities									
Non-current interest-bearing liabilities	4,445	1	–	4,446	5,071	–	1	–	5.3
Derivative liabilities	–	1	–	1	1	–	1	–	
Non-current debt	4,445	–	–	4,445	5,069	–	–	–	
Current portion of non-current debt	286	–	–	286	286	–	–	–	5.3
Current interest-bearing liabilities	469	4	2	476	476	–	6	–	5.3
Derivative liabilities	–	4	2	6	6	–	6	–	
Current debt	469	–	–	469	469	–	–	–	
Trade and other operative payables	1,806	–	–	1,806	1,806	–	–	–	4.8
Bank overdrafts	–	–	–	–	–	–	–	–	
Total	7,006	6	2	7,014	7,639	–	8	–	

In accordance with IFRS, derivatives are classified as fair value through income statement. In the above tables for financial assets and liabilities the cash flow hedge accounted derivatives are however presented as fair value through OCI, in line with how they are booked for the effective portion.

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Carrying amounts of financial assets and liabilities by measurement and fair value categories: 2022

EUR million	Amortised cost	Fair value through OCI	Fair value through income statement	Total carrying amount	Fair value	Fair value hierarchy: Level 1	Level 2	Level 3	Note
Financial assets									
Listed securities	–	8	–	8	8	8	–	–	4,4
Unlisted securities	–	1,423	14	1,437	1,437	–	–	1,437	4,4
Non-current interest-bearing receivables	92	28	–	120	120	–	28	–	5,3
Derivative assets	–	28	–	28	28	–	28	–	
Loan receivables	92	–	–	92	92	–	–	–	
Trade and other operative receivables	1,138	66	–	1,204	1,204	–	66	–	4,7
Current interest-bearing receivables	10	50	16	77	77	–	67	–	5,3
Derivative assets	–	50	16	67	67	–	67	–	
Other short-term receivables	10	–	–	10	10	–	–	–	
Cash and cash equivalents	1,917	–	–	1,917	1,917	–	–	–	
Total	3,157	1,576	30	4,763	4,763	8	161	1,437	

EUR million	Amortised cost	Fair value through OCI	Fair value through income statement	Total carrying amount	Fair value	Fair value hierarchy: Level 1	Level 2	Level 3	Note
Financial liabilities									
Non-current interest-bearing liabilities	2,792	–	–	2,792	2,749	–	–	–	5,3
Derivative liabilities	–	–	–	0	0	–	–	–	
Non-current debt	2,792	–	–	2,792	2,748	–	–	–	
Current portion of non-current debt	667	–	–	667	667	–	–	–	5,3
Current interest-bearing liabilities	462	30	20	513	513	–	50	–	5,3
Derivative liabilities	–	30	20	50	50	–	50	–	
Current debt	462	–	–	462	462	–	–	–	
Trade and other operative payables	2,076	–	–	2,076	2,076	–	–	–	4,8
Bank overdrafts	–	–	–	0	0	–	–	–	
Total	5,998	30	20	6,048	6,005	–	51	–	

In accordance with IFRS, derivatives are classified as fair value through income statement. In the above tables for financial assets and liabilities the cash flow hedge accounted derivatives are however presented as fair value through OCI, in line with how they are booked for the effective portion.

In the previous tables, the fair value is estimated to be equal to the carrying amount for current financial assets and financial liabilities, such as trade receivables and payables due to their short time to maturity and limited credit risk. The fair value of non-current loan receivables, considered as a level 2 fair value measurement, is based on the discounted cash flow analysis. The fair value of non-derivative interest-bearing liabilities, considered as a level 2 fair value measurement, is estimated based on a discounted cash flow analysis in which the yield curves observable at commonly quoted intervals are used as a discount factor in the model.

Reconciliation of level 3 fair value measurement of financial assets and liabilities

EUR million	2023	2022
Financial assets		
Opening balance at 1 January	1,437	905
Reclassifications	0	-1
Gains/losses recognised in other comprehensive income	-646	523
Additions	18	10
Closing balance at 31 December	810	1,437

The Group did not have level 3 financial liabilities as at 31 December 2023.

5.3 Interest-bearing assets and liabilities

Accounting principles

Interest-bearing assets - loan receivables

Loan receivables are debt instruments with fixed or determinable payments that are not quoted on an active market. They are recorded initially at fair value and subsequently measured at an amortised cost. Loss allowance for expected credit losses is calculated based on the general approach under IFRS 9, where loss allowance is recognised based on 12-month expected credit losses if there has not been a significant increase in credit risk since the initial recognition. A significant increase in the credit risk will be evaluated based on a comparison of the risk of a default occurring on the financial instrument as at the reporting date with the risk of default occurring on the financial instrument as at the date of initial recognition. The Group may use, for example, rates of credit default swaps (CDS) observable on financial markets to produce the risk assessment.

Interest income on loan receivables is included in financial income and expense. Loan receivables with a maturity less than 12 months are included in current assets under interest-bearing receivables, and those with maturities greater than 12 months, in non-current interest-bearing receivables.

Interest-bearing liabilities

Interest-bearing liabilities are recognised initially at fair value, net of transaction costs incurred. In subsequent periods, interest-bearing liabilities are measured at amortised cost using the effective interest method. Any difference between the proceeds net of transaction costs and redemption value is recognised in the consolidated income statement over the maturity period of the borrowings. Interest expenses are accrued for and recorded in the consolidated income statement for each period.

Interest-bearing liabilities with an original maturity greater than 12 months are classified as non-current interest-bearing liabilities in the consolidated statement of financial position, though repayments falling due within 12 months are presented in current liabilities under the current portion of non-current debt. Short-term commercial paper, bank and other interest-bearing liabilities, for which the original maturity is less than 12 months, are presented in current liabilities under interest-bearing liabilities.

Lease liabilities

At inception of a contract, the Group assesses whether a contract is, or contains, a lease. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. Lease liabilities are initially capitalised at the commencement of the lease and measured at the present value of the lease payments that are not paid at the commencement date, discounted using the Group's incremental borrowing rate. The lease term applied corresponds to the non-cancellable period except in cases where the Group is reasonably certain to exercise renewal option or prolong the contract. The Group allocates the consideration in the contract to each lease component and separates non-lease components if these are identifiable. Lease terms are negotiated on an individual basis and contain a wide range of different terms and conditions.

The lease liabilities are subsequently measured at amortised cost using the effective interest method. Lease payment is allocated between the capital liability and finance charges to achieve a constant interest rate on the outstanding liability balance. Lease liabilities are remeasured mainly when there is a change in future lease payments arising from a change in an index or rate, or if there is a change in the Group's assessment whether it will exercise an extension option. When lease liability is remeasured, a corresponding adjustment is generally made to the carrying amount of the right-of-use asset.

The Group has elected not to recognise lease liabilities for short-term leases that have a lease term of 12 months or less and leases of low value assets. Leases of low value assets mainly include IT and office equipment, certain vehicles and machinery and other low value items. The Group recognises the lease payments associated with these leases as an expense on a straight-line basis over the lease term.

Managing Interest Rate Benchmark Reform and associated risks

The Group monitors the process of the transition from IBORs to new benchmark rates by reviewing the total amounts of contracts that have yet to transition to an alternative benchmark rate. The impact of any ongoing changes is expected to be limited. The Group's financial instruments are mainly indexed to Euribor and Stibor reference rates which are expected to continue to exist for now.

At the end of 2022 the Group had EUR 211 million of outstanding interest-bearing liabilities that were indexed to US dollar LIBOR of which publication ceased after June 2023. During the year, these interest-bearing liabilities have been transitioned to follow new benchmark rates. There has been no significant impact on the Group from the change.

Interest-bearing assets

EUR million	2023	2022
Listed securities	9	8
Long-term derivative assets	15	28
Long-term deposits	48	48
Long-term loans to associated companies	2	2
Other long-term loan receivables	12	41
Total non-current interest-bearing assets	**85**	**128**
Short-term derivative assets	42	66
Other short-term loan receivables	22	11
Cash and cash equivalents	2,464	1,917
Total current interest-bearing assets	**2,528**	**1,994**
Total interest-bearing assets	**2,613**	**2,122**

The annual average interest income rate for deposits and loan receivables during the year was approximately 3.0% (1.0%). Current interest-bearing receivables included EUR 8 (EUR 10) million accrued interest at 31 December 2023. The Group has evaluated that there has not been a significant increase in credit risk related to interest-bearing deposits and investments after the initial recognition. Accordingly, the loss allowance is recognised based on 12-month expected credit losses.

Of the other long-term loan receivables EUR 10 (41) million and of the other short-term loan receivables EUR 14 (0) million represent receivables originating from the sale of the Russia operations in 2022. These receivables were recognised at inception at their fair value (EUR 58 million) using a discount rate of 27.1% and are carried in the statement of financial position at amortised cost. In 2023, an impairment of EUR 11 million was recognised on the receivables. The fair valuation of these receivables and evaluation of their credit risk and collectability involves a significant degree of judgement.

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Interest-bearing liabilities

EUR million	2023	2022
Bond loans	3,601	2,460
Loans from credit institutions	794	623
Lease liabilities	334	375
Long-term derivative financial liabilities	1	0
Other non-current liabilities	2	2
Non-current interest-bearing liabilities including current portion	**4,733**	**3,459**
Short-term borrowings	418	429
Interest payable	52	35
Short-term derivative financial liabilities	6	49
Total Interest-bearing Liabilities	**5,209**	**3,972**

EUR million	2023	2022
Carrying value at 1 January	**3,972**	**3,938**
Additions in long-term debt, companies acquired	131	0
Proceeds of new long-term debt	2,006	366
Repayment of long-term debt	-619	-351
Additions in lease liabilities, companies acquired	99	0
Additions in lease liabilities	109	45
Repayment of lease liabilities and interest	-87	-73
Change in short-term borrowings	177	75
Change in interest payable	40	19
Change in derivative financial liabilities	-41	-19
Disposals and classification as held for sale	-575	-5
Other	26	8
Translation differences	-29	-32
Total Interest-bearing Liabilities	**5,209**	**3,972**

Events during 2023 and 2022

Stora Enso published a new framework for green and sustainability-linked financing in May 2023. The combined Green and Sustainability-Linked Financing Framework allows Stora Enso to issue both green and sustainability-linked financing instruments, as well as a combination of the two.

In May 2023, Stora Enso issued two EUR 500 million green bonds with 3- and 6.25-year maturities. In November 2023, Stora Enso issued new SEK green bonds with nominal value of SEK 6,100 million, equal to EUR proceeds of 524 million at the transaction date FX rate. The SEK green bonds feature several tranches, with the maturities ranging from 2025 to 2028. Later in December 2023 the Company also completed a private placement of SEK 425 million with maturity in 2033. This was equal to EUR proceeds of 38 million at the transaction date FX rate.

In addition, during the year, the Company re-financed altogether EUR 550 million of its bilateral loans and committed credit facility, and also drew bilateral loans of EUR 200 million in total that were arranged but undrawn at the end of 2022. The existing loans were extended by one to two years and new terms also include extension options. The Company also arranged a new EUR 100 million bilateral loan with a 1.5-year maturity and a 1-year extension option during the second quarter. In the fourth quarter a one-year extension was signed to the revolving credit facility of EUR 700 million to extend its maturity to 2028.

During 2023, Stora Enso's total repayments of SEK and EUR bond notes amounted to a nominal of EUR 427 million. This amount includes partial repayment of SEK bond notes with original maturity in February 2024, which resulted in a EUR 1 million modification net gain being recognised in the Income Statement under net financial items.

During 2022, altogether EUR 550 million of bilateral bank loans were arranged. Maturities of these loans varied from 18 months to 3 years with extension options. Repayments of credit institution loans based on the original maturity schedule amounted to a nominal of EUR 289 million in 2022. There were no repayments of bond notes in 2022.

Interest-bearing liabilities - maturities, interest rates and currency breakdown

Stora Enso's borrowings maturities range from 2024 to the longest borrowing maturing in 2039. The Company's borrowings have either fixed or floating interest rates ranging from 0.6% (0.5%) to 7.3% (7.3%). Stora Enso's average interest rate on borrowings for the full year amounted to 3.7% (3.2%) with a run-rate of 4.0% as per the year end. Part of Stora Enso's borrowings have been fixed through floating-to-fixed interest rate swaps. The majority of Group loans are denominated in euros, US dollars, Swedish crowns or Chinese renminbis. Detailed maturity analysis of the Group's borrowings are set out in note 5.1 Financial risk management.

Net debt

In 2023 net interest-bearing liabilities, including amounts classified as held for sale, increased by EUR 1,314 (decreased by EUR 456) million to EUR 3,167 (EUR 1,854) million. Net interest-bearing liabilities are equal to total interest-bearing liabilities less total interest-bearing assets such as cash equivalents and deposits. Cash and cash equivalents net of overdrafts increased by EUR 547 (increased by EUR 437) million to EUR 2,464 (EUR 1,917) million as at 31 December 2023. In 2023, the total cash outflow for leases was EUR 87 (EUR 73) million including interest component of EUR 23 (EUR 17) million.

The ratio of net debt to the last 12 months' operational EBITDA was 3.2 (0.7). The net debt/equity ratio was 0.29 (0.15) as per the year-end.

Bond loans

Issue/ Maturity Dates	Description of Bond	Interest Rate %	Currency of Bond	Nominal Value Issued	Outstanding As at 31 December		Carrying Value As at 31 December	
					2023	2022	2023	2022
All Liabilities are Held by the Parent Company				Currency million			EUR million	
Fixed Rate								
2006-2036	Global 7.250% Notes 2036	7.25	USD	300	300	300	269	278
2016-2023	Euro Medium Term Note	2.125	EUR	300	0	300	0	300
2017-2027	Euro Medium Term Note	2.50	EUR	300	300	300	299	299
2018-2028	Euro Medium Term Note	2.50	EUR	300	300	300	299	299
2019-2024	Euro Medium Term Note (Green Bond)	1.875	SEK	1,750	484	1,750	44	157
2020-2025	Euro Medium Term Note (Green Bond)	2.375	SEK	1,550	1,550	1,550	140	140
2020-2030	Euro Medium Term Note (Green Bond)	0.625	EUR	500	500	500	496	495
2023-2027	Euro Medium Term Note (Green Bond)	4.75	SEK	400	400	0	36	0
2023-2026	Euro Medium Term Note (Green Bond)	4.00	EUR	500	500	0	499	0
2023-2029	Euro Medium Term Note (Green Bond)	4.25	EUR	500	500	0	497	0
2023-2027	Euro Medium Term Note (Green Bond)	4.75	SEK	600	600	0	54	0
2023-2028	Euro Medium Term Note (Green Bond)	5.00	SEK	2,250	2,250	0	202	0
Total Fixed Rate Bond Loans							2,834	1,968
Floating Rate								
2015-2025	Euro Medium Term Note	Euribor+2.25	EUR	125	125	125	125	125
2015-2027	Euro Medium Term Note	Euribor+2.35	EUR	25	25	25	25	25
2019-2024	Euro Medium Term Note (Green Bond)	Stibor+1.45	SEK	1,250	1,030	1,250	93	112
2019-2026	Euro Medium Term Note (Green Bond)	Stibor+1.60	SEK	1,000	1,000	1,000	90	90
2020-2025	Euro Medium Term Note (Green Bond)	Stibor+2.20	SEK	1,550	1,550	1,550	140	140
2023-2027	Euro Medium Term Note (Green Bond)	Stibor+1.25	SEK	2,350	2,350	0	211	0
2023-2028	Euro Medium Term Note (Green Bond)	Stibor+1.60	SEK	500	500	0	45	0
2023-2033	Euro Medium Term Note (Green Bond)	Stibor+2.20	SEK	425	425	0	38	0
Total Floating Rate Bond Loans							766	492
Total Bond Loans							3,601	2,460

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5.4 Derivatives

Accounting principles

Derivative financial instruments and hedge accounting

Derivative financial instruments are initially recognised in the consolidated statement of financial position at fair value and subsequently measured at their fair value at each reporting date according to valuation methods described in this note. Derivative contracts with maturity greater than 12 months are classified as non-current interest-bearing receivables and liabilities, and contracts maturing within 12 months are presented under current interest-bearing receivables and liabilities.

When derivative contracts are entered into, the Group designates them as either hedges of highly probable forecast transactions or firm commitments (cash flow hedges), hedges of the exposure to changes in the fair value of recognised assets or liabilities (fair value hedges), hedges of net investments in foreign entities, or derivative financial instruments not meeting the hedge accounting criteria in accordance with IFRS 9. The method of recognising the resulting gains or losses on derivative instruments is dependent on the nature of the item being hedged.

At the inception of a hedge, the Group documents the relationship between the hedging instrument and the hedged item, as well as its risk management objective and strategy for undertaking various hedging transactions. This process includes linking all financial instruments designated under hedge accounting to specific assets and liabilities or to specific firm commitments or highly probable forecast transactions in order to verify and document the hedge relationship between the hedged item and the hedging instrument as required by IFRS 9. The Group also documents its qualitative prospective assessment at the hedge inception of whether the derivatives used in a hedge relationship are highly effective in offsetting changes in fair value or cash flows of hedged items. Hedge effectiveness will be assessed in accordance with IFRS 9 requirements.

The hedge ratio used for hedging relationships is usually 1:1. For currency and commodity hedging purposes, the Group uses a hedge designation where the critical terms of the hedging instrument and the hedged item will coincide in terms of the notional amount and timing. In respect of interest rate hedging, the interest rate basis between swap contracts and underlying debt will coincide. Since the critical terms of the hedges and underlying risks match, the hedging instruments are considered to offset any changes related to the anticipated transactions.

Potential sources of ineffectiveness that may be expected to occur in relation to currency and commodity hedges are mainly related to the forecasted transaction not occurring in the amount or at the time expected. For interest rate hedges, cross-currency basis spread or initial fair value of the hedging instrument at the date of hedge designation may result in ineffectiveness being recognised in the income statement. Potential sources of ineffectiveness for all the aforementioned hedges also include possible effects of credit risk dominating fair value changes arising from the hedging instrument and the hedged item designated under the hedging relationship.

Cash flow hedges

Derivatives used in currency cash flow hedges are mainly forward contracts and options, with swaps mainly used for commodity and interest rate hedging purposes. During 2023 and 2022, the Group did not enter into new interest rate swap contracts.

Changes in the fair value of derivatives designated and qualifying as cash flow hedges, and which are effective, are recognised in a separate equity category of OCI cash flow hedges reserve, the movements of which are disclosed in the consolidated statement of comprehensive income. For foreign exchange forwards, both the spot element and forward points have been included to the hedge designation. In case of foreign exchange options, the time value of an option is excluded from the hedge designation and only the intrinsic value component of an option is designated as the hedging instrument. The changes in option time value are recognised in a cost of hedging reserve within OCI. The cumulative gain or loss of a derivative deferred in equity is transferred to the consolidated income statement and classified as an income or expense in the same period in which the hedged item affects the consolidated income statement. The unrealised gains and losses related to cash flow hedges are expected to be recycled through the income statement within one to four years with the longest hedging contract maturing in 2027 (2027). However, the majority of the contracts are expected to mature in 2024.

Realised results of hedge accounted derivative instruments hedging foreign currency sales transactions or purchases are booked as adjustments to sales or materials and services, depending on the nature of the underlying hedged item. In respect of hedges of exposures to foreign currency risk of future transactions resulting in the recognition of non-financial assets, the gains and losses deferred to the cash flow hedges reserve within OCI are transferred from equity to be included in the initial acquisition cost of the non-financial asset at the time of recognition. The Group may hedge foreign-currency risk of external or internal foreign-currency purchases where the underlying amount purchased in a foreign-currency impacts the value of inventory in a local currency. In such cases the gains and losses are initially booked as an adjustment to raw material inventory and recycled further to finished goods inventory with being ultimately recognised in the consolidated income statement at the time when the hedged items are sold to an external customer. In case of non-current assets, the deferred amounts are ultimately recognised in the income statement through depreciation over the lifetime of the non-financial assets.

When a hedging instrument expires or is sold, terminated or exercised or no longer meets the hedge accounting criteria under IFRS 9, any cumulative gain or loss deferred in equity at that time remains in equity and is accounted for as an adjustment to income or expense when the committed or forecast transaction is ultimately recognised in the consolidated income statement. However, if the underlying forecasted transaction is no longer expected to occur, the cumulative gain or loss reported in equity from the period when the hedge was effective is immediately recognised in the consolidated income statement.

Fair value hedges

In case of fair value hedges, the Group uses either derivatives or borrowings as a hedging instrument to manage the risk associated with the fair value of a hedged item. The gains and losses on hedging instruments designated and qualifying as fair value hedges, and which are highly effective, are recorded in the consolidated income statement, along with any changes in the fair value of the hedged assets or liabilities attributable to the hedged risk. As at the end of 2023, the Group did not have fair value hedges.

Net investment hedges

For hedges of net investments in foreign entities, the Group uses either derivatives or foreign-currency borrowings for this purpose. If the hedging instrument is a derivative, any gain or loss thereon relating to the effective portion of the hedge is recognised in equity in CTA as disclosed in the consolidated statement of comprehensive income; the gain or loss relating to the ineffective portion is immediately recognised in the consolidated income statement. In addition, exchange gains and losses arising on the translation of a foreign-currency borrowing that hedges net investment in a foreign operation are also recognised in CTA, with any ineffective portion being immediately recognised in the consolidated income statement. The gains and losses recognised in CTA are recycled from equity to the consolidated income statement at the time when the underlying hedged net investment is disposed.

Non-hedge accounted derivatives

Certain derivative transactions, while providing effective economic hedges under Group risk management policies, do not qualify for hedge accounting under the specific rules in IFRS 9 and therefore changes in the fair value of such non-qualifying hedges are accounted for at fair value in the consolidated income statement. For non-hedge accounted derivatives economically hedging foreign-currency risk of net of operative receivables and payables, the fair value changes are recognised in operating result under other operating income and expense. For other non-hedge accounted derivatives, the fair value changes are recognised in the consolidated income statement under financial income and expense.

Valuation of derivatives

Derivative financial instruments are recorded in the statement of financial position at their fair values defined as the amount at which the instrument could be exchanged in an orderly transaction between market participants at the measurement date. The fair values of such financial items have been estimated on the following basis:

- Foreign exchange forward contract fair values are calculated using forward exchange rates at the reporting date.
- Foreign exchange option contract fair values are calculated using reporting date market rates together with common option pricing models.
- Commodity contract fair values are computed with reference to quoted market prices on futures exchanges or other reliable market sources.
- Interest rate swaps fair values are calculated using a discounted cash flow method.
- Cross-currency swaps fair values are calculated by using a discounted cash flow method with the exchange of notional also included in the valuation model.

Total foreign exchange gains and losses in the income statement excluding hedges

EUR million	2023	2022
Other operating income	-11	42
Other operating expense	-4	-21
Borrowings, cash equivalents, lease liabilities and other	-10	-10
Total	-25	11

Hedge gains and losses in operating result

EUR million	2023	2022
Cash flow hedge accounted derivatives		
Currency hedges	-7	-105
Commodity hedges	-2	43
Total	-8	-62
As adjustments to sales	-7	-103
As adjustments to materials and services	-2	41
Realised from OCI through income statement	-8	-62
Currency hedges ineffectiveness	1	-2
Net gains/losses from cash flow hedges	-7	-65
Non-hedge accounted derivatives		
Net receivable hedges	5	-12
Commodity contract hedges	0	9
Net gains/losses on non-hedge accounted derivatives	5	-3
Net hedge gains/losses in operating result	-2	-67

In 2023, certain forecasted future transactions were no longer expected to occur, and due to this hedge accounting was ceased for those transactions. This resulted in a gain of EUR 1 (loss of 2) million being booked in the Group's operating result and is being presented in the table above as ineffectiveness from cash flow hedges.

Hedge gains and losses in financial items

EUR million	2023	2022
Non-hedge accounted derivatives		
Currency derivatives	-12	8
Interest rate derivatives	4	-4
Net gains/losses on non-hedge accounted derivatives	-8	4
Net gains/losses in financial items	-8	4

Nominal and fair values of derivative instruments

EUR million	Nominal values	Positive fair values	Negative fair values	Net fair values	Nominal values	Positive fair values	Negative fair values	Net fair values
		2023				2022		

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Currency derivatives								
Forwards: Operational cash flow hedging	1,210	31	-4	27	902	19	-13	6
Options: Operational cash flow hedging	405	6	-1	5	1,700	12	-16	-4
Total cash flow hedge accounted	1,615	37	-5	33	2,603	32	-30	2
Forwards: Trade and loan receivables hedging	379	4	-1	3	1,151	7	-5	2
Total non-hedge accounted	379	4	-1	3	1,151	7	-5	2
Total currency derivatives	1,994	41	-6	35	3,754	39	-35	4
Commodity derivatives								
Electricity swaps: Costs hedging	14	0	-1	-1	5	18	0	18
Oil swaps: Costs hedging	14	0	-1	-1	14	1	-1	0
Total cash flow hedge accounted	28	0	-2	-2	19	18	-1	18
Electricity swaps: Closed contracts	0	0	0	0	11	9	0	9
Total non-hedge accounted	0	0	0	0	11	9	0	9
Total commodity derivatives	28	0	-2	-2	30	27	-1	27
Interest rate derivatives								
Interest rate swaps: Financial expenses hedging	443	16	0	16	450	28	0	28
Total cash flow hedge accounted	443	16	0	16	450	28	0	28
Cross-currency swaps: Financial expenses hedging	0	0	0	0	200	0	-15	-15
Total non-hedge accounted	0	0	0	0	200	0	-15	-15
Total interest rate derivatives	443	16	0	16	650	28	-15	13
Total cash flow hedge accounted	2,086	54	-7	47	3,072	78	-30	48
Total non-hedge accounted	379	4	-1	3	1,363	16	-20	-4
Total derivatives	2,464	57	-8	49	4,435	95	-51	44

Positive and negative fair values of financial derivative instruments are shown under interest-bearing receivables and liabilities, and non-current interest-bearing receivables and liabilities.
The presented fair values in the table include accrued interest and option premiums.

Changes in fair values of hedged items and hedging instruments 2023

EUR million	Change in value of hedged item to determine hedge effectiveness	Change in value of outstanding hedging instruments	Ineffectiveness
Foreign exchange risk - Forward and option contracts (excluding option time value)	-23	24	1
Foreign exchange risk - Net investment hedges	-10	10	0

Breakdown of cash flow hedging reserve and net investment hedges in equity 2022

EUR million	At 1 Jan 2022	Change in fair value recognised in OCI/CTA	Reclassified from OCI to profit and loss	Reclassified to non-financial assets	Tax impact	At 31 Dec 2022
Foreign exchange risk - Operational cash flow hedging	-21	-82	107	3	-5	2
Commodity price risk -						

Commodity price risk - Commodity swaps	21	-21	0
Interest rate risk - Interest rate swaps	13	-13	0

[1] Ineffectiveness booked in operating result.

Changes in fair values of hedged items and hedging instruments 2022

EUR million	Change in value of hedged item to determine hedge effectiveness	Change in value of outstanding hedging instruments	Ineffectiveness
Foreign exchange risk - Forward and option contracts (excluding option time value)[1]	77	-79	-2
Foreign exchange risk - Net investment hedges[2]	16	-16	0
Commodity price risk - Commodity swaps	-31	31	0
Interest rate risk - Interest rate swaps	-34	34	0

[1] Ineffectiveness booked in operating result.
[2] Comparison figures restated.

Breakdown of cash flow hedging reserve and net investment hedges in equity 2023

EUR million	At 1 Jan 2023	Change in fair value recognised in OCI/CTA	Reclassified from OCI to profit and loss	Reclassified to non-financial assets	Tax impact	At 31 Dec 2023
Foreign exchange risk - Operational cash flow hedging	2	20	8	2	-6	25
Commodity price risk - Commodity swaps	15	-21	2	0	4	-1
Interest rate risk - Interest rate swaps	23	-13	0	0	3	13
Interest rate and foreign exchange risk - Cross-currency swaps	1	0	-1	0	0	0
Cost of hedging reserve	-1	2	0	0	0	1
Total cash flow hedge reserve in OCI	39	-12	9	2	0	38
Foreign exchange risk - Net investment hedges	1	10	-2	0	-2	7
Total net investment hedges in CTA	1	10	-2	0	-2	7
Total hedging reserves	40	-3	7	2	-2	45

EUR million	At 1 Jan 2022	Change in fair value recognised in OCI/CTA	Reclassified from OCI to profit and loss	Reclassified to non-financial assets	Tax impact	At 31 Dec 2022
Commodity swaps	23	41	-52	0	3	15
Interest rate risk - Interest rate swaps	-4	33	0	0	-7	23
Interest rate and foreign exchange risk - Cross-currency swaps	-1	0	2	0	0	1
Cost of hedging reserve	-1	0	0	0	0	-1
Total cash flow hedge reserve in OCI	4	8	57	3	9	39
Foreign exchange risk - Net investment hedges	14	-16	0	0	3	1
Total net investment hedges in CTA	14	-16	0	0	3	1
Total hedging reserves	10	-24	57	3	-6	40

Financial impact of netting for instruments subject to an enforceable master netting agreement 2023

	Not offset in the statement of financial position			
EUR million	Gross amount of recognised financial instruments	Related liabilities (-) or assets (+) subject to master netting agreements	Collateral received (-) or given (+)	Net exposure
Derivative assets	57	-2	0	56
Derivative liabilities	-8	2	0	-6

Financial impact of netting for instruments subject to an enforceable master netting agreement 2022

	Not offset in the statement of financial position			
EUR million	Gross amount of recognised financial instruments	Related liabilities (-) or assets (+) subject to master netting agreements	Collateral received (-) or given (+)	Net exposure
Derivative assets	95	-30	0	65
Derivative liabilities	-51	30	0	-21

The Group enters into derivative transactions under master netting agreements agreed with each counterparty. In case of an unlikely credit event, such as default, all outstanding transactions under the agreements are terminated, and only a single net amount per counterparty is payable for settlement of all transactions. The agreements do not meet the criteria for offsetting in the statement of financial position, because offsetting is enforceable only in the occurrence of certain future events.

5.5 Shareholders' equity

Accounting principles

Dividend and capital repayments
Any dividend or capital repayment proposed by the Board is not deducted from distributable shareholders' equity until approved by the shareholders at the Annual General Meeting.

At 31 December 2023, shareholders' equity amounted to EUR 10,985 (12,532) million, compared to the market capitalisation on Nasdaq Helsinki of EUR 9,864 (10,503) million. The

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5.6 Cumulative translation adjustment and equity hedging

Accounting principles

The Group operates internationally and is thus exposed to currency risks arising from exchange rate fluctuations on the value of its net investment in non-euro entities. Exchange rate differences arising from the retranslation of net investments in foreign non-euro entities, and financial instruments that are designated as hedges of such investments, are recognised directly in equity in the cumulative translation adjustment (CTA). Movements in CTA (including related hedges) are shown in the consolidated statement of comprehensive income.

The cumulative translation adjustments related to disposed and liquidated entities are combined with their

market values of the shares were EUR 12.45 (13.90) for A shares and EUR 12.53 (13.15) for R shares. In 2023, EUR 473 (434) million of dividends was recognised as distributed to owners, corresponding to EUR 0.60 (0.55) per share.

The A shares entitle the holder to one vote per share, whereas R shares entitle the holder to one vote per ten shares with a minimum of one vote, though the accountable par of both shares is the same. A shares may be converted into R shares at any time at the request of a shareholder. At 31 December 2023, the Company's fully paid-up share capital, as entered in the Finnish Trade Register, was EUR 1,342 (1,342) million. The current accountable par of each issued share is EUR 1.70 (1.70).

At 31 December 2023, Directors and Group Leadership Team members owned 127 (127) A shares and 506,790 (363,604) R shares representing 0.02% of the total voting rights of the Company. Full details of Director and Executive interests are shown in note 3.2 Board and executive remuneration. A full description of Company share award programmes is shown in note 3.4 Employee variable compensation and equity incentive schemes. However, none of these have any impact on the issued share capital.

Change in number of shares

	A shares	R shares	Total
At 1 January 2022	176,244,049	612,375,938	788,619,987
Conversion of A shares to R shares	-5,769	5,769	–
At 31 December 2022	176,238,280	612,381,707	788,619,987
Conversion of A shares to R shares	-7,364	7,364	–
At 31 December 2023	176,230,916	612,389,071	788,619,987
Number of votes as at 31 December 2023[1]	176,230,916	61,238,907	237,469,823
Share capital at 31 December 2023, EUR million[2]	300	1,042	1,342

[1] R share votes are calculated by dividing the number of R shares by 10.
[2] No changes in share capital in 2023 or 2022.

gain or loss on disposal. The CTA is recycled in the consolidated income statement upon disposal and liquidation.

The Group policy for translation risk exposure is to minimise this by funding assets in the same currency whenever economically viable, but if matching the assets and liabilities in the same currency is not possible, hedging of the remaining translation risk may take place. The Group has also applied net investment loan accounting for certain intragroup loans for which settlement is neither planned nor likely to occur in the foreseeable future. These are in substance, a part of the entity's net investment in the foreign operation.

Cumulative translation adjustment - movement

EUR million	2023	2022
At 1 January		
CTA on net investments	-432	-235
Net investment hedges and loans	21	48
Income tax related to hedges and loans	-5	-8
Net CTA in equity	-415	-195
CTA movement OCI		
CTA movement	0	-244
CTA release through income statement	56	47
Net investment hedges and loans	-15	-27
Income tax related to hedges and loans	0	3
CTA movement OCI total	41	-220
At 31 December		
CTA on net investments	-376	-432
Net investment hedges and loans	6	21
Income tax related to hedges and loans	-4	-5
Net CTA in equity	-375	-415

In 2023 the release of cumulative translation adjustments to the income statement amounted to a loss of EUR 56 million and was related to disposals of Hylte and Nymolla sites in Sweden.

In 2022 the release to the income statement amounted to a loss of EUR 47 million and was related to disposal of Russian Packaging Solutions, Wood Products and Forest operations. After the release, there is no CTA remaining related to Russian ruble.

Cumulative translation adjustment - financial position

	Cumulative Translation Adjustment (CTA)		Net investment hedges and loans		Net CTA in the statement of financial position	
EUR million	2023	2022	2023	2022	2023	2022
Brazil	-242	-255	0	0	-242	-255
China	151	131	-4	10	147	141
Czech Republic	39	43	-9	-9	30	34
Poland	-22	-59	17	17	-5	-42
Sweden	-494	-543	33	47	-461	-497
Uruguay (USD)	191	248	-31	-44	160	204
Others	1	4	0	0	1	4
CTA before Tax	-376	-432	6	21	-370	-411
Taxes	0	0	-4	-5	-4	-5
Net CTA in Equity	-376	-432	2	17	-375	-415

Principal non-controlling interests

		2023	2023	2022
Company	Principal place of business	Ownership held by non-controlling interests, %	EUR million	
Stora Enso Pulp and Paper Asia AB Group	Sweden and China	See table below	-100	-31
Others	-		3	1
Total			-97	-30

Non-controlling interests in Stora Enso Pulp and Paper Asia AB Group

		2023			2022		
Company	Principal place of business	Direct-% of NCI	Indirect-% of NCI	Total-% of NCI	Direct-% of NCI	Indirect-% of NCI	Total-% of NCI

Hedging instruments and unrealised hedge losses

	Nominal amount (Currency)		Nominal amount (EUR)		Unrealised losses (EUR)	
EUR million	2023	2022	2023	2022	2023	2022
Borrowings						
USD area	300	300	271	281	-33	-41
Total hedging			271	281	-33	-41

The Group is currently only hedging its equity exposure to the US dollar arising from its joint operation located in Uruguay with USD functional currency.

5.7 Non-controlling interests

Accounting principles

Non-controlling interests are presented as a separate component within the equity of the Group in the consolidated statement of financial position. The proportionate shares of profit or loss attributable to non-controlling interests and to owners of the parent company are presented in the consolidated income statement after the net result for the period. Transactions between non-controlling interests and Group shareholders are transactions within equity and are thus shown in the statement of changes in equity. The measurement type of non-controlling interest is decided separately for each acquisition.

Non-controlling interests

EUR million	2023	2022
At 1 January	-30	-16
Acquisitions	2	0
Share of net result for the period	-74	-13
Share of other comprehensive income	5	0
At 31 December	**-97**	**-30**

Stora Enso Pulp and Paper Asia AB	Sweden and China	5.79		5.79	5.79		5.79
Guangxi Stora Enso Forestry Co Ltd	China	5.00	5.50	10.50	5.00	5.50	10.50
Stora Enso (Guangxi) Packaging Company Ltd	China	15.00	4.92	19.92	15.00	4.92	19.92
Stora Enso (Guangxi) Forestry Company Ltd	China	15.00	4.92	19.92	15.00	4.92	19.92

Summarised financial information in respect of the subsidiaries that have material non-controlling interests is set out below. Stora Enso's approximately 80% owned consumer board and forestry operations in Beihai, China have been classified as held for sale at the end of 2023. See note 6.1 Acquisitions, disposals and assets held for sale for more details.

Stora Enso Pulp and Paper Asia AB Group

EUR million	2023	2022
Assets	858	1,235
Equity attributable to the owners of the parent	-345	-165
Non-controlling interests[1]	-100	-31
Total equity	**-445**	**-196**
Liabilities	1,303	1,430
Net result for the period	-268	-74
Attributable to		
Owners of the parent	-194	-61
Non-controlling interests	-74	-13
Net result for the period	**-268**	**-74**
Net cash flow from operating activities	16	64
Net cash flow from investing activities	-37	-41
Net cash flow from financing activities	-23	4
Net cash flow	-43	27

[1] No dividends were paid to non-controlling interests in 2023 or 2022.

6 Group structure

6.1 Acquisitions, disposals and assets held for sale

Accounting principles

Acquired companies are accounted in accordance with the acquisition method whereby these companies are included in the consolidated financial statements from the date the control is obtained. Accordingly, the consideration transferred (including contingent consideration) and the acquired company's identifiable net assets are measured at fair value at the date of the acquisition. Transaction costs related to acquisition are expensed as incurred. The measurement type of non-controlling interest is decided separately for each acquisition, and measured either at fair value or non-controlling interest's proportionate share of the net assets. The excess of the consideration transferred, non-controlling interest and possible previously held equity interest over the fair value of net assets of the acquired company is recognised as goodwill.

The disposed companies are included in the consolidated financial statements up to the date when the control is lost. The gain or loss on disposal together with cumulative translation adjustments (CTA) related to disposed companies are recognised in the consolidated income statement at the date control is lost. Gains and losses on the disposal of a Group entity include any goodwill relating to the entity sold.

EUR million	2023
Net assets acquired	
Cash and cash equivalents	27
Property, plant and equipment	200
Intangible assets	222
Right-of-use assets	99
Working capital	5
Tax assets and liabilities	-56
Interest-bearing assets and liabilities	-233
Fair value of net assets acquired	**265**
Purchase consideration, cash part	612
Purchase consideration, contingent	0
Total purchase consideration	**612**
Fair value of net assets acquired	-265
Non-controlling interest	2

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Assets are classified as held for sale, if their carrying amounts will be recovered mainly through a sale transaction rather than through continuing use. The assets must be available for immediate sale in their present condition subject only to terms that are usual and customary for sale of such assets. Also, the sale must be highly probable and expected to be completed within one year from the date of classification. These assets and related liabilities are presented separately in the consolidated statement of financial position and measured at the lower of the carrying amount and fair value less costs to sell. Comparative information is not restated when classification is made. Assets classified as held for sale are not depreciated.

Acquisition of Group companies

De Jong Packaging Group

In September 2022, Stora Enso signed an agreement to acquire De Jong Packaging Group and the transaction was completed at the beginning of January 2023. De Jong Packaging Group is based in the Netherlands and is one of the largest corrugated packaging producers in the Benelux countries. De Jong Packaging Group is also active in containerboard production through the acquisition of the De Hoop mill in the Netherlands in 2021. De Jong Packaging Group has 16 sites in the Netherlands, Belgium, Germany and the UK and employs approximately 1,300 people. The acquisition will advance Stora Enso's strategic direction, increase its corrugated packaging capacity, accelerate revenue growth and build market share in renewable packaging in Europe. De Jong Packaging Group's products enhance Stora Enso's offering. The acquisition is expected to generate synergies over the cycle, mainly through sourcing, containerboard integration optimisation and commercial opportunities.

The shares of the acquired companies are mainly 100% owned, with certain units having minor non-controlling interests. The non-controlling interest is measured on the basis of the proportionate share of the identifiable net assets.

The cash purchase consideration was EUR 612 million, excluding a contingent earn-out component. The maximum amount of the earn-out component is EUR 45 million, which will be settled in cash in 2024 and is subject to De Jong Packaging Group achieving certain earnings thresholds. The contingent consideration is measured at its fair value and is estimated at EUR 0 million at the date of acquisition and at the of the year 2023.

The fair values of the identifiable assets and liabilities as of the acquisition date are presented in the table below.

Goodwill	349
Cash outflow on acquisitions	-612
Cash and cash equivalents of acquired subsidiaries	27
Cash flow on acquisition, net of acquired cash	**-584**

The post combination review was completed at the end of 2023 and therefore acquisition accounting is considered to be final. The fair values of the acquired assets, liabilities and goodwill in the table above are representing final acquisition accounting. Measurement period adjustments in 2023 included property, plant and equipment decrease of EUR 23 million, right-of-use assets decrease of EUR 5 million, working capital items decrease of EUR 10 million, tax items increase of EUR 14 million and goodwill increase of EUR 22 million.

The goodwill represent the expected synergies, mainly through sourcing, containerboard integration optimisation and commercial opportunities. The goodwill is allocated to divisions benefiting from the acquisition, Packaging Solutions and Packaging Materials. None of the goodwill recognised is expected to be deductible for tax purposes. Also, as part of the acquisition, customer related intangible assets have been recognised with a carrying amount of EUR 167 million and an amortisation period of 15 years, and marketing related intangible assets of EUR 39 million with amortisation periods of between 5–20 years. See note 4.1 Intangible assets, property, plant and equipment and right-of-use assets for more details.

For 2023, De Jong Packaging Group contributed sales of EUR 598 million and a net result of EUR -88 million to the Group's results, which mainly relate to the De Hoop unit closure impairment and provision charges with approximately EUR -58 million net result impact. The acquired units are included in Stora Enso Group's consolidated sales and net result from the beginning of 2023. The related transaction costs amounted to EUR 6 million and are presented in other operating expenses. The acquired units are reported in the Packaging Solutions and Packaging Materials divisions.

Stora Enso did not complete any company or business acquisitions in 2022.

Disposal of Group companies

EUR million	2023	2022
Net assets sold		
Cash and cash equivalents	29	90
Property, plant and equipment	271	8
Intangible assets	60	0
Working capital	-5	-1
Tax assets and liabilities	-28	6
Interest-bearing assets and liabilities	-96	-19
Net assets in disposed companies	**233**	**85**
Total disposal consideration	**266**	**70**
CTA release	-56	-47
Asset writedowns[1]	-219	-155
Loan impairments	0	-23
Transaction costs	-6	-4
Total net gain/loss	**-247**	**-244**

[1]2023 mainly related to units classified as held for sale. 2022 mainly related to writedowns in connection to Russia operation disposals and including also writedowns related to paper units which were classified as assets held for sale.

2023

gain on disposal was approximately EUR 52 million. The sold unit was part of the segment Other at the time of disposal.

Nymölla site

In January 2023, Stora Enso divested its 100% owned Nymölla paper production site in Sweden and all related assets to Sylvamo, a US-based global producer of uncoated paper. The Nymölla site's capacity is 485,000 metric tonnes of woodfree uncoated office papers. During 2022, the Group recognised asset write-downs of EUR 6 million related to the transaction. The selling price of the transaction was approximately EUR 49 million. The loss on disposal was approximately EUR 30 million, consisting mainly of cumulative translation adjustments (CTA) being released from equity to income statement. The sold unit was part of the segment Other at the time of disposal.

Russian operations

As communicated in 2022, Stora Enso sold all of its operations in Russia. Related to one forest operations unit, the disposal was expected to be completed in 2023, upon finalisation of certain formalities. These formalities were finalised in 2023 and did not have a significant impact on the Group. For more information about the valuation of remaining Russia-related receivables, see note 5.3 Interest-bearing assets and liabilities.

2022

Biocomposite business

In November 2023, Stora Enso divested its Biocomposite business to Sweden Timber, which also owns the paper production site at Hylte. The sold unit was part of the segment Other at the time of disposal. The transaction did not have a significant impact on the Group.

Wood Products DIY site

In August 2023, Stora Enso divested its 100% owned Wood Products DIY unit in the Netherlands to Megahout, a local importer, wholesaler and producer of a wide variety of wood products. The divestment reduced Stora Enso's planing capacity by 80,000 m^3. The sold unit was part of the Wood Products division. The transaction did not have a significant impact on the Group.

Hylte site

In April 2023, Stora Enso divested its 100% owned Hylte paper production site in Sweden and all related assets to Sweden Timber, a Swedish based sawmill and planing mill company. The Hylte site's annual capacity is 245,000 tonnes of newsprint paper. During 2022, the Group recognised asset write-downs of EUR 16 million related to the transaction. The selling price of the transaction was not significant. The loss on disposal was approximately EUR 45 million, consisting mainly of cumulative translation adjustments (CTA) being released from equity to the income statement. The sold unit was part of the segment Other at the time of disposal.

Maxau site

In February 2023, Stora Enso divested its 100% owned the Maxau paper production site in Germany and all related assets to Schwarz Group, one of the top retailers in the world. The transaction reduced Stora Enso's annual supercalendered paper (SC paper) capacity by 530,000 tonnes. The selling price of the transaction was approximately EUR 211 million and the

Kvarnsveden site

In December 2022, Stora Enso divested its 100% owned Kvarnsveden site in Sweden to Northvolt, a European supplier of sustainable battery cells. Due to structural decline in demand for graphical paper, in April 2021 Stora Enso announced a plan to close its Kvarnsveden paper site and the production was ended in September 2021. The site will be developed into a battery manufacturing plant, reusing and refurbishing the existing facilities and site infrastructure. The sold unit was part of segment Other at the time of disposal. The transaction did not have a significant impact on the Group.

Russian operations - Wood Products and Forest

In July 2022, Stora Enso divested its two Nebolchi and Impilahti sawmills in Russia to local management. In addition, the divestment included Russian forest operations which supplies wood to the sawmills. The disposed sawmill sites are located in Novgorod and Karelia and have a total annual capacity of 350,000 m^3 of sawn timber, including 65,000 m^3 of processed timber and 65,000 tonnes of pellets. Russian forest operations managed long-term harvesting rights for around 370,000 hectares. The divested seven legal entities were mainly 100% owned, with exception of one unit that was 99.48% owned. Related to one forest operations unit, the disposal will be completed in 2023, upon finalisation of certain formalities. During 2022, the Group recognised asset write-downs of EUR 74 million (mainly fixed assets, inventories and trade receivables) related to the transaction. About two thirds of the sale consideration is to be received in instalments at future dates. The loss on disposal was EUR 24 million, including cumulative translation adjustments (CTA) being released from equity to income statement. In addition, there were impairments of loan receivables of EUR 23 million related to the transaction. The sold units were part of the Wood Products and Forest divisions.

Russian operations - Packaging Solutions

In May 2022, Stora Enso divested its three 100% owned corrugated packaging plants in Russia to local management. The divested three packaging plants are located in Lukhovitsy, Arzamas and Balabanovo and have a total annual capacity of 395 million m^2 of corrugated packaging. The sites primarily produce corrugated packaging in the domestic Russian market. During 2022, the Group recognised asset write-downs of EUR 42 million (mainly fixed assets, inventories and trade receivables) related to the transaction. The sale consideration is to be received in instalments at future dates. The loss on disposal was approximately EUR 49 million, consisting mainly of cumulative translation adjustments (CTA) being released from equity to income statement. The sold units were part of the Packaging Solutions division.

Vlar Papier

In February 2022, Stora Enso divested its 100% shareholdings in Vlar Papier NV in Belgium. The sold company was part of the Paper division at the time of disposal (presented as part of the segment Other due to the segment changes in 2023). The transaction did not have a significant impact on the Group.

Assets held for sale

EUR million	2023	2022
Property, plant and equipment	310	261
Intangible assets	20	55
Right-of-use assets	198	2
Forest assets	184	0
Inventories	79	91

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Current operative receivables	48	104
Assets held for sale	**839**	**514**

Non-current operative liabilities	0	42
Current operative liabilities	99	163
Tax liabilities	0	28
Interest-bearing liabilities	571	4
Liabilities related to assets held for sale	**671**	**237**

As announced in December 2022, Stora Enso has initiated a sales process for a divestment of its consumer board production site and forestry operations in Beihai, China, which are part of the Packaging Materials division. Stora Enso's Beihai production site started operations in 2016. It has a mechanical pulp mill and a consumer board line serving the Chinese market. The annual production capacity is 250,000 tonnes of mechanical pulp and 550,000 tonnes of consumer board. Stora Enso also operates about 70 thousand hectares of land in the Guangxi region for eucalyptus plantations. Stora Enso owns approximately 80% of the production site and forest operations. In accordance with the progress in the ongoing divestment process, the operations were classified as held for sale at the end of 2023 and the transaction is expected to be completed in 2024. In 2023 and in connection to the potential disposal transaction, the Group recognised EUR 202 million of asset writedowns.

Assets held for sale at the end of 2022 included the Maxau, Nymölla and Hylte sites.

6.2 Group companies

Subsidiaries	Country	Group ownership, % 2023	Group ownership, % 2022
A/O Ladenso	Russia	0.00	100.00
Anjala Fiber & Energy Oy	Finland	100.00	100.00
AS Stora Enso Latvija	Latvia	100.00	100.00
Bangma Productie B.V.	Netherlands	100.00	0.00
Bangma Verpakking B.V.	Netherlands	100.00	0.00
Bergnät 1 AB	Sweden	100.00	100.00
Beta Skog 1 AB	Sweden	100.00	100.00
Cellutech AB	Sweden	100.00	100.00
Centrum Dystrybucji i Obróbki Drewna Sp. z.o.o.	Poland	100.00	100.00
Changzhou Stora Enso Packaging Technology Co. Ltd.	China	100.00	100.00
DanFiber A/S	Denmark	51.00	51.00
De Jong Box B.V.	Netherlands	100.00	0.00
De Jong Kasser Ehf.	Iceland	100.00	0.00
De Jong Packaging Ltd.	UK	100.00	0.00
De Jong Verpackung GmbH	Germany	100.00	0.00
De Jong Verpakking B.V.	Netherlands	100.00	0.00
DJV Holding B.V.	Netherlands	100.00	0.00
DJV Strategisch Advies B.V.	Netherlands	100.00	0.00
Dongguan Stora Enso Inpac Packaging Co. Ltd.	China	100.00	100.00
DuraSense AB (formerly Box Inc.)	Sweden	100.00	100.00
eCorrugated Ltd.	UK	100.00	0.00
Efora Oy	Finland	0.00	100.00
Enso Alueverkko Oy	Finland	100.00	100.00
Euro - Timber, spol. s.r.o.	Slovak Republic	100.00	100.00
Felco B.V.	Netherlands	100.00	0.00
Stora Enso China Packaging (HK) Co., Limited	Hong Kong	100.00	100.00
Stora Enso (Guangxi) Forestry Company Ltd.	China	80.08	80.08
Stora Enso (Guangxi) Packaging Company Ltd.	China	80.08	80.08
Stora Enso (HK) Ltd	Hong Kong	100.00	100.00
Stora Enso (Southern Africa) (Pty) Ltd	South Africa	100.00	100.00
Stora Enso AB	Sweden	100.00	100.00
Stora Enso Amsterdam B.V.	Netherlands	100.00	100.00
Stora Enso Arapoti Holding Florestal S.A.	Brazil	100.00	100.00
Stora Enso Australia Pty Ltd	Australia	100.00	100.00
Stora Enso Belgium NV	Belgium	100.00	100.00
Stora Enso Bergskog 2 AB	Sweden	100.00	100.00
Stora Enso Bergskog 3 AB	Sweden	100.00	100.00
Stora Enso Bois SAS	France	100.00	100.00
Stora Enso Brasil Ltda	Brazil	100.00	100.00
Stora Enso China Co., Ltd	China	100.00	100.00
Stora Enso China Holdings AB	Sweden	100.00	100.00
Stora Enso Corbehem SAS	France	100.00	100.00
Stora Enso Danmark A/S	Denmark	100.00	100.00
Stora Enso De Hoop B.V.	Netherlands	100.00	0.00
Stora Enso Eesti AS	Estonia	100.00	100.00
Stora Enso Espana S.A.U	Spain	100.00	100.00
Stora Enso Fors AB	Sweden	100.00	100.00
Stora Enso France SAS	France	100.00	100.00
Stora Enso Germany GmbH	Germany	100.00	100.00
Stora Enso Holding B.V.	Netherlands	100.00	0.00
Stora Enso Holding France SAS	France	100.00	100.00
Stora Enso Holdings UK Ltd	UK	100.00	100.00
Stora Enso Hylte Bruk AB	Sweden	0.00	100.00

Gaster Wellpappe GmbH	Germany	100.00	0.00
Green Packaging System B.V.	Netherlands	100.00	0.00
Guangxi Stora Enso Forestry Co. Ltd.	China	89.50	89.50
Herman Andersson Oy	Finland	100.00	100.00
HESPOL Sp. z.o.o.	Poland	100.00	100.00
Jiashan Stora Enso Inpac Packaging Co. Ltd.	China	100.00	100.00
Karpack B.V.	Netherlands	100.00	0.00
KPMB Agri BV	Belgium	100.00	0.00
KPMB NV	Belgium	100.00	0.00
Lignode AB	Sweden	100.00	100.00
Lignode Holding Oy	Finland	100.00	100.00
Lignode Oy	Finland	100.00	100.00
Lumipaper Ltd	UK	100.00	100.00
Lumipaper NV	Belgium	100.00	100.00
Mena Wood Oy Ltd	Finland	0.00	100.00
PTI Packmittelechnik GmbH	Germany	100.00	0.00
Pulse Anilox Cleaning B.V.	Netherlands	100.00	0.00
Rudico B.V.	Netherlands	100.00	0.00
Rudico Groep B.V.	Netherlands	100.00	0.00
Rudico Holding B.V.	Netherlands	100.00	0.00
Selfly Store Oy	Finland	100.00	100.00
Skogsutveckling Syd AB	Sweden	66.67	66.67
Stora Enso Ingerois Oy	Finland	100.00	100.00
Stora Enso Inpac Corrugated Packaging (Hebei) Company Limited	China	100.00	100.00
Stora Enso Inpac Hebei Protective Packaging Co., Ltd.	China	100.00	100.00
Stora Enso Inpac Packaging Co. Ltd	China	100.00	100.00
Stora Enso International Oy	Finland	100.00	100.00
Stora Enso Italia Srl	Italy	100.00	100.00
Stora Enso Japan K.K.	Japan	100.00	100.00
Stora Enso Kvarnsveden Industriutveckling AB	Sweden	100.00	100.00
Stora Enso Langerbrugge NV	Belgium	100.00	100.00
Stora Enso LLC	Ukraine	100.00	100.00
Stora Enso Maxau GmbH	Germany	0.00	100.00
Stora Enso Mexico S.A.	Mexico	100.00	100.00
Stora Enso Middle East DMCC	Emirates	100.00	100.00
Stora Enso Narew Sp.z.o.o.	Poland	100.00	100.00
Stora Enso North American Sales, LLC	USA	100.00	100.00
Stora Enso Nymölla Paper AB	Sweden	0.00	100.00
Stora Enso Oulu Oy	Finland	100.00	100.00
Stora Enso Packaging AB	Sweden	100.00	100.00
Stora Enso Packaging AS	Estonia	100.00	100.00
Stora Enso Packaging Oy	Finland	100.00	100.00
Stora Enso Packaging SIA	Latvia	100.00	100.00
Stora Enso Packaging UAB	Lithuania	100.00	100.00
Stora Enso Paper AB	Sweden	100.00	100.00
Stora Enso Paper France SAS	France	100.00	100.00
Stora Enso Paper GmbH	Germany	100.00	100.00
Stora Enso Paper Oy	Finland	100.00	100.00
Stora Enso Paper UK Ltd	UK	100.00	100.00
Stora Enso Pension Trust Ltd.	UK	100.00	100.00
Stora Enso Poland S.A.	Poland	100.00	100.00
Stora Enso Polska Sp.z.o.o.	Poland	100.00	100.00
Stora Enso Portugal Lda	Portugal	100.00	100.00
Stora Enso Praha s.r.o.	Czech Republic	100.00	100.00
Stora Enso Publication Papers Oy Ltd	Finland	100.00	100.00
Stora Enso Pulp AB	Sweden	100.00	100.00
Stora Enso Pulp and Paper Asia AB	Sweden	94.21	94.21
Stora Enso Skog AB	Sweden	100.00	100.00
Stora Enso Skog AS	Norway	100.00	100.00
Stora Enso Skog och Mark AB	Sweden	100.00	100.00
Stora Enso South East Asia Pte Ltd	Singapore	100.00	100.00
Stora Enso Timber AB	Sweden	100.00	100.00
Stora Enso Timber DIY Products B.V.	Netherlands	0.00	100.00
Stora Enso Treasury Stockholm AB	Sweden	100.00	100.00
Stora Enso Turkey Karton Ve Kağıt Ticaret Anonim Sirketi	Turkey	100.00	100.00
Stora Enso UK Limited	UK	100.00	100.00
Stora Enso US Inc.	USA	100.00	100.00
Stora Enso Veitsiluoto Oy	Finland	100.00	100.00
Stora Enso Wood Products d.o.o. Koper	Slovenia	100.00	100.00
Stora Enso Wood Products GmbH	Austria	100.00	100.00
Stora Enso Wood Products Japan K.K.	Japan	100.00	100.00
Stora Enso Wood Products Planá s.r.o.	Czech Republic	100.00	100.00
Stora Enso Wood Products Sp.z.o.o.	Poland	100.00	100.00
Stora Enso Wood Products Zdirec s.r.o.	Czech Republic	100.00	100.00
Stora Enso WP Bad St. Leonhard GmbH	Austria	100.00	100.00
Stora Enso WP HV s.r.o.	Czech Republic	100.00	100.00

Associated companies	Country	Group ownership, % 2023	Group ownership, % 2022
A.C.D.F. Industrie	France	35.00	35.00
Honkalahden Teollisuuslaituri Oy	Finland	50.00	50.00
Industriewater Eerbeek B.V.	Netherlands	37.50	0.00
Kemira Cell Sp.z.o.o.	Poland	45.00	45.00
Metsäteho Oy	Finland	23.95	23.95
Oy Keskuslaboratorio - Centrallaboratorium Ab	Finland	32.24	32.24
Perkaus Oy	Finland	33.33	33.33
SELF Logistika SIA	Latvia	50.00	50.00
Steveco Oy	Finland	34.39	34.39
Stora Enso Vind 1 AB	Sweden	50.00	0.00
Suomen Keräyspaperi Tuottajayhteisö Oy	Finland	40.09	40.09
SweTree Technologies AB	Sweden	23.83	23.83
Tornator Oyj	Finland	41.00	41.00
Trätåg AB	Sweden	50.00	50.00
TreeToTextile AB	Sweden	28.94	28.94
T&B Containers Holdings Ltd.	UK	30.00	0.00
ZMP GMBH	Austria	30.00	30.00
Österbergs Förpackningsmaskiner AB	Sweden	50.00	50.00

Other companies	Country	Group ownership, % 2023	Group ownership, % 2022
AMEXCI AB	Sweden	9.10	9.10
Arevo AB	Sweden	12.73	7.89
CarbonScape Ltd	New Zealand	15.00	0.00
Clic Innovation Oy	Finland	9.87	9.87
Combient AB	Sweden	5.40	5.40
East Office of Finnish Industries Oy	Finland	4.00	4.00
Packages Limited	Pakistan	6.40	6.40
Pohjolan Voima Oy	Finland	15.71	15.71

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Stora Kopparbergs Bergslags AB	Sweden	100.00	100.00
Sumarbox B.V.	Netherlands	100.00	0.00
Sydved AB	Sweden	66.67	66.67
Södra Norrlands Hamnbolag nr 1 AB	Sweden	100.00	100.00
Twinpack B.V.	Netherlands	100.00	0.00
UAB Stora Enso Lietuva	Lithuania	100.00	100.00
Virdia B2X, LLC	USA	100.00	100.00
Virdia LLC	USA	100.00	100.00
Virdia Ltd	Israel	100.00	100.00
Wellpappenfabrik Gesellschaft GmbH	Germany	80.00	0.00
PulPac AB	Sweden	10.30	10.30
Radioskog AB	Sweden	10.00	10.00
RK Returkartong AB	Sweden	8.40	8.40
SSG Standard Solutions Group AB	Sweden	14.29	14.29
Suomen Puukauppa Oy	Finland	10.74	10.74
Sölvesborgs Stuveri & Hamn AB	Sweden	0.00	7.36
T&B Containers Ltd.	UK	30.00	0.00
Union Developement Recup. Pac.	France	10.70	10.70

Joint operations	Country	Group ownership, % 2023	Group ownership, % 2022
Celulosa y Energia Punta Pereira S.A.	Uruguay	50.00	50.00
El Esparragal Asociación Agraria de Responsabilidad Limitada	Uruguay	50.00	50.00
Eufores S.A.	Uruguay	50.00	50.00
Forestal Cono Sur S.A.	Uruguay	50.00	50.00
Ongar S.A.	Uruguay	50.00	50.00
Stora Enso Uruguay S/A	Uruguay	50.00	50.00
Terminal Logistica e Industrial M`Bopocua S.A.	Uruguay	50.00	50.00
Veracel Celulose SA	Brazil	50.00	50.00
Zona Franca Punta Pereira S.A.	Uruguay	50.00	50.00

6.3 Related party transactions

Balances and transactions between Stora Enso and its subsidiaries and joint operations have been eliminated on consolidation and are not disclosed in this note. For the other entities which are classified as the Group's related parties and disclosed in this note, their subsidiary companies are also considered as related parties.

The Group has classified Solidium Oy as a related party. Solidium Oy is entirely owned by the State of Finland, and it owned 10.7% of Stora Enso shares and 27.3% of all votes on 31 December 2023. The Group has applied an exemption, outlined in the paragraph 25 of IAS 24, not to disclose transactions and outstanding balances with government-related entities.

The Group has classified FAM AB and Wallenberg Investments AB as related parties. FAM AB owned 10.2% of Stora Enso shares and 27.3% of all votes on 31 December 2023. FAM AB is wholly owned by Wallenberg Investments AB.

The key management personnel of the Group are the members of the Group Leadership Team and the Board of Directors. The compensation of key management personnel is presented in note 3.2 Board and executive remuneration.

In the ordinary course of business, the Group engages in transactions on commercial terms with associated companies, joint arrangements and other related parties that are not any more favourable than those that would be available to other third parties – with the exception of Veracel. Stora Enso intends to continue with transactions on a similar basis with its associated to the said related party amounted to EUR 1 (0) million. At the end of 2023 the Group had EUR 6 (6) million of open payables to the related party.

Stevedoring

The Group owns 34.4% of shares in Steveco Oy, a Finnish company engaged in loading and unloading vessels. The other shareholders in Steveco are UPM-Kymmene, Finnlines and Myllykoski. The stevedoring services are provided by Steveco at market prices and in 2023 amounted to EUR 24 (27) million.

companies and joint arrangements. Further details of the transactions with associated companies are shown in note 4.3 Associates.

Group companies, including subsidiary companies and joint operations, are listed in note 6.2 Group companies.

Forest assets and wood procurement

The Group has a 41,0% interest in Tornator with the remaining 59,0% being held mainly by Finnish institutional investors. Stora Enso has long-term purchase contracts of wood at market prices with the Tornator Group, and in 2023 purchases of 2 (3) million cubic metres came to EUR 150 (126) million.

The Group procures wood at market prices from Kopparfors Fastigheter AB, a fully owned subsidiary of Kopparfors Skogar AB, which is wholly owned by FAM AB. In 2023 the purchases from the related party amounted to EUR 21 (23) million and the sales of services by Stora Enso

7 Other

7.1 Commitments and contingencies

Accounting principles

Guarantees

The guarantees entered into with financial institutions and other credit guarantors generally oblige the group to make payment in the event of default by the borrower. The guarantees have an off-balance sheet credit risk representing the accounting loss that would be recognised at the reporting date if the counterparties fail to perform completely as contracted. The credit risk amounts are equal to the contract sums, assuming the amounts are not paid in full and are irrecoverable from other parties.

Commitments

EUR million	2023	2022
On own behalf		
Guarantees	18	14
Other commitments	6	0
On behalf of associated companies		
Guarantees	5	5
On behalf of others		
Guarantees	16	5
Other commitments	0	36
Total	44	60

Guarantees	38	24
Other commitments	6	36
Total	44	60

In 2023, the Group's commitments amounted to EUR 44 (60) million. In addition, the parent company Stora Enso Oyj has guaranteed the liabilities of many of its subsidiaries and joint operations up to EUR 734 (826) million as of 31 December 2023.

Capital commitments

EUR million	2023	2022
Total	683	593

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amount can be estimated reliably and for which the related future cost is considered to be at least probable.

Stora Enso has been granted various investment subsidies and has given certain investment commitments in several countries e.g., Finland, China and Sweden. If commitments to planning conditions are not met, local officials may pursue administrative measures to reclaim some of the formerly granted investment subsidies or to impose penalties on Stora Enso, the outcome of such a process could result in adverse financial impact on Stora Enso.

The Group announced its intention in December 2022 to divest its consumer board production and forest operations sites in Beihai, China. As previously disclosed, Stora Enso has been granted investment subsidies and has given certain investment commitments in China. There is a risk that the majority owned local Chinese company may be subject to a claim based on alleged costs resulting from certain uncompleted investment commitments. Given the specific mitigating circumstances surrounding the investment case as a whole, Stora Enso does not consider it to be probable that this situation would result in an outflow of economic benefits that would be material to the Group. The Company continues to monitor the situation as the divestment process proceeds.

Stora Enso is party to legal proceedings that arise in the ordinary course of business and which primarily involve claims arising out of commercial law. The management does not consider that liabilities related to such proceedings before insurance recoveries, if any, are likely to be material to the Group's financial condition or results of operations.

Veracel

On 11 July 2008, Stora Enso announced that a federal judge in Brazil had issued a decision claiming that the permits issued by the State of Bahia for the operations of Stora Enso's joint operations company Veracel were not valid. The judge also ordered Veracel to take certain actions, including reforestation with native trees on part of Veracel's plantations and a possible fine of, at the time of the decision, BRL 20 (EUR 4) million. Veracel disputes the decision and has filed an appeal against it. Veracel operates in full compliance with all Brazilian laws and has obtained all the necessary environmental and operating licences for its industrial and forestry activities from the relevant authorities. In November 2008, a Federal Court suspended the effects of the decision. No provisions have been recorded in Veracel's or Stora Enso's accounts for the reforestation or the possible fine.

7.2 Events after the reporting period

The were no significant adjusting or non-adjusting events after the reporting period end.

Capital expenditure commitments are not recognised in the balance sheet and these include the Group's share of direct capital expenditure contracts in joint operations. The largest commitments in relation to capital expenditure relate to the mill conversion at Oulu site in Finland.

Contingent liabilities

Stora Enso has undertaken significant restructuring actions in recent years which have included the divestment of companies, sale of assets and mill closures. These transactions include a risk of possible environmental or other obligations the existence of which would be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the Group. A provision has been recognised for obligations for which the related

Parent company Stora Enso Oyj financial statements

Parent company income statement

		Year ended 31 December	
EUR million	Note	2023	2022
Sales	2	2,809	3,325
Changes in inventories of finished goods and work in progress +/-		-43	86
Production for own use		3	2
Other operating income	3	658	703
Materials and services	4	-1,985	-2,288
Personnel expenses	5	-341	-320
Depreciation and impairment	6	-274	-133
Other operating expenses	7	-1,283	-889
		3,265	2,839
Operating profit		**-455**	**485**
Financial income and expenses	9	278	290
Profit before Appropriations and Taxes		-177	775
Appropriations	10	222	-331
Income tax expense	11	0	-28
Profit for the period		**45**	**416**

Parent company statement of financial position

		As at 31 December	
EUR million	Note	2023	2022
Assets			
Non-current assets			
Intangible assets	13	53	49
Tangible assets	13	917	1,032
Investments	14	8,596	8,187
Non-current assets total		**9,567**	**9,269**
Current assets			
Inventories	15	473	574
Short-term receivables	16	2,257	1,278
Financial securities	17	1,550	1,130
Cash in hand and at bank		661	1,117
Total current assets		**4,941**	**4,099**
Total assets		**14,508**	**13,368**
Equity and liabilities			
Equity	18		
Share capital		1,342	1,342
Share premium		3,639	3,639
Fair value reserve		14	25
Invested non-restricted equity fund		633	633
Retained earnings		864	922
Profit for the period		45	416
Total equity		**6,537**	**6,977**
Accumulated appropriations	19	201	290
Obligatory provisions	20	36	25
Liabilities			
Non-current liabilities	22	4,123	2,265
Current liabilities	23	3,611	3,811
Total liabilities		**7,734**	**6,076**

Total equity and liabilities	14,508	13,368

Parent company cash flow statement

	Year ended 31 December	
EUR million	2023	2022
Cash provided by operating activities		
Profit for the period	45	416
Adjustments and reversal of non-cash items:		
Direct taxes	0	28
Appropriations	-222	331
Depreciation according to plan and impairment	274	133
Unrealised foreign exchange gains and losses	38	18
Other non-cash items	15	13
Financial income and expenses	-278	-290
Change in working capital:		
Increase(-)/decrease(+)		
in current non-interest-bearing receivables	48	-198
Increase(-)/decrease(+) in inventories	101	-187
Increase(+)/decrease(-)		
in current non-interest-bearing liabilities	-154	199
Cash flow from operating activities before financial items and taxes	-133	463
Interest received from operating activities	181	58
Interest paid from operating activities	-173	-79
Dividends received from operating activities	371	626
Other financial items, net	36	-57
Direct taxes paid	-23	-2
Cash provided by operating activities	**259**	1,009
Net cash provided by investing activities		
Investments in tangible and intangible assets	-166	-186
Capital gains from sale of tangible and intangible assets	0	0
Investments in other financial assets	-16	0
Investments in subsidiary shares and other capital contributions	0	-374
Proceeds from disposal of shares in associated companies and repayment of capital	0	10
Proceeds from disposal of other investments	0	0
Payments of non-current loan receivables	-2,184	-626
Proceeds from non-current loan receivables	780	944
Net cash provided by investing activities	-1,586	-233

	Year ended 31 December	
EUR million	2023	2022
Cash flow from financing activities		
Proceeds from (issue of) long-term liabilities	3,468	350
Proceeds from (payment of) long-term liabilities	-1,623	-560
Proceeds from (issue of) short-term liabilities	164	1,567
Proceeds from (payment of) short-term liabilities	-249	-546
Dividends paid	-472	-434
Group contributions received	0	-275
Cash flow from financing activities	1,287	121
Net change in cash and cash equivalents	-39	897
Translation differences	3	-1
Cash and cash equivalents at start of year	2,247	1,350
Cash and cash equivalents at year end	2,211	2,247
Cash and cash equivalents at year end includes:		
Financial securities	1,550	1,130
Cash in hand and at bank	661	1,117
Cash and cash equivalents total	2,211	2,247

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Notes to the parent company financial statements

Note 1 Accounting principles

The financial statements of Stora Enso Oyj have been prepared in accordance with the Finnish Accounting Act and other current rules and regulations concerning financial statements in Finland. The financial statements are presented in millions of euros and rounded and therefore the sum of individual figures might deviate from the presented total figure.

Derivative contracts

Stora Enso is exposed to several financial market risks that the Group is responsible for managing under policies approved by the Board of Directors. The objective is to have cost-effective funding in Group companies and to manage financial risks using financial instruments in order to decrease earnings volatility. The main exposures for the Group are interest rate risk, currency risk, funding risk and commodity price risk, especially for fiber and energy. The parent company manages these risks centrally in the Group. The Group's risk management principles are presented in more detail in note 5.1 Financial Risk Management to the consolidated financial statements.

Derivative contracts are measured at fair value on the balance sheet. Derivatives with external counterparties that are subject to hedge accounting are recognised as financial assets and liabilities at fair value through the income statement in the same manner as the parent company's derivatives with other Group companies as counterparties. The parent company's derivative contracts that are used to hedge the parent company's own cash flow are measured at fair value, and the change in fair value (effective part) is recognised, in line with hedge accounting principles, in the fair value reserve in equity on the balance sheet, while the ineffective part is recognised in the parent company's income statement. The change in fair value of derivatives not included in hedge accounting is entered immediately in the income statement.

Interest income and expenses related to derivatives that are used to manage the interest rate risk are allocated over the contract period and are used to adjust interest expenses related to hedged loans. Option premiums are recognised as advance payments until the options mature.

With regard to derivatives, more information about the measurement principles, fair values and changes in fair value is provided in note 25 Financial instruments.

Foreign currency transactions

Transactions in foreign currencies are recorded at the rate of exchange prevailing at the transaction date, but at the end of the month foreign-currency-denominated receivables and liabilities are translated using the month-end exchange rate.

Equity incentive schemes

The employees covered by the scope of Stora Enso Oyj's share-based incentive schemes are awarded with shares in the company. The awarded shares and the costs of the schemes are recognised as an expense in the income statement when the shares are delivered. The settlement covers taxes and similar changes incurred. The principles of the Group's share opportunity programmes are presented in more detail in note 3.4 Employee variable compensation and equity incentive schemes to the consolidated financial statements.

Pensions

Statutory pension security is arranged through employment pension insurance companies outside the Group. Some employees have additional pension security through life insurance companies outside the Group. Pension contributions are allocated in accordance with performance-based salaries and wages for the financial period.

Non-current assets

The balance sheet value of intangible and tangible assets is their direct acquisition cost less depreciation according to plan and any impairment. Depreciation according to plan is recognised for intangible and tangible assets, based on their expected useful lives.

Depreciation is based on the following useful lives:	
Buildings and structures	10–50 years
Production machinery and equipment	10–20 years
Light machinery and equipment	3–5 years
Intellectual property rights	3–20 years

No depreciation is recognised for land and water areas.

Interest in Group companies

Interest in the Group companies is measured at cost less any impairment losses. Interest in the Group companies is assessed for impairment annually.

The fair value of the subsidiary shares has been assessed mainly based on income approach, in which the fair value of investment is calculated based on the discounted cash flow model (DCF). Impairment need is assessed by comparing the fair value of the subsidiary shares to the book value in the parent company's balance sheet and possible write down is booked through profit or loss, if considered permanent in nature.

Loan receivables

Loan receivables are debt instruments with fixed or determinable payments that are not quoted on an active market. They are recorded initially at fair value and subsequently measured at an amortised cost. Investments in subsidiaries and other companies are measured at cost, or fair value in case the fair value is less than cost. Loan receivables are presented in the balance sheet item Investments. The loan receivables are mainly from Group companies.

Inventories

Inventories are measured at acquisition cost or at net realisable value if lower. Acquisition cost is determined using the FIFO method or the weighted average cost method. The cost of finished goods and work in progress comprises raw materials, direct labour, depreciation and other direct costs, as well as the related production overhead. Net realisable value is the estimated selling price less the costs of completion and sale.

Leasing

Leasing payments are recognised in other operating expenses. The remaining leasing payments under leasing agreements are presented in note 24 Commitments and Contingencies.

Expenditure on research and development

Expenditure on research and development is recognised as an expense for the financial period.

Income taxes

The tax expense on the income statement includes income taxes based on the taxable profit for the financial period and tax adjustments for previous periods. The parent company does not recognise deferred tax assets and liabilities, excluding derivatives, in its financial statements. Deferred tax assets and liabilities that can be recognised on the balance sheet are presented in note 21 Deferred tax liabilities and receivables.

Obligatory provisions

Future costs and losses that no longer generate corresponding income, to which the company is committed or by which the company is obligated, are recognised in the income statement according to their nature and in obligatory provisions on the balance sheet.

Emission rights

During 2023, 0.4 million tonnes of free emission allowances in accordance with the EU Emissions Trading Directive were allocated to the company. Emission allowances are recognised through a net cash cost basis, meaning that the difference between the actual emissions and the emission allowances received is recognised through profit or loss if the actual emissions are larger than the emission allowances received. During the financial period, the emissions emitted were estimated at 0.3 million tonnes. The emission rights purchased during the financial period are recognised in other operating expenses, and the emission rights sold during the financial period are recognised in other operating income.

At the end of the financial period, the market value of the emission rights was EUR 77.25 per tonne.

Comparability of the information for the financial period

Net sales of Stora Enso Oyj include the group's internal production and sales service charges. The parent company and certain group companies have agreed on allocation of profit based on the operating model of the group. The allocation of profit is presented as other operating income or expenses. The operating model of the Group came into effect in 2022.

The derivative accounts intended to hedge trade receivables and the accounts for the exchange rate differences of sales related to these hedges were transferred from net sales and other operating income to financial income and expenses during the 2023 financial period.

Note 2 Net sales by division and market area

EUR million	2023	2022
By division		
Packaging Materials	1,564	1,882
Biomaterials	351	296
Forest	596	700
Wood Products	158	228
Other	140	219
Total	2,809	3,325
Distribution by region		
Finland	1,256	1,361
Other Europe	888	1,076
North and South America	211	268
Asia and Oceania	279	381
Africa	99	118
Others	76	91
Total	2,809	3,325

Note 3 Other operating income

EUR million	2023	2022
Rent and equivalents	3	3
Gains on sale of fixed assets	0	0
Insurance compensation	0	0
Production and maintenance services	0	1
Subsidies, grants and equivalents	11	2
Administration services	64	60
Proceeds from sales of emission rights	75	52
Other operating income[1]	505	586
Total	658	703

[1] Other operating income in 2022 and 2023 consists mainly of items relating to the division based operating model in the Group.

Note 4 Materials and services

EUR million	2023	2022
Materials and supplies		
Purchases during the period	1,402	1,822
Change in inventories +/-	59	-105
External services	524	571
Total Materials and Services	1,985	2,288

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Note 5 Personnel expenses and average number of employees

EUR million	2023	2022
Salaries and fees	278	263
Statutory employer costs		
Pensions	52	47
Other personnel costs	10	9
Total	341	320

Remuneration for the CEO and the members of the Board of Directors

Remuneration for the CEO and the members of the Board of Directors is presented in note 3.2 Board and executive remuneration to the consolidated financial statements.

Pension liabilities for the CEO

Pension liabilities for the CEO are presented in note 3.2 Board and executive remuneration to the consolidated financial statements.

Receivables from management

There were no loan receivables from the company's management.

Average number of employees	2023	2022
Number of employees during the financial period	4,048	4,066

Note 6 Depreciation and impairment

EUR million	2023	2022
Depreciation according to plan	126	133
Impairment of fixed assets	148	1
Total	274	133

Depreciation and amortisation on each item in the statement of financial position is included under intangible and tangible assets.

Note 7 Other operating expenses

EUR million	2023	2022
Product freight	204	267
Sales commissions	60	55
Rental costs	22	20
Administration and office services	330	319
Insurance premiums	18	12
Other personnel expenses	18	17
Public and other relations	4	4
Emission rights expenses	80	40
Other operating expenses[1]	563	154
Merger loss	4	0
Total	1,283	889

[1] Other operating expenses in 2022 and 2023 consist mainly of items relating to the division based operating model in the Group.

Note 8 Auditors' fees

EUR million	2023	2022
Audit fees	1	1
Other audit-related fees	0	0
Tax fees	0	0
Other fees	0	0
Total	2	2

Note 9 Financial income and expenses

EUR million	2023	2022
Dividend income		
From Group companies	346	601
From associated companies	25	25
From others	1	0
Total	371	626
Interest income from non-current investments		
From Group companies	96	52
From associated companies	1	0
From others	1	2
Total	98	55
Other interest and financial income		
From Group companies	48	20
From associated companies	0	9
From others	54	14
Total	102	44
Total financial income	571	725
Interest and other financial expenses		
To Group companies	-69	-38
Other financial expenses	-149	-93
Total	-217	-131
Impairment on investments		
Impairment on investments in non-current assets	-75	-305
Total financial expenses	-293	-435
Total financial income and expenses	278	290
The item "Financial Income and Expenses" includes exchange rate gains/losses (net)	15	-17

Note 10 Appropriations

EUR million	2023	2022
Difference between depreciation according to plan and depreciation recognised in taxation	89	-56
Group contributions received	133	0
Group contributions paid	0	-275
Total appropriations	222	-331

Note 11 Income tax expense

EUR million	2023	2022
Income taxes from primary operations for the period	0	-28
Total income tax	0	-28

Note 12 Environmental expenses

EUR million	2023	2022
Materials and services	40	43
Personnel expenses	3	3
Depreciation and impairment	29	12
Total	72	58

Air quality protection	19	9
Wastewater treatment	34	25
Waste management	12	15
Soil and groundwater protection	1	1
Other environmental protection measures	5	7
Total	72	58

Note 13 Intangible and tangible assets

Intangible assets

EUR million	Intellectual property rights	Other non-current expenditure	Advance payments and acquisitions in progress	Total
Acquisition cost 1 Jan	171	23	14	208
Increases	3	2	17	23
Decreases	0	0	0	0
Reclassification	7	2	-7	1
Acquisition cost 31 Dec	180	26	25	231
Accumulated depreciation and impairment 1 Jan	-138	-21	0	-158
Accumulated depreciation on decreases and reclassifications	0	0	0	0
Depreciation for the period	-14	-1	0	-15
Impairments	-2	-3	0	-6
Accumulated depreciation 31 Dec	-153	-25	0	-178
Book value on 31 December 2023	27	2	25	53
Book value on 31 December 2022	33	2	14	49

Tangible assets

EUR million	Land and water areas	Buildings and structures	Plant and equipment	Other tangible assets	Advance payments and acquisitions in progress	Total
Acquisition cost 1 Jan	18	605	2,853	181	107	3,764
Increases	0	13	78	1	49	141
Decreases	0	-3	-8	0	0	-10
Reclassification	0	10	83	1	-96	-1
Acquisition cost 31 Dec	18	626	3,006	184	59	3,893
Accumulated depreciation and impairment 1 Jan	0	-433	-2,140	-160	0	-2,734
Accumulated depreciation on decreases and reclassifications	0	3	8	0	0	10
Depreciation for the period	0	-14	-95	-2	0	-112
Impairment for the period	0	-22	-119	-2	0	-142
Accumulated depreciation 31 Dec	0	-466	-2,347	-165	0	-2,977
Increase in value 1 Jan	2	0	0	0	0	2
Increase in value 31 Dec	2	0	0	0	0	2
Book value on 31 December 2023	20	160	659	19	59	917
Book value on 31 December 2022	20	173	712	21	107	1,032

Production plant and equipment

Book value on 31 December 2023	626
Book value on 31 December 2022	693

Advance payments and acquisitions in progress

EUR million	Intangible assets	Buildings and structures	Plant and equipment	Total
Acquisition cost 1 Jan	14	5	101	121
Increases	17	1	47	66
Reclassification	-7	-5	-91	-104
Acquisition cost 31 Dec 2023	25	1	58	84

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Capitalised environmental expenditure

Tangible assets

31 Dec 2023

EUR million	Land and water areas	Buildings and structures	Plant and equipment	Other tangible assets	Advance payments and acquisitions in progress	Total
Acquisition cost 1 Jan	4	21	53	4	19	101
Increases	0	5	17	0	-1	21
Depreciations for the period	0	-4	-24	-1	0	-29
Book value on 31 December 2022	4	22	46	3	18	93
Air quality protection	1	6	33	0	11	50
Wastewater treatment	0	4	10	0	4	18
Waste management	2	1	1	2	1	7
Soil and groundwater protection	1	12	2	1	2	17
Noise and vibration prevention	0	0	1	1	0	1
	4	22	46	3	18	93

31 Dec 2022

EUR million	Land and water areas	Buildings and structures	Plant and equipment	Other tangible assets	Advance payments and acquisitions in progress	Total
Acquisition cost 1 Jan	4	24	51	4	11	95
Increases	1	0	9	1	8	18
Depreciations for the period	0	-2	-8	-1	0	-12
Book value on 31 December 2021	4	22	52	5	19	101
Air quality protection	1	7	35	0	12	55
Wastewater treatment	0	2	13	0	4	20
Waste management	2	0	1	3	0	7
Soil and groundwater protection	1	12	2	0	2	18
Noise and vibration prevention	0	0	1	1	0	1
	4	22	52	5	19	101

In 2023 and 2022, no environmentally based fines, charges or compensation were paid. Subsidies were received for environmental protection of EUR 0.9 million (EUR 1.2 million in 2022)

Note 14 Non-current investments in shares and loan receivables

EUR million	Shares in Group companies	Loan receivables from Group companies	Shares in associated companies	Loan receivables from associated companies	Other shares	Other receivables	Total investments
Acquisition cost 1 Jan	6,845	1,428	37	2	193	102	8,606
Increases	0	488	0	23	16	1	529
Decreases	-15		0	0	0	-34	-49
Acquisition cost 31 Dec	6,830	1,916	37	25	209	68	9,086
Impairments 1 Jan	-412	0	0	0	-1	-5	-419
Increases	-71	0	0	0	0	0	-71
Impairments 31 Dec	-483	0	0	0	-1	-5	-490
Book value on 31 December 2023	6,347	1,916	37	25	208	63	8,596
Book value on 31 December 2022	6,432	1,428	37	2	191	97	8,187

Note 15 Inventories

	2023	2022
Materials and supplies	229	288
Work in progress	9	11
Finished goods	206	247
Other inventories	0	0
Prepayments	28	27
Total	473	574

Note 16 Short-term receivables

EUR million	2023	2022
Short-term loan receivables		

Note 17 Financial securities

EUR million	2023	2022
From Group companies	16	620

Receivables from Group companies		
Loan receivables	1,455	536
Interest receivables	38	50
Total	1,493	585
Receivables from others		
Loan receivables	11	0
Commodity derivative receivables	0	18
Other receivables	36	29
Interest receivables	12	23
Total	59	69
Total current interest-bearing receivables	1,553	654
Current non-interest-bearing receivables		
Receivables from Group companies		
Trade receivables	240	150
Other receivables	274	183
Commodity derivative receivables	0	0
Accrued income	0	0
Total	515	333
Receivables from equity accounted investments		
Trade receivables	1	0
Total	1	0
Receivables from others		
Trade receivables	137	219
Other receivables	32	41
Accrued income	21	30
Total	189	290

Stora Enso may enter into factoring agreements to sell trade receivables in order to accelerate cash conversion. Nominally, such agreements led to the nominal derecognition of EUR 42,8 million (EUR 36 million in 2022) by the end of the financial period. The continuing involvement of Stora Enso in the sold receivables was estimated as being insignificant due to the non-recourse nature of the factoring arrangements involved.

EUR million	2023	2022
Total current non-interest-bearing receivables	705	624
Total current receivables	2,257	1,278
Significant accruals		
Tax-equivalent receivables	0	3
Advances paid	8	8
Other accruals	13	19
Total	21	30

From others	1,534	510
Total	1,556	1,139

Note 18 Shareholders' equity

EUR million	2023	2022
Restricted shareholders' equity		
Share capital 1 Jan	1,342	1,342
Share capital 31 Dec	1,342	1,342
Share premium fund 1 Jan	3,639	3,639
Share premium fund 31 Dec	3,639	3,639
Fair value reserve 1 Jan	25	-6
Increase (-) / Decrease (+)	-11	32
Fair value reserve 31 Dec	14	25
Total restricted equity	4,995	5,006

Change in share capital and number of shares are presented in Note 5.5 to the consolidated financial statements.

Non-restricted shareholders' equity		
Invested unrestricted equity reserve 1 Jan	633	633
Invested unrestricted equity reserve 31 Dec	633	633
Retained earnings 1 Jan	1,338	1,356
Dividend distribution	-473	-434
Retained earnings 31 Dec	864	922
Profit for the period	45	416
Total non-restricted equity	1,542	1,971
Total shareholders' equity	6,537	6,977

Calculation of distributable equity 31 Dec		
Invested unrestricted equity reserve 31 Dec	633	633
Retained earnings 31 Dec	864	922
Profit for the period	45	416
Total	1,542	1,971

Note 19 Accumulated appropriations

EUR million	2023	2022
Depreciation difference		
Intellectual property rights	-4	-1
Goodwill	0	0
Other non-current expenditure	-2	1
Buildings and structures	13	34

Note 23 Current liabilities

EUR million	2023	2022
Current interest-bearing liabilities		
Liabilities to Group companies		
Other loans	2,396	1,966
Commodity derivative liabilities	0	18

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Plant and equipment	198	257
Other tangible assets	-3	-1
Total	201	290

Note 20 Obligatory provisions

EUR million	2023	2022
Restructuring provisions	20	3
Environmental provisions	14	20
Pension provisions	1	1
Other provisions	1	0
Total	36	24

Note 21 Deferred tax liabilities and receivables

EUR million	2023	2022
Deferred tax liability due to depreciation difference	-23	-41
Deferred tax receivables and liabilities due to derivatives	-4	-6
Deferred tax receivable due to loss	48	0
Deferred tax receivable due to provisions	7	5
Deferred tax receivables and liabilities due to other temporary differences	-1	-1
Total deferred tax receivable	27	-43

Deferred tax liabilities and receivables excluding derivatives have not been recognised on the balance sheet.

Note 22 Non-current liabilities

EUR million	2023	2022
Non-current liabilities		
Bonds	3,472	2,165
Loans from credit institutions	651	100
Other non-current liabilities	0	0
Other non-current liabilities to group companies	0	0
Total	4,123	2,265
Liabilities with maturities later than five years		
Bonds	1,303	1,075
Other non-current liabilities	4	5
Total	1,308	1,080

Specifications of Bond loans are presented in Note 5.3 Interest-bearing liabilities in consolidated financial statements.

Interest due	0	0
Total	2,396	1,984
Liabilities to others		
Other loans	224	141
Interest due	50	32
Bonds	136	300
Loans from credit institutions	100	250
Total	511	722
Total current interest-bearing liabilities	2,907	2,706
Current non-interest-bearing liabilities		
Liabilities to Group companies		
Trade payables	72	90
Other loans	0	275
Commodity derivative liabilities	1	6
Accrued liabilities and deferred income	3	0
Total	75	371
Liabilities to associated companies		
Trade payables	126	98
Total	126	98
Liabilities to others		
Advances received	6	5
Trade payables	393	468
Other loans	22	27
Accrued liabilities and deferred income	82	134
Total	503	635
Total current non-interest-bearing liabilities	704	1,105
Total current liabilities	3,611	3,811
Substantial accrued liabilities and deferred income		
Payroll payments accrued	56	66
Income tax accrued	0	28
Annual discounts	12	21
Other accrued liabilities and deferred income	14	18
Total	82	134

Note 24 Commitments and contingencies

EUR million	2023	2022
For Group debt		
Guarantees	734	794
On behalf of Associated companies		
Guarantees	5	37
On behalf of others		
Guarantees	10	0
Loan commitments	0	36
Other commitments, own		
Leasing commitments, in next 12 months	9	8

Note 25 Financial instruments

Valuation of derivatives

The fair value is defined as the amount at which a derivative instrument could be exchanged in an orderly transaction between market participants at the measurement date. The fair values of such instruments are determined on the following basis:

- Foreign exchange forward contract fair values are calculated using forward exchange rates on the reporting date.
- Foreign exchange option contract fair values are calculated using reporting date market rates

Leasing commitments, after next 12 months	13	14
Mortgages	0	0
Lease commitments	5	5
Other commitments	15	12
Total	792	906

Guarantees	748	831
Leasing commitments	23	22
Lease commitments	5	5
Other commitments	15	47
Total	792	906

Contingent liabilities

Stora Enso Oyj has implemented significant restructuring measures in recent years. These measures have included divestments of business operations and production units, as well as mill closures. These transactions include a risk of possible environmental or other obligations, the existence of which would be confirmed only by the occurrence or non-occurrence of one or more uncertain future events not wholly within the control of the Group. A provision has been recognised for obligations for which the related amount can be estimated reliably and the occurrence of which is considered likely.

Stora Enso Oyj has been granted various investment subsidies and has given certain investment commitments in Finland. If committed planning conditions are not met, local officials may pursue administrative measures to reclaim some of the formerly granted investment subsidies or to impose penalties on Stora Enso Oyj and the outcome of such a process could result in a negative financial impact on Stora Enso Oyj.

Stora Enso Oyj is party to legal proceedings that arise in the ordinary course of business and primarily involve claims arising out of commercial law. The company management does not believe that such processes as a whole, before any insurance compensation, would have significant impacts on the company's financial position or profit from operations. Some of the most significant legal proceedings are described in note 7.1 to the consolidated financial statements.

together with common option pricing models.
- Commodity contract fair values are computed with reference to quoted market prices on futures exchanges or other reliable market sources.
- Interest rate swaps fair values are calculated using a discounted cash flow method.

Fair value hierarchy

Stora Enso uses the following hierarchy for determining and disclosing the fair value of financial instruments by valuation technique:

- Level 1: quoted (unadjusted) prices in active markets for identical assets or liabilities;
- Level 2: other techniques, for which all inputs that have a significant effect on the recorded fair value are observable, either directly or indirectly;
- Level 3: techniques which use inputs that have a significant effect on the recorded fair values that are not based on observable market data.

The parent company's derivatives are classified as Level 2 in the fair value hierarchy.

Nominal and fair values of derivative instruments

	As at 31 December 2023			
EUR million	Nominal values	Positive fair values	Negative fair values	Fair values, Net
Cash flow hedges entered on behalf of the parent company and its subsidiaries, for which hedge accounting is applied in target companies				
Foreign exchange forwards	2,284	34	-34	1
Foreign exchange options	667	7	-5	2
Commodity contracts	27	1	-1	0
Interest rate swaps	443	16	0	16
Non-hedge accounted derivatives				
Foreign exchange forwards	588	5	-5	0
Total	4,009	63	-44	19
of which against subsidiaries	1,586	6	-37	-31
of which against external parties	2,423	56	-7	49

	As at 31 December 2022			
EUR million	Nominal values	Positive fair values	Negative fair values	Fair values, Net
Cash flow hedges entered on behalf of the parent company and its subsidiaries, for which hedge accounting is applied in target companies				
Currency forwards	1,523	29	-26	3
Currency options	3,222	28	-28	0
Commodity contracts	10	18	-18	0
Interest rate swaps	442	28	0	28
Non-hedge accounted derivatives				
Currency forwards	1,493	8	-8	0
Commodity contracts	11	9	0	9
Total	6,702	120	-79	41

Hedge gains and losses in financial items

EUR million	2023	2022
Non-hedge accounted derivatives		
Currency derivatives	-21	-1
Net gains/losses in financial items	-21	-1

Sensitivity of currency derivatives to strengthening of EUR

	31 December 2023		
EUR million	SEK	USD	GBP
Currency change against EUR	-5.0%	-5.0%	-5.0%
Nominals of currency derivatives hedging next 12 months cash flow in EUR	0	-136	-11
Estimated effect on fair value reserve in EUR (net of taxes)	0	5	0

of which against subsidiaries	2,571	29	-45	-15
of which against external parties	4,131	91	-34	57

Fair value reserve

The net amount of the parent company's unrealised cash flow hedge gains in the fair value reserve was EUR 14.3 (25.3) million, which was related to currency and interest rate derivatives. Currency and interest rate derivatives also include a gain of EUR 0.2 (0.1) million related to the time value of options. These unrealised gains are recognised in the income statement upon the maturity of the hedging contracts. The longest hedging contract will mature in 2027. However, the majority of the contracts are expected to mature during 2024. The ineffective portions of hedges are recognised as adjustments to financial items, revenue or materials and services according to the hedged item. During 2023 and 2022, there were no material ineffectiveness related to hedges recognised in the income statement. Derivatives used in currency cash flow hedges are mainly forward contracts and options. Swaps are mainly used in commodity hedges and interest rate cash flow hedges.

Hedge gains and losses in operating profit

EUR million	2023	2022
Cash flow hedge accounted derivatives		
Currency hedges	2	-20
Total	**2**	**-20**
As adjustments to sales	2	-20
As adjustments to materials and services	0	0
Items realised from the fair value reserve that are recognised in the income statement	**2**	**-20**
Net losses from cash flow hedges	**2**	**-20**
Non-hedge accounted derivatives		
Currency derivatives	0	-5
Net gains on non-hedge accounted derivatives	**0**	**-5**
Net hedge gains/losses in operating profit	**2**	**-25**

Sensitivity of commodity derivatives to price risk

There were no outstanding commodity derivatives related to parent company's cash flows at the end of reporting period. .

More detailed information about financial instruments are presented in Note 5.1 Financial risk management, Note 5.2 Fair values and Note 5.4 Derivatives to the consolidated financial statements.

Note 26 Related party transactions

EUR million	2023	2022
Related party transactions with associated companies and joint ventures:		
Purchase of materials and supplies during the year	23	63
Interest income on non-current loan receivables	1	0
Non-current loan receivables at year end	26	2
Trade payables at year end	126	92

The Group's principles for related party transactions are presented in Note 6.3 to the consolidated financial statements.

Note 27 Separated Electricity business statements

Basis of preparation of the separated electricity business statements: income, costs, assets and liabilities immediately attributable to the electricity business are allocated directly and indirect costs and non-attributable items are allocated according to allocation or allocation keys.

Electricity business income statement

EUR million	2023	2022
Sales	126	170
Other operating income	1	2
Materials and services	-113	-161
Personnel expenses	0	0
Depreciation and impairment	-14	-7
Other operating expenses	-1	-1
Operating profit	**-2**	**4**
Financial income and expenses	0	0
Profit before Appropriations and Taxes	**-2**	**4**

Electricity business statement of financial position

EUR million	2023	2022
Assets		
Non-current assets		
Tangible assets	47	53
Investments	190	190
Non-current assets total	**237**	**243**
Current assets		
Short-term receivables	24	21
Total current assets	**24**	**21**
Total assets	**261**	**264**

Appropriations	5	-17
Profit before Taxes	3	-13
Income tax expense and windfall tax	-1	0
Profit / loss for the period	2	-13

Equity and liabilities		
Equity		
Share capital	35	35
Share premium	95	95
Invested non-restricted equity fund	17	17
Retained earnings	39	52
Profit for the period	2	-13
Total equity	**189**	**186**
Accumulated appropriations	**10**	**15**
Liabilities		
Non-current liabilities	52	56
Current liabilities	10	7
Total liabilities	**62**	**63**
Total equity and liabilities	**261**	**264**

Signatures for the financial statements

There have been no material changes in the Parent Company's financial position since 31 December 2023. The liquidity of the Parent Company remains good and the proposed dividend does not risk the solvency of the Company.

31 January 2024

Kari Jordan
Chair

Håkan Buskhe
Vice Chair

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Elisabeth Fleuriot

Helena Hedblom

Astrid Hermann

Christiane Kuehne

Antti Mäkinen

Richard Nilsson

Hans Sohlström
President and CEO

Auditor's Report (Translation of the Finnish Original)

To the Annual General Meeting of Stora Enso Oyj

Report on the Audit of the Financial Statements

In our opinion

- the consolidated financial statements give a true and fair view of the group's financial position, financial performance and cash flows in accordance with IFRS Accounting Standards 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 to the Audit Committee.

What we have audited

We have audited the financial statements of Stora Enso Oyj (business identity code 1039050-8) for the year ended 31 December 2023. The financial statements comprise:

Our Audit Approach

Overview

- We have applied an overall group materiality of EUR 60 million.
- We performed audit procedures at 24 reporting components in 11 countries that are considered significant based on our overall risk assessment and materiality.
- Valuation of forest assets
- Provisions and contingent liabilities
- Accounting for business combinations

- the consolidated statement of financial position, consolidated income statement, consolidated statement of comprehensive income, statement of changes in equity, consolidated cash flow statement and notes to the consolidated financial statements, which include material accounting policy information and other explanatory information
- the parent company statement of financial position, parent company income statement, parent company cash flow statement and notes to the parent company financial statements.

Basis for Opinion

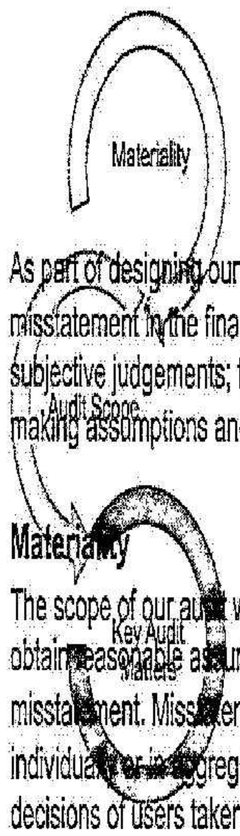
We conducted our audit in accordance with good auditing practice in Finland. Our responsibilities under good auditing practice are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Independence

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.

To the best of our knowledge and belief, the non-audit services that we have provided to the parent company and group companies are in accordance with the applicable law and regulations in Finland and we have not provided non-audit services that are prohibited under Article 5(1) of Regulation (EU) No 537/2014. The non-audit services that we have provided are disclosed in note 2.2 to the Consolidated Financial Statements.



As part of designing our audit, we determined materiality and assessed the risks of material misstatement in the financial statements. In particular, we considered where management made subjective judgements; for example, in respect of significant accounting estimates that involved making assumptions and considering future events that are inherently uncertain.

Materiality

The scope of our audit was influenced by our application of materiality. An audit is designed to obtain reasonable assurance whether the financial statements are free from material misstatement. Misstatements may arise due to fraud or error. They 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.

Based on our professional judgment, we determined certain quantitative thresholds for materiality, including the overall group materiality for the consolidated financial statements as set out in the table below. These, together with qualitative considerations, helped us to determine the scope of our audit and the nature, timing and extent of our audit procedures and to evaluate the effect of misstatements on the financial statements as a whole.

Overall group materiality	EUR 60 million
How we determined it	Based on operating profit and total assets
Rationale for the materiality benchmark applied	We chose operating profit and total assets as the benchmarks because, in our view, they are relevant benchmarks against which the performance of the group is commonly measured by users of the financial statements.

How we tailored our group audit scope

We tailored the scope of our audit, taking into account the structure of the group, the accounting processes and controls, and the industry in which the group operates.

The Group operates through a number of legal entities or other reporting components globally. We determined the nature, timing and extent of audit work that needed to be performed at reporting components by us, as the group engagement team, or component auditors operating under our instruction. Where the work was performed by component auditors, we issued audit instructions to those auditors including our risk analysis, materiality and global audit approach. We performed audit procedures at 24 reporting components in 11 countries that are considered significant based on our overall risk assessment and materiality. We have considered that the remaining reporting components do not present a reasonable risk of material misstatement for consolidated financial statements and thus our procedures related to these reporting components have been limited to analytical procedures performed at group level and to possible targeted audit procedures over individual significant balances.

By performing the procedures above at reporting components, combined with additional procedures at the group level, we have obtained sufficient and appropriate evidence regarding the financial information of the group as a whole to provide a basis for our opinion on the consolidated financial statements.

Key audit matter in the audit of the group

Valuation of forest assets

Refer to Note 1.2 and Note 4.2 in the consolidated financial statements for the related disclosures.

Forest assets comprise of biological assets and forest land excluding leased forest land assets. As of December 31, 2023 the fair value of the Group's forest assets owned through subsidiaries, joint operations and associated companies was EUR 8 522 million. The fair value of EUR 6 123 million was related to biological assets and EUR 2 399 million was related to forest land.

Forest assets in Sweden and Finland are recognised at fair value and valued by using a market approach method on the basis of the forest market transactions in the areas where Stora Enso's forests are located.

Market prices between areas vary significantly and judgment is applied to define relevant areas for market transactions used in the valuation. Market transaction data is adjusted to consider characteristics and nature of the Group's forest assets and to exclude certain non-forest assets and transactions considered as outliers compared to other transactions. Biological assets valuation is calculated based on a discounted cash flow (DCF) method in accordance with IAS 41 Agriculture. For forest land the revaluation method is applied as defined in IAS 16 Property, plant and equipment. Forest land is revalued using a DCF method based on estimated future net cash flow streams related to trees to-be-planted in the future as well as other income, such as hunting rights, wind power leases and soil material sales. Total value determined for biological assets and forest land agrees to the market transaction based fair value of forest assets as a discount rate implied by the market transactions is used in the DCF method to

How our audit addressed the key audit matter

We obtained an understanding of management's forest assets valuation process, evaluated the design and tested the operating effectiveness of internal controls related to directly and indirectly owned forest assets.

Our audit procedures over valuation of directly owned forest asset included:

- Evaluation of the methodology adopted by management for the valuation;
- Testing the mathematical accuracy of the model used for valuation;
- Assessment of the discount rates applied in the valuation;
- Assessment of the other key valuation assumptions; and
- Validation of key inputs and data used in the valuation model including sales price assumptions, growth assumptions and cost assumptions.

In addition, specific to the market transaction based valuation our audit procedures included:

- Assessment of the definition of relevant areas for market transactions used in the valuation;
- Assessment of the adjustments made to the market transaction data; and
- Validation of key inputs and data used in the valuation model including market transaction data and volume of standing trees.

We involved valuation specialists in the audit work over valuation of directly owned forest assets.

Related to indirectly owned forest assets we have communicated with the auditors of the three largest associates and joint operations. As part of

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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.

As in all of our audits, we also addressed the risk of management override of internal controls, including among other matters consideration of whether there was evidence of bias that represented a risk of material misstatement due to fraud.

Key audit matter in the audit of the group	How our audit addressed the key audit matter
Provisions and contingent liabilities *Refer to Note 1.2, Note 4.9 and Note 7.1 in the consolidated financial statements for the related disclosures.* As of 31 December 2023, the Group had environmental, restructuring and other provisions totaling EUR 168 million. In addition, the Group has disclosed significant open legal cases and other contingent liabilities in Note 7.1. The assessment of the existence of the present legal or constructive obligation, the analysis of the probability of the outflow of future economic benefits, and making a reliable estimate, require management's judgment to ensure appropriate accounting and disclosures. Due to the level of judgment relating to recognition, valuation and presentation of provisions and contingent liabilities, this is considered to be a key audit matter.	We obtained an understanding of management's process to identify new obligations and changes in existing obligations. We analysed significant changes in material provisions from prior periods and obtained a detailed understanding of these changes and assumptions applied. Our audit procedures related to material provisions recognized included: • Assessment of the recognition criteria for the liability; • Evaluation of the methodology adopted by management for the measurement of the liability; • Testing of the mathematical accuracy of the measurement calculation; • Assessment of the discount rates applied in the measurement; and • Assessment of the other key measurement assumptions and inputs. We reviewed minutes of the meetings of the board of directors and board committees. We assessed the appropriateness of the presentation of the most significant contingent liabilities in the consolidated financial statements.
Accounting for business combinations *Refer to Note 6.1 in the consolidated financial statements for the related disclosures.* The Group acquired control in De Jong Packaging Group in January, 2023. The acquisition was accounted for as a business combination. The cash purchase consideration was EUR 612 million, excluding a contingent earn-out component with a maximum amount of EUR 45 million which will be settled in cash in 2024 and is subject to De Jong Packaging Group achieving certain earnings thresholds. The contingent consideration is measured at its fair value and is estimated at EUR 0 million at the date of acquisition.	We obtained an understanding of management's process related to accounting for business combinations and estimating the value of the net assets acquired. Our audit procedures over accounting for business combinations and valuation of net asset acquired included: • Testing the cash purchase consideration; • Evaluation of the methodology adopted by management for the valuation; • Testing the mathematical accuracy of the model used for the valuation; • Assessment of the key valuation assumptions; and • Validation of key inputs and data used in the valuation model.
Valuation of forest assets *Refer to Note 1.2, Note 4.1 and Note 7.1 in the consolidated financial statements for the related disclosures.* The Group's forest assets are measured at fair value less cost to sell and amount to EUR 1 609 million as of 31 December 2023. The value of biological assets outside Sweden and Finland is measured based on fair value less cost to sell. The fair value is determined using a DCF method based on sustainable forest management plans taking into account the growth potential of one cycle. The one cycle varies depending on the geographic location and species. Determining the discounted cash flows require estimates of growth, harvest, sales price and costs. The other European forest lands are revalued by using a DCF method based on its estimated future net cash flows related to trees to-be-planted in the future as well as other non-forest related income. The forest land for the plantations is accounted at cost. Due to the level of judgment involved in the valuation of forest assets as well as the significance of forest assets to the Group's financial position, this is considered to be a key audit matter.	We obtained an understanding of management's process to value these assets. We evaluated the audit procedures performed and conclusions reached related to valuation of biological assets. In addition, we assessed the appropriateness of disclosures related to forest assets.

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 IFRS Accounting Standards 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 a 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 to cease operations, or there is no realistic alternative but to do so.

Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about 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 the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these 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

The fair value of net assets acquired was estimated to be EUR 265 million. The business combination resulted in recognition of goodwill of EUR 349 million, customer related intangible assets of EUR 167 million and marketing related intangible assets of EUR 39 million.

Due to the level of judgment included in accounting for business combinations and the valuation of the net assets acquired, as well as the significance of the business combination to the Group's financial position this is considered to be a key audit matter.

We involved valuation specialists in the audit work over valuation of the net assets acquired.

In addition, we assessed the appropriateness of disclosures related to the business combination.

We have no key audit matters to report with respect to our audit of the parent company financial statements.

There are no significant risks of material misstatement referred to in Article 10(2c) of Regulation (EU) No 537/2014 with respect to the consolidated financial statements or the parent company financial statements.

- 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 to 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

Appointment

We were first appointed as auditors by the annual general meeting on 28 March 2018.

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.

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 the 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
- 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, we conclude that there is a material misstatement of the report of the Board of Directors, we are required to report that fact. We have nothing to report in this regard.

Other Statements

We support the proposal that the financial statements are adopted. The proposal by the Board of Directors regarding the distribution of profits is in compliance with the Limited Liability Companies Act. We support that the Board of Directors and the Managing Director of the parent company should be discharged from liability for the financial period audited by us.

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Helsinki 12 February 2024

PricewaterhouseCoopers Oy
Authorised Public Accountants

Samuli Perälä
Authorised Public Accountant (KHT)