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Årsredovisning

för

Åkers Aktiebolag

556153-4792

Räkenskapsåret

2022

Undertecknad styrelseledamot intygar härmed, dels att denna kopia av årsredovisningen gällande räkenskapsåret 20220101-20221231 överensstämmer med originalet, dels att resultat- och balansräkningen fastställts på årsstämma den 20 juni 2023. Årsstämman beslöt godkänna styrelsens förslag till vinstdisposition.

Åkers Styckebruk 2023-07-11

Jörgen Hedström

20230712232745

Årsredovisning
för
Åkers Aktiebolag

556153-4792

Räkenskapsåret
2022

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Åkers Aktiebolag
Org.nr. 556153-4792

Styrelsen och verkställande direktören för Åkers Aktiebolag avger följande årsredovisning för räkenskapsåret 2022.

Årsredovisningen är upprättad i svenska kronor,SEK. Om inte annat anges, redovisas alla belopp i tusentals kronor (Tkr). Uppgifter inom parantes avser föregående år.

Förvaltningsberättelse

Information om verksamheten

Åkers AB med dotterbolag tillhör segmentet Union Electric Åkers inom Ampco-Pittsburgh Corporation där man huvudsakligen utvecklar, tillverkar och marknadsför högkvalitativa valsar för varm- och kallvalsning för den globala stål- och metallindustrin. Gjutna valsar används främst för varmvalsning och smidda valsar för kallvalsning.

Åkers AB är moderbolag till två tillverkande enheter, Shanxi Åkers Tisco Roll Co. Ltd, Taiyuan i Shanxiprovinsen, Kina och till Åkers Sweden AB. Båda enheterna tillverkar gjutna valsar. Åkers AB har två säljbolag i två länder, Egypten och Kina. Åkers AB har ingen egen tillverkning utan marknadsför och säljer valsar inköpta från övriga koncernbolag i Ampco-Pittsburgh Gruppen. Produktionsenheter finns i USA, England, Sverige, Slovenien, Kina och Kanada. Konsolidering av koncernen görs av Ampco-Pittsburgh Corporation.

Ansvaret för styrning, ledning och kontroll av bolagets verksamhet fördelas mellan aktieägarna på bolagsstämman, styrelsen och verkställande direktören i Åkers AB.

Företaget har sitt säte i Strängnäs kommun i Södermanlands län.

Väsentliga händelser under räkenskapsåret

Koncernen har fortsatt ökade kostnader på köpt material och tjänster, till en viss del från Covidpandemin, de största påverkansfaktorerna har dock varit kriget i Europa/Ukraina samt inflationsökningen under andra halvan av året. Transportområdet har påverkat leveranstider till kund och därmed ökat vårt arbetsinnehåll för att lösa våra leveranser i rätt tid till våra kunder.

Under året har bolaget ställt ut företagsinteckningar som säkerhet i samband med att moderbolaget i USA förnyat sitt bankavtal.

Forskning och utveckling

Fokus under året har varit att utveckla befintliga produkter i koncernen och säkerställa högkvalitativa produkter.

Marknadsutveckling

Förhoppningarna inför ett mer normaliserat 2022 var goda då effekterna av pandemin inte längre var lika påtagliga. Rysslands invasion av Ukraina förändrade återigen spelplanen och effekterna i form av ökad inflation och konjunktursvängningar är faktorer som påverkade stålmarknaden. Efterfrågan på handelsfärdigt stål minskade globalt med 2,3 procent enligt beräkningar från World Steel Association. Efterfrågan på stål i EU:s 27 medlemsländer inklusive Storbritannien sjönk tillbaka med 3,5 procent. Kinas problem relaterat till covid-19 medförde att efterfrågan föll med 4% men landet stod fortfarande för mer än 50 procent av världens samlade stålkonsumtion. Betydande nedgångar noteras också i Central- och Sydamerika där framför allt Brasiliens nedgång med drygt 8 procent var tongivande. Dock noteras även ljuspunkter i stålåret 2022 där USA hade en positiv utveckling med en ökad efterfrågan på 2 procent och i Asien där ASEAN länderna och Indien fortsätter utvecklas positivt, ökade efterfrågan med drygt 6 procent.

Preliminära data från World Steel Association visar också att inbromsningen i konjunkturen kan avläsas i den samlade råstålsproduktionen globalt som sjönk tillbaka med 6 procent jämfört med 2021. Sett över världen så är det endast Indien som noterar en ökad produktion om nästan 6 procent. Inom EU sjönk produktionen tillbaka med 9 procent och Storbritannien hela 13 procent.

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Den svenska stålmarknaden utvecklades i linje med övriga Europa där de flesta stålkonsumerande branscherna varit oförändrade eller backat tillbaka, tydligt inom fordonsindustrisegmentet. Statistik från Jernkontoret visar att den svenska efterfrågan på stål föll tillbaka med 3,2 procent sett över de tre första kvartalen 2022 jämfört med samma period 2021 och råstålsproduktionen minskade med nästan 6 procent jämfört med 2021.

Stålmarknadens utveckling avspeglar också valsmarknaden för 2022 där en något inbromsande utveckling av den globala efterfrågan noterades. Efterfrågan på valsade produkter är kopplat till förbrukning av valsar vilket följaktligen medfört vissa förändringar i leveransmönster och volymer under året.

Man kan också notera att kriget i Ukraina inte nämnvärt har påverkat året då den ukrainska och ryska marknaden för export av valsar är relativt marginell. Däremot har kriget orsakat utmaningar inom stål- och valsindustrin med framför allt ökade priser på energi och insatsvaror.

Värt att nämna i positiv bemärkelse är det ökade fokus på klimatfrågor och grön omställning som noterats under året inom EU och i USA där efterfrågan av produkter med låg miljöpåverkan kan gynna svensk produktion som ligger långt fram bland annat inom elektrifiering och tillgång till fossilfri energiproduktion.

Risker och riskhantering

All affärsverksamhet är förenad med risker. Risker som hanteras rätt kan skapa möjligheter och innebära ett värdeskapande medan felaktigt hanterade risker kan leda till skador och förluster. Koncernens resultat och finansiella ställning påverkas av ett stort antal faktorer där flera ligger utanför den egna kontrollen. De allmänna politiska och ekonomiska förutsättningarna som påverkar marknaderna för stål och stålproduktion är exempel på sådana faktorer. Koncernens riskhantering syftar till att minimera verksamhetens risker men också till att säkerställa att möjligheter kan tillvaratas på bästa sätt.

Marknadsrelaterade risker

Koncernens resultat och finansiella utveckling påverkas av ett stort antal marknadsrelaterade faktorer. De senaste årens volatilitet på de globala finansiella marknaderna har åskådliggjort flera av de risker och osäkerhetsfaktorer som omger verksamheten. Dessa risker är huvudsakligen relaterade till konjunkturens påverkan på efterfrågan, marknadspriser och finansiering.

Råvaruprisrisker

För järnskrot och legeringar, utgörande ca en tredjedel av de totala kostnaderna inom Union Electric Åkers, tillämpas skrot- och legeringstillägg vilket är ett etablerat sätt att justera stålpriser till följd av nationella och internationella variationer i kostnader för skrot och legeringsämnen. Dessa tillägg innebär att risken för prisfluktuationer till stor del överförs till kunderna.

Miljö och miljöpåverkan

Union Electric Åkers bedriver tillståndspliktig verksamhet på flera platser i världen. Samtliga produktionsenheter uppfyller sina respektive lokala miljökrav och har tillstånd för sin verksamhet i enlighet med respektive lands miljölagstiftning. Tillstånden reglerar bl. a produktionsnivåer, utsläpp till luft och vatten, deponering av avfall, hantering av kemikalier samt bullernivåer. Tillstånden revideras endast vid större förändringar i verksamheten.

Union Electric Åkers verksamhet är miljöpåverkande genom utsläpp till luft och vatten, generering av miljöfarligt avfall såsom spillolja och filterstoft, förbrukning av ändliga resurser samt buller.

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Verksamhetsrelaterade risker

Valstillverkning sker genom en rad processer. Störningar i en del av processen kan få allvarliga följdeffekter i övriga processled. Avbrott i verksamheten som orsakas av exempelvis brand, transportproblem eller maskinhaveri kan bli mycket kostsamma. Dessa risker begränsas genom att optimera nivåer av råvaror och produkter i arbete. Gruppen har dessutom försäkringar som minimerar kostnaderna vid skador och avbrott. För att minimera risker och försäkringspremier bedrivs ett fortlöpande skadeförebyggande arbete. Vidare kontrolleras att det finns en skriftlig miljöplan för anläggningarna, att det finns förteckning över godkända kemikalier och att denna följs, rutiner för hantering och lagring av brandfarliga kemikalier och farligt avfall, att säkerhetsdatablad finns till hands och att det finns en plan för att minimera utsläpp och avfall.

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Åkers Aktiebolag
Org.nr 556153-

Hållbarhetsrapport

Hållbarhetsrapporten har upprättats i enlighet med bestämmelserna i Årsredovisningen 6 kap. 1014 §§ och omfattar Åkers AB:s hela verksamhet. Vid upprättande av rapporten har utgångspunkten varit följande aspekter: miljö, sociala förhållanden, medarbetare, mänskliga rättigheter samt anti-korruption. Åkers AB redogör för dessa aspekter genom att beskriva hur dessa hanteras vad gäller:

-Policyer, rutiner, instruktioner och strukturer
-Hållbarhetsrisker och hur Åkers AB agerar på dessa
-Indikationer som Åkers AB använder sig av

Affärsmodell
Åkers AB har ingen egen tillverkning utan marknadsför och säljer valsar inköpta från övriga koncernbolag i Ampco-Pittsburgh Gruppen. Den externa relationen med kunderna hanteras via Åkers AB.
Åkers AB tillhandahåller koncerngemensamma tjänster som Marknad & Försäljning (Säljorganisation med säljbolag/kontor i flera delar av världen), Forskning & Utveckling och Administration. Anställda i Åkers AB har koncerngemensamma tjänster och tillhör olika funktioner i gruppen.

Åkers AB hyr lokaler och köper tjänster, (redovisning, inköp, löneadministration och HR) från Åkers Sweden AB (org.nr 556031–8080). Åkers AB följer gängse standarder för svenskt näringsliv samt de policyer och revisioner som Ampco-Pittsburgh Corporation ålägger oss att följa samt de policys och revisioner framtagna av Åkers Sweden AB.

KLIMAT OCH MILJÖ

Åkers AB köper valsar från övriga producerande bolag inom Ampco Pittsburgh Gruppen. Produktionen sker under de miljöledningssystem som upprättas i de producerande bolag. De miljöledningssystem som upprättas av de producerande bolagen revideras på årlig basis. Den innehåller bland annat förhållningssätt gentemot leverantörer och kunders syn på miljöfrågan, säkerställande av ett internt miljömål, resurstillsättning för ett internt miljöarbete.

De största riskerna inom området är den energianvändning varje producerande enhet har, transporter samt förbrukning av ändliga resurser såsom vissa grundämnen (metall) och legeringar. Då närboende finns belägna i direkt närhet till flertalet verksamheter finns även risk för störningar avseende buller och vibrationer.

De producerande enheterna arbetar för att optimera återanvändning av råmaterial i så stor utsträckning som möjligt, och reducera antalet kasserade produkter. Drivkraften för att återvinna råmaterial är inte bara till nytta av hållbarhetsskäl utan även av kostnadsskäl.

Då Åkers AB inte har någon egen produktion finns inga miljönyckeltal utan varje producerande enhet har som mål att åstadkomma förbättringar på området, t.ex. energieffektivisering, minska koldioxidutsläpp ställt mot produktionsmängd. Samtliga verksamheter följer lokala lagar och förordningar.

SOCIALA FÖRHÅLLANDEN OCH PERSONAL

Åkers AB köper tjänster från Åkers Sweden AB och följer de riktlinjer som upprättats. Det sociala ansvaret omfattar medarbetare och de samhällen som verkas i. Åkers Sweden AB är en av de största privata arbetsgivarna i Strängnäs kommun. Risker och nyckeltal hanteras av Åkers Sweden AB.

Verksamheten är uppbyggd som en del av en koncernstruktur och de anställda tillhör olika funktioner inom koncernen.

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Åkers Aktiebolag
Org.nr 556153-

RESPEKT FÖR MÄNSKLIGA RÄTTIGHETER OCH MOTVERKANDE AV KORRUPTION

Åkers AB följer gängse standarder för svenskt näringsliv samt den uppförandekod som Ampco-Pittsburgh Corporation ålägger oss att följa.

Koncernen, tillika Åkers AB har tydligt framhävt i sin uppförandekod att mutor, utpressning eller andra ohederliga eller oetiska affärsmetoder inte tolereras. Koncernledningen har utsett en etisk kommitté dit misstänkta brott mot de etiska reglerna ska rapporteras. På Åkers AB finns i dagsläget inga nedbrutna rutiner eller uttalade rapporteringsvägar, då det inte förekommit fall som föranlett detta.

Vi kräver att våra leverantörer, kunder och samarbetspartners följer alla tillämpliga lagar och bestämmelser. De måste också respektera våra krav och affärsprinciper. Vårt stöd för mänskliga rättigheter uttrycks i vår uppförandekod och uppförandekod för leverantörer. Uppförandekoden hjälper oss att upptäcka, förebygga och begränsa risker som gäller mänskliga rättigheter.

Våra största leverantörer är koncerninterna och följer koncernens uppförandekod.

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Flerårsöversikt (Tkr)

	2022	2021	2020	2019	2018
Nettoomsättning	748 359	603 727	587 099	735 040	691 260
Resultat efter avskrivningar	-10 867	-444	5 859	5 400	15 011
Resultat efter finansiella poster	-13 963	-5 923	4 391	5 787	12 006
Antal anställda	4	7	6	10	11
Balansomslutning	737 337	675 805	644 879	433 158	398 034
Avkastning på eget kapital (%)	neg	neg	1	7	18
Avkastning på totalt kapital (%)	0	0	1	2	4
Soliditet	48	55	58	19	19

För definition av nyckeltal, se Redovisnings- och värderingsprinciper

Förslag till vinstdisposition

Styrelsen föreslår att till förfogande stående vinstmedel (kronor):

balanserad vinst	289 519 178
årets förlust	-13 963 350
	275 555 828
disponeras så att	
i ny räkning överföres	275 555 828
	275 555 828

Företagets resultat och ställning i övrigt framgår av efterföljande resultat- och balansräkning samt kassaflödesanalys med noter.

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Resultaträkning Tkr	Not	2022-01-01 - 2022-12-31	2021-01-01 - 2021-12-31
Rörelsens intäkter			
Nettoomsättning	2	748 359	603 727
Övriga rörelseintäkter	3	113 654	95 398
		862 013	**699 124**
Rörelsens kostnader			
Handelsvaror		-750 588	-604 999
Övriga externa kostnader	4,5	-114 401	-87 210
Personalkostnader	6	-7 625	-7 037
Avskr o nedskriv. materiella/immateriella anläggningar		-265	-322
		-872 880	**-699 568**
Rörelseresultat	7	**-10 867**	**-444**
Resultat från finansiell poster			
Resultat från andelar i koncernföretag	8	1 712	0
Finansiella anlägg/kortfristiga placeringar	9	-316	-2 094
Resultat från övriga värdepapper och fordringar som är anläggningstillgångar	10	316	100
Räntekostnader och liknande resultatposter	11	-4 809	-3 486
		-3 097	**-5 480**
Resultat efter finansiella poster		**-13 963**	**-5 923**
Resultat före skatt		**-13 963**	**-5 923**
Skatt på årets resultat	12	0	0
Årets resultat		**-13 963**	**-5 923**

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Balansräkning

Tkr

	Not	2022-12-31	2021-12-31
TILLGÅNGAR			
Anläggningstillgångar			
Materiella anläggningstillgångar			
Maskiner och inventarier	13	479	304
		479	**304**
Finansiella anläggningstillgångar			
Andelar i koncernföretag	14,15	379 341	379 977
Andra långfristiga fordringar	16	268	239
		379 610	**380 216**
Summa anläggningstillgångar		**380 089**	**380 520**
Omsättningstillgångar			
Varulager m.m.			
Färdiga varor och handelsvaror		6 391	3 920
		6 391	**3 920**
Kortsiktiga fordringar			
Kundfordringar		126 052	95 867
Fordringar hos koncernföretag		194 288	162 647
Övriga fordringar		3 323	5 719
Förutbetalda kostnader och upplupna intäkter	17	4 718	481
		328 381	**264 714**
Kassa och bank		22 476	26 651
Summa omsättningstillgångar		**357 248**	**295 285**
SUMMA TILLGÅNGAR		**737 337**	**675 805**

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Balansräkning

Tkr

	Not	2022-12-31	2021-12-31
Eget kapital	18,19		
Bundet eget kapital			
Aktiekapital		10 000	10 000
Uppskrivningsfond		41 557	41 557
Reservfond		28 000	28 000
		79 557	**79 557**
Fritt eget kapital			
Balanserad vinst eller förlust		289 519	295 442
Årets resultat		-13 963	-5 923
		275 556	**289 519**
Summa eget kapital		**355 113**	**369 076**
Avsättningar			
Övriga avsättningar för pensioner och liknande förpliktelser	20,21	13 542	11 685
Övriga avsättningar	22	0	0
Summa avsättningar		**13 542**	**11 685**
Kortfristiga skulder			
Förskott från kunder		2 228	5 841
Leverantörsskulder		8 840	4 459
Skulder till koncernföretag		342 978	274 199
Övriga skulder		72	98
Upplupna kostnader och förutbetalda intäkter	23	14 565	10 447
Summa kortfristiga skulder		**368 682**	**295 044**
SUMMA EGET KAPITAL OCH SKULDER		**737 337**	**675 805**

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Rapport över förändring i eget kapital

Tkr

		Uppskriv-ningsfond	Reserv-fond	Balanserat resultat inkl årets resultat	Summa eget kapital
Ingående eget kapital 2021-01-01	**10 000**	**41 557**	**28 000**	**295 442**	**374 999**
Årets resultat				-5 923	-5 923
Utgående eget kapital 2021-12-31	**10 000**	**41 557**	**28 000**	**289 519**	**369 076**
Årets resultat				-13 963	-13 963
Utgående eget kapital 2022-12-31	**10 000**	**41 557**	**28 000**	**275 556**	**355 113**

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Kassaflödesanalys Tkr	Not	**2022-01-01 -2022-12-31**	**2021-01-01 -2021-12-31**
Den löpande verksamheten			
Resultat efter finansiella poster		-13 963	-5 923
Justeringar för poster som inte ingår i kassaflödet	24	2 758	316
Kassaflöde från den löpande verksamheten före förändring av rörelsekapital		**-11 205**	**-5 607**
Kassaflöde från förändring av rörelsekapitalet			
Förändring av varulager och pågående arbete		-2 472	718
Förändring av kundfordringar		-30 185	-21 618
Förändring av kortfristiga fordringar		-33 482	-9 259
Förändring av leverantörsskulder		4 381	-2 489
Förändring av kortfristiga skulder		69 256	39 345
Kassaflöde från den löpande verksamheten		**-3 707**	**1 090**
Investeringsverksamheten			
Investeringar i materiella anläggningstillgångar		-440	0
Förändring av långfristiga fordringar		-29	-23
Kassaflöde från investeringsverksamheten		**-468**	**-23**
Årets kassaflöde		**-4 175**	**1 067**
Likvida medel vid årets början			
Likvida medel vid årets början		26 651	25 584
Likvida medel vid årets slut		**22 476**	**26 651**

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Not 1 Redovisnings- och värderingsprinciper

Allmänna upplysningar
Årsredovisningen är upprättad i enlighet med årsredovisningslagen och BFNAR 2012:1 Årsredovisning och koncernredovisning (K3).

Fordringar och skulder i utländsk valuta har värderats till balansdagens kurs. Kursvinster och kursförluster på rörelsefordringar och rörelseskulder redovisas i rörelseresultatet medan kursvinster och kursförluster på finansiella fordringar och skulder redovisas som finansiella poster.

Redovisningsprinciperna är oförändrade jämfört med föregående år.

Intäktsredovisning
Intäkter har tagits upp till verkligt värde av vad som erhållits eller kommer att erhållas och redovisas i den omfattning det är sannolikt att de ekonomiska fördelarna kommer att tillgodogöras bolaget och intäkterna kan beräknas på ett tillförlitligt sätt.

Vid försäljning av varor redovisas normalt inkomsten som intäkt när de väsentliga förmåner och risker som är förknippade med ägandet av varan har överförts från företaget till köparen.

Anläggningstillgångar
Immateriella och materiella anläggningstillgångar redovisas till anskaffningsvärde minskat med ackumulerade avskrivningar enligt plan och eventuella nedskrivningar.

Avskrivning sker linjärt över den förväntade nyttjandeperioden med hänsyn till väsentligt restvärde. Följande avskrivningsperioder tillämpas:

Materiella anläggningstillgångar

Maskiner och inventarier	3-20 år

Komponentindelning
Materiella anläggningstillgångar har delats upp på komponenter när komponenterna är betydande och när komponenterna har väsentligt olika nyttjandeperioder. När en komponent i en anläggningstillgång byts ut, utrangeras eventuell kvarvarande del av den gamla komponenten och den nya komponentens anskaffningsvärde aktiveras. Utgifter för löpande reparationer och underhåll redovisas som kostnader.

Finansiella instrument
Finansiella instrument värderas utifrån anskaffningsvärdet. Instrumentet redovisas i balansräkningen när bolaget blir part i instrumentets avtalsmässiga villkor. Finansiella tillgångar tas bort från balansräkningen när rätten att erhålla kassaflöden från instrumentet har löpt ut eller överförts och bolaget har överfört i stort sett alla risker och förmåner som är förknippade med äganderätten. Finansiella skulder tas bort från balansräkningen när förpliktelserna har reglerats eller på annat sätt upphört.

Andelar i dotterföretag
Andelar i dotterföretag redovisas till anskaffningsvärde efter avdrag för eventuella nedskrivningar. I anskaffningsvärdet ingår köpeskillingen som erlagts för aktierna samt förvärvskostnader. Eventuella kapitaltillskott läggs till anskaffningsvärdet när de uppkommer.

Kundfordringar/kortfristiga fordringar
Kundfordringar och kortfristiga fordringar redovisas som omsättningstillgångar till det belopp som förväntas bli inbetalt efter avdrag för individuellt bedömda osäkra fordringar.

Låneskulder och leverantörsskulder
Låneskulder och leverantörsskulder redovisas initialt till anskaffningsvärde efter avdrag för transaktionskostnader. Skiljer sig det redovisade beloppet från det belopp som ska återbetalas vid förfallotidpunkten periodiseras mellanskillnaden som räntekostnad över lånets löptid med hjälp av instrumentets effektivränta. Härigenom överensstämmer vid förfallotidpunkten det redovisade beloppet och det belopp som ska återbetalas.

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Nedskrivningsprövning av finansiella anläggningstillgångar
Vid varje balansdag bedöms om det finns indikationer på nedskrivningsbehov av någon av de finansiella anläggningstillgångarna. Nedskrivning sker om värdenedgången bedöms vara bestående och prövas individuellt.

Leasingavtal
Företaget redovisar samtliga leasingavtal, såväl finansiella som operationella, som operationella leasingavtal. Operationella leasingavtal redovisas som en kostnad linjärt över leasingperioden.

Varulager
Varulagret har värderats till det lägsta av dess anskaffningsvärde och dess nettoförsäljningsvärde på balansdagen. Med nettoförsäljningsvärde avses varornas beräknade försäljningspris minskat med försäljningskostnader. Den valda värderingsmetoden innebär att inkurans i varulagret har beaktats.

Inkomstskatter
Total skatt utgörs av aktuell skatt och uppskjuten skatt. Skatter redovisas i resultaträkningen, utom då underliggande transaktion redovisas direkt mot eget kapital varvid tillhörande skatteeffekter redovisas i eget kapital.

Avsättningar
Som avsättning har redovisats förpliktelser gentemot tredje man som är hänförliga till räkenskapsåret eller tidigare räkenskapsår och som på balansdagen antingen är säkra eller sannolika till sin förekomst men oviss till belopp eller till den tidpunkt då de ska infrias.

En avsättning för framtida kostnader görs när det finns en legal eller informell förpliktelse och en tillförlitlig uppskattning av ett belopp kan göras.

Ersättningar till anställda
Ersättningar till anställda avser alla former av ersättningar som företaget lämnar till de anställda. Kortfristiga ersättningar utgörs av bland annat löner, betald semester, betald frånvaro, bonus och ersättning efter avslutad anställning (pension). Kortfristiga ersättningar redovisas som kostnad och en skuld då det finns en legal eller informell förpliktelse att betala ut en ersättning till följd av en tidigare händelse och en tillförlitlig uppskattning av beloppet kan göras.

Ersättningar till anställda efter avslutad anställning
I företaget finns förmånsbestämda pensionsplaner. Redovisning sker enligt förenklingsreglerna.

Företaget har förmånsbestämda pensionsplaner där en pensionspremie betalas och redovisar dessa planer som avgiftsbestämda planer i enlighet med förenklingsregeln i BFNAR 2012:1 (K3).

Företaget har förmånsbestämda pensionsplaner som finansieras via Alecta, vilka redovisas som avgiftsbestämda planer då det inte finns tillräcklig information för att redovisa planen som förmånsbestämd.

Företaget har en förmånsbestämd pensionsförpliktelse som är knuten till en pensionsstiftelse. Företaget redovisar en avsättning för den del stiftelsens förmögenhet, värderad till marknadsvärde, understiger förpliktelsen.

Koncernförhållanden
Företaget är moderföretag men med hänvisning till undantagsreglerna i årsredovisningslagen 7 kap 2§ upprättas ingen egen koncernredovisning. Moderföretaget i den största koncernen som Åkers AB är dotterbolag till är Ampco-Pittsburh Corporation ("Ampco"), org.nr. EIN 25-1117717, med säte i Pennsylvania, USA. Ampco upprättar koncernredovisningen där Åkers AB och dess dotterbolag ingår.

Ampco's konsoliderade årsredovisning kan hämtas på websidan www.ampcopittsburgh.com under fliken "Investors".

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Kassaflödesanalys

Kassaflödesanalysen upprättas enligt indirekt metod. Det redovisade kassaflödet omfattar endast transaktioner som medfört in- eller utbetalningar.

Som likvida medel klassificerar företaget, förutom kassamedel, disponibla tillgodohavanden hos banker och andra kreditinstitut samt kortfristiga likvida placeringar som är noterade på en marknadsplats och har en kortare löptid än tre månader från anskaffningstidpunkten. Förändringar i spärrade medel redovisas i investeringsverksamheten.

Nyckeltalsdefinitioner

Nettoomsättning
Rörelsens huvudintäkter, fakturerade kostnader, sidointäkter samt intäktskorrigeringar.

Resultat efter avskrivningar
Resultat efter avskrivningar men före finansiella intäkter och kostnader.

Resultat efter finansiella poster
Resultat efter finansiella intäkter och kostnader men före bokslutsdispositioner och skatter.

Antal anställda
Medelantal anställda under räkenskapsåret.

Balansomslutning
Företagets samlade tillgångar.

Avkastning på eget kap. (%)
Resultat efter finansiella poster i procent av justerat eget kapital (eget kapital och obeskattade reserver med avdrag för uppskjuten skatt).

Avkastning på totalt kap. (%)
Rörelseresultat plus finansiella intäkter i procent av balansomslutningen.

Soliditet (%)
Justerat eget kapital (eget kapital och obeskattade reserver med avdrag för uppskjuten skatt) i procent av balansomslutning.

Uppskattningar och bedömningar

Upprättande av bokslut och tillämpning av redovisningsprinciper, baseras ofta på ledningens bedömningar, uppskattningar och antaganden som anses vara rimliga vid den tidpunkt då bedömningen görs. Uppskattningar och bedömningar är baserade på historiska erfarenheter och ett antal andra faktorer, som under rådande omständigheter anses vara rimliga. Resultatet av dessa används för att bedöma de redovisade värdena på tillgångar och skulder, som inte annars framgår tydligt från andra källor. Det verkliga utfallet kan avvika från dessa uppskattningar och bedömningar. Uppskattningar och antaganden ses över regelbundet.

Enligt företagsledningen är väsentliga bedömningar avseende tillämpade redovisningsprinciper samt källor till osäkerhet i uppskattningar, främst relaterade till följande poster.

Våra kunder garanteras en viss livslängd på våra valsar uttryckt i millimeter slityta, varför vi har svårt att bedöma under vilken tid våra kunder förbrukar våra valsar.

Värdering av aktier i dotterbolag bygger på bedömningar och uppskattningar. Nedskrivningsprövning görs och baseras på framtida kassaflöden, prognoser och budget vilket grundar sig på företagsledningens bästa uppskattning.

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Not 2 Nettoomsättningens fördelning

	2022	2021
Nettoomsättningen per rörelsegren		
Valsar	748 359	603 727
	748 359	**603 727**
Nettoomsättning per geografisk marknad		
Europa	446 221	375 630
Nordamerika	61 997	33 950
Sydamerika	39 501	28 879
Asien inkl. Australien	122 832	111 282
Afrika inkl. Mellanöstern	77 808	53 986
	748 359	**603 727**

Not 3 Övriga rörelseintäkter

	2022	2021
Vidarefakturerade kostnader	78 903	81 497
Licensintäkter	8 685	7 195
Övriga rörelseintäkter	26 067	6 706
	113 654	**95 398**

Not 4 Leasingavtal

Årets leasingkostnader avseende leasingavtal, uppgår till 234 (189) tkr.

Framtida leaseavgifter, för icke uppsägningsbara leasingavtal
förfaller till betalning enligt följande:

	2022	2021
Inom ett år	193	267
Senare än ett men inom fem år	53	229
	246	496

I beloppet för övriga externa kostnader ingår avgifter för operationell leasing och hyra enligt ovan.
Avgifterna avser till största delen leasingavgifter för personbilar samt hyra av kontorsmaskiner.

Not 5 Arvode till revisorer

Med revisionsuppdrag avses granskning av årsredovisningen och bokföringen samt styrelsens och verkställande direktörens förvaltning, övriga arbetsuppgifter som det ankommer på bolagets revisor att utföra samt rådgivning eller annat biträde som föranleds av iakttagelser vid sådan granskning eller genomförandet av sådana övriga arbetsuppgifter

	2022	2021
BDO		
Revisionsuppdrag	134	161
	134	**161**

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Not 6 Anställda och personalkostnader

	2022	2021
Medelantalet anställda		
Kvinnor	2	3
Män	2	4
	4	**7**
Löner och andra ersättningar		
Verkställande direktör och motsvarande befattningshavare	0	0
Övriga anställda	2 944	4 070
	2 944	**4 070**
Sociala kostnader		
Pensionskostnader för styrelse och verkställande direktör	0	0
Pensionskostnader för övriga anställda	2 918	1 285
Övriga sociala avgifter enligt lag och avtal	1 713	1 655
	4 631	**2 940**
Totala löner, ersättningar, sociala kostnader och pensionskostnader	**7 576**	**7 010**
Könsfördelning bland ledande befattningshavare		
Andel män i styrelsen	100%	100%
Andel män bland övriga ledande befattningshavare	100%	100%

Av löner och ersättningar avser 0 KSEK (0 KSEK) övriga ledande befattningshavare. Tantiem till verkställande direktör och övriga ledande befattningshavare uppgår till 0 KSEK (0 KSEK).

I beloppet för pensionsavsättningar ingår avsättning för styrelse, VD och motsvarande befattningshavare med 0 tkr (0 tkr). Inga avtal om avgångsvederlag finns med styrelse, VD och motsvarande befattningshavare.

I medelantalet anställda i Sverige ingår en kvinnlig anställd som är verksam i Turkiet

Not 7 Transaktioner med närstående

Transaktioner mellan företaget och dess närstående har skett på marknadsmässiga grunder

	2022	2021
Andel av årets totala inköp som skett från andra företag i koncernen	98%	97%
Andel av årets totala försäljningar som skett till andra företag i koncernen	12%	15%

Not 8 Resultat från andelar i koncernföretag

	2022	2021
Erhållna utdelningar	1 712	0
	1 712	**0**

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Not 9 Finansiella anläggningstillgångar och kortfristiga placeringar

	2022	2021
Återföring av nedskrivningar	-316	-2 094
	-316	**-2 094**

Not 10 Resultat från övriga värdepapper och fordringar som är anläggningstillgångar

	2022	2021
Valutakursdifferenser från långfristig fordran på koncernföretag	316	100
	316	**100**

Not 11 Räntekostnader och liknande resultatposter

	2022	2021
Räntekostnader till koncernföretag	-2 576	-2 388
Övriga räntekostnader	-540	-694
Kursdifferenser	-1 693	-404
	-4 809	**-3 486**

Not 12 Aktuell och uppskjuten skatt

	2022	2021
Skatt på årets resultat		
Aktuell skatt	0	0
Totalt redovisad skatt	**0**	**0**

Avstämmning av effektiv skatt

		2022		2021
	Procent	Belopp	Procent	Belopp
Redovisat resultat före skatt		-13 963		-5 923
Skatt enligt gällande skattesats	20,60	2 876	20,60	1 220
Ej avdragsgilla kostnader		33		-438
Ej skattepliktiga intäkter		353		244
I år uppkomna underskott som ej redovisas som tillgång		-3 262		-1 026
Redovisad effektiv skatt		**0**		**0**

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Not 13 Maskiner och inventarier

	2022-12-31	2021-12-31
Ingående anskaffningsvärden	3 000	3 000
Inköp	440	0
Utgående ackumulerade anskaffningsvärden	**3 440**	**3 000**
Ingående avskrivningar	-2 695	-2 373
Årets avskrivningar	-265	-322
Utgående ackumulerade avskrivningar	**-2 961**	**-2 695**
Utgående redovisat värde	**479**	**304**

Not 14 Andelar i koncernföretag

	2022-12-31	2021-12-31
Ingående anskaffningsvärden	493 696	493 696
Inköp	0	0
Försäljningar	-636	0
Utgående ackumulerade anskaffningsvärden	**493 060**	**493 696**
Ingående nedskrivningar	-113 719	-113 719
Utgående ackumulerade nedskrivningar	**-113 719**	**-113 719**
Utgående redovisat värde	**379 341**	**379 977**

Not 15 Specifikation andelar i koncernföretag

Namn	Kapitalandel	Rösträttsandel	Bokfört värde
Shanxi ATR	60%	60%	85 987
Åkers Trading Company Shanghai Ltd	100%	100%	2 871
Åkers Cairo LLC	100%	100%	205
Åkers Sweden AB	100%	100%	290 278
			379 341

	Säte	Org.nr
Shanxi ATR	Taiyuan	911400006623-635000
Åkers Trading Company Shanghai Ltd	Shanghai	310000400571845
Åkers Cairo LLC	Kairo	42158
Åkers Sweden AB	Å. Styckebruk	556031-8080

Not 16 Andra långfristiga fordringar

	2022-12-31	2021-12-31
Vid årets början	239	216
Årets förändring depositioner	19	16
Årets förändring övriga långfristiga fordringar	11	7
Utgående ackumulerade anskaffningsvärden	**268**	**239**
Utgående redovisat värde	**268**	**239**

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Not 17 Förutbetalda kostnader och upplupna intäkter

	2022-12-31	2021-12-31
Förutbetalda försäkringar	22	15
Övriga förutbetalda kostnader	354	365
Övriga upplupna intäkter	4 341	101
	4 718	**481**

Not 18 Antal aktier och kvotvärde

	Antal aktier	Kvotvärde
Namn		
Stamaktier	1 400 000	7,14
	1 400 000	

Not 19 Disposition av vinst eller förlust

	2022-12-31
Förslag till vinstdisposition	
Styrelsen föreslår att till förfogande stående vinstmedel:	
Balanserad vinst	289 519
Årets förlust	-13 963
	275 556
disponeras så att	
i ny räkning överföres	275 556
	275 556

Not 20 Ställda säkerheter och eventualförpliktelser

	2022-12-31	2021-12-31
Eventualförpliktelser		
Personalförpliktelser	271	234
	271	**234**

Not 21 Avsättningar för pensioner och liknande förpliktelser

	2022-12-31	2021-12-31
Pensioner och liknande förpliktelser		
Belopp vid årets ingång	11 685	11 691
Årets avsättning enligt Tryggandelagen, PRI pensionsgaranti	1 857	-6
	13 542	**11 685**

Not 22 Övriga avsättningar

	2022-12-31	2021-12-31
Vid årets början	0	0
Garantiavsättningar Frankrike	0	0
	0	**0**

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Not 23 Upplupna kostnader och förutbetalda intäkter

	2022-12-31	2021-12-31
Personalrelaterade kostnader	660	1 563
Förutbetalda intäkter	13 771	8 810
Övrigt	134	74
	14 565	**10 447**

Not 24 Justering för poster som inte ingår i kassaflödet

	2022-12-31	2021-12-31
Avskrivningar	265	322
Avsättningar för pensioner	1 857	-6
Förändring andelar i dotterbolag	636	0
Övriga avsättningar	0	0
	2 758	**316**

Not 25 Ställda säkerheter och eventualförpliktelser	**2022-12-31**	**2021-12-31**
Företagsinteckningar*	415 500	Inga

* Avser ställda säkerheter för bankfinansiering i Ampco Pittsburgh Corporation

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Åkers Aktiebolag
Org.nr. 556153-4792

Undertecknade försäkrar härmed att årsredovisningen har upprättats i enlighet med årsredovisningslagen och god redovisningssed, att aktuella redovisningsformer har tillämpats och att lämnade uppgifter stämmer med faktiska förhållanden.

Åkers styckebruk, datum enligt digital signatur

Jörgen Hedström
Verställande direktör

Vår revisionsberättelse har lämnats

BDO Sweden AB

Carl-Johan Kjellman
Auktoriserad revisor

Johan Pharmanson
Auktoriserad revisor

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Activity log

1. JÖRGEN HEDSTRÖM	Signed	20.06.2023 17:26	eID	Swedish BankID (DOB: 1966/04/04)
Jorgen.Hedstrom@akersrolls.com	Authenticated	20.06.2023 17:25	Low	IP: 90.129.195.46
2. Sten Johan Pharmanson	Signed	20.06.2023 18:57	eID	Swedish BankID (DOB: 1964/11/13)
Johan.Pharmanson@bdo.se	Authenticated	20.06.2023 18:56	Low	IP: 217.119.170.26
3. CARL-JOHAN KJELLMAN	Signed	20.06.2023 19:40	eID	Swedish BankID (DOB: 1974/08/09)
Carl-Johan.Kjellman@bdo.se	Authenticated	20.06.2023 19:39	Low	IP: 91.128.131.32

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PAdES *sealed*

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REVISIONSBERÄTTELSE

Till bolagsstämman i Åkers AB
Org.nr. 556153-4792

Rapport om årsredovisningen

Uttalanden

Vi har utfört en revision av årsredovisningen för Åkers AB för år 2022.

Enligt vår uppfattning har årsredovisningen upprättats i enlighet med årsredovisningslagen och ger en i alla väsentliga avseenden rättvisande bild av Åkers ABs finansiella ställning per den 31 december 2022 och av dess finansiella resultat och kassaflöde för året enligt årsredovisningslagen. Förvaltningsberättelsen är förenlig med årsredovisningens övriga delar.

Vi tillstyrker därför att bolagsstämman fastställer resultaträkningen och balansräkningen.

Grund för uttalanden

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

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

Styrelsens och verkställande direktörens ansvar

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

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

Revisorns ansvar

Våra mål är att uppnå en rimlig grad av säkerhet om 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.

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

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

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

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Rapport om andra krav enligt lagar och andra författningar

Uttalanden

Utöver vår revision av årsredovisningen har vi även utfört en revision av styrelsens och verkställande direktörens förvaltning för Åkers AB för år 2022 samt av förslaget till dispositioner beträffande bolagets vinst eller förlust.

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

Grund för uttalanden

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

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

Styrelsens och verkställande direktörens ansvar

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

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

Revisorns ansvar

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

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

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

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

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

Stockholm, datum enligt digital signatur

BDO Sweden AB

Carl-Johan Kjellman
Auktoriserad revisor

Johan Pharmanson
Auktoriserad revisor

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2 pages

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Sten Johan Pharmanson	Signed	20.06.2023 13:54	eID	Swedish BankID (DOB: 1964/11/13)
johan.pharmanson@bdo.se	Authenticated	20.06.2023 13:54	Low	IP: 217.119.170.26
CARL-JOHAN KJELLMAN	Signed	20.06.2023 15:55	eID	Swedish BankID (DOB: 1974/08/09)
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UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
Washington, D.C. 20549

FORM 10-K

☒ **ANNUAL REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the fiscal year ended December 31, 2022

OR

☐ **TRANSITION REPORT PURSUANT TO SECTION 13 OR 15(d) OF THE SECURITIES EXCHANGE ACT OF 1934**

For the transition period from _____ to

Commission File Number 1-898

AMPCO-PITTSBURGH CORPORATION

Pennsylvania
(State of Incorporation)

25-1117717
(I.R.S. Employer Identification No.)

726 Bell Avenue, Suite 301
Carnegie, Pennsylvania 15106
(Address of principal executive offices)

(412) 456-4400
(Registrant's telephone number)

Securities registered pursuant to Section 12(b) of the Act:

Title of each class	Trading Symbol(s)	Name of each exchange on which registered
Common Stock, $1 par value	AP	New York Stock Exchange
Series A Warrants to purchase shares of Common Stock	AP WS	NYSE American Exchange

Securities registered pursuant to Section 12(g) of the Act: None

Indicate by check mark if the registrant is a well-known seasoned issuer, as defined in Rule 405 of the Securities Act. Yes ☐ No ☒

Indicate by check mark if the registrant is not required to file reports pursuant to Section 13 or Section 15(d) of the Act. Yes ☐ No ☒

Indicate by check mark whether the Registrant (1) has filed all reports required to be filed by Section 13 or 15(d) of the Securities Exchange Act of 1934 during the preceding 12 months (or for such shorter period that the Registrant was required to file such reports), and (2) has been subject to such filing requirements for the past 90 days. Yes ☒ No ☐

Indicate by check mark whether the Registrant has submitted electronically every Interactive Data File required to be submitted pursuant to Rule 405 of Regulation S-T (§ 232.405 of this chapter) during the preceding 12 months (or such shorter period that the registrant was required to submit such files). Yes ☒ No ☐

Indicate by check mark whether the registrant is a large accelerated filer, an accelerated filer, a non-accelerated filer, a smaller reporting company, or an emerging growth company. See the definitions of "large accelerated filer," "accelerated filer," "smaller reporting company," and "emerging growth company" in Rule 12b-2 of the Exchange Act.

Large accelerated filer	☐	Accelerated filer	☐
Non-accelerated filer	☒	Smaller reporting company	☒
		Emerging growth company	☐

If an emerging growth company, indicate by check mark if the registrant has elected not to use the extended transition period for complying with any new or revised financial accounting standards provided pursuant to Section 13(a) of the Exchange Act. ☐

Indicate by check mark whether the registrant has filed a report on and attestation to its management's assessment of the effectiveness of its internal control over financial reporting under Section 404(b) of the Sarbanes-Oxley Act (15 U.S.C. 7262(b)) by the registered public accounting firm that prepared or issued its audit report. ☐

If securities are registered pursuant to Section 12(b) of the Act, indicate by check mark whether the financial statements of the registrant included in the filing reflect the correction of an error to previously issued financial statements. ☐

Indicate by check mark whether any of those error corrections are restatements that required a recovery analysis of incentive-based compensation received by any of the registrant's executive officers during the relevant recovery period pursuant to §240.10D-1(b). ☐

Indicate by check mark whether the registrant is a shell company (as defined in Rule 12b-2 of the Exchange Act). Yes ☐ No ☒

The aggregate market value of the voting stock of Ampco-Pittsburgh Corporation held by non-affiliates on June 30, 2022 (based upon the closing price of the Registrant's Common Stock on the New York Stock Exchange on that date) was approximately $47 million.

As of March 15, 2023, 19,403,519 common shares were outstanding.

Documents Incorporated by Reference: Part III of this report incorporates by reference certain information from the Proxy Statement for the 2023 Annual Meeting of Shareholders.

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FORWARD-LOOKING STATEMENTS

The Private Securities Litigation Reform Act of 1995 (the "Act") provides a safe harbor for forward-looking statements made by us or on our behalf. *Management's Discussion and Analysis of Financial Condition and Results of Operations* and other sections of this Annual Report on Form 10-K, as well as the consolidated financial statements and notes hereto, may include, but are not limited to, statements about operating performance, trends and events that we expect or anticipate will occur in the future, statements about sales and production levels, restructurings, the impact from global pandemics, profitability and anticipated expenses, inflation, the global supply chain, future proceeds from the exercise of outstanding warrants, and cash outflows. All statements in this document other than statements of historical fact are statements that are, or could be, deemed "forward-looking statements" within the meaning of the Act and words such as "may," "will," "intend," "believe," "expect," "anticipate," "estimate," "project," "forecast" and other terms of similar meaning that indicate future events and trends are also generally intended to identify forward-looking statements. Forward-looking statements speak only as of the date on which such statements are made, are not guarantees of future performance or expectations, and involve risks and uncertainties. For us, these risks and uncertainties include, but are not limited to:

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- economic downturns, cyclical demand for our products and insufficient demand for our products;
- excess global capacity in the steel industry;
- fluctuations in the value of the U.S. dollar relative to other currencies;
- increases in commodity prices or insufficient hedging against increases in commodity prices, reductions in electricity and natural gas supply or shortages of key production materials for us or our customers;
- limitations in availability of capital to fund our strategic plan;
- inability to maintain adequate liquidity in order to meet our operating cash flow requirements, repay maturing debt and meet other financial obligations;
- inability to obtain necessary capital or financing on satisfactory terms in order to acquire capital expenditures that may be necessary to support our growth strategy;
- inoperability of certain equipment on which we rely and/or our inability to execute our capital expenditure plan;
- liability of our subsidiaries for claims alleging personal injury from exposure to asbestos-containing components historically used in certain products of our subsidiaries;
- changes in the existing regulatory environment;
- inability to successfully restructure our operations and/or invest in operations that will yield the best long-term value to our shareholders;
- consequences of global pandemics and international conflicts;
- work stoppage or another industrial action on the part of any of our unions;
- inability to satisfy the continued listing requirements of the New York Stock Exchange or the NYSE American Exchange;
- potential attacks on information technology infrastructure and other cyber-based business disruptions;
- failure to maintain an effective system of internal control; and
- those discussed more fully elsewhere in this report, particularly in Item 1A, *Risk Factors*, in Part I of this Annual Report on Form 10-K.

We cannot guarantee any future results, levels of activity, performance or achievements. In addition, there may be events in the future that we are not able to predict accurately or control which may cause actual results to differ materially from expectations expressed or implied by forward-looking statements. Except as required by applicable law, we assume no obligation, and disclaim any obligation, to update forward-looking statements whether as a result of new information, events or otherwise.

– PART I –

ITEM 1. BUSINESS

GENERAL DEVELOPMENT OF BUSINESS

Ampco-Pittsburgh Corporation (the "Corporation") was incorporated in Pennsylvania in 1929. The Corporation, individually or together with its consolidated subsidiaries, is also referred to herein as the "Registrant." The Corporation manufactures and sells highly engineered, high-performance specialty metal products and customized equipment utilized by industry throughout the world. It operates in two business segments – the *Forged and Cast Engineered Products* ("FCEP") segment and the *Air and Liquid Processing* ("ALP") segment. This segment presentation is consistent with how the Corporation's chief operating decision-maker evaluates financial performance and makes resource allocation and strategic decisions about the business.

While the Corporation operated at normal levels in 2022, it continues to be challenged by lingering global economic effects of a post-pandemic environment and repercussions from the Russia-Ukraine conflict, including:

- Periodic disruptions to the global supply chain for the Corporation, its vendors and its customers,
- Global inflationary pressures,
- European energy crisis, and
- Delays in receiving and shipping product due to lack of transportation.

The Corporation is actively monitoring, and will continue to actively monitor, the geopolitical and economic consequence of these events and the potential impact on its operations, financial condition, liquidity, suppliers, industry, and workforce.

NARRATIVE DESCRIPTION OF BUSINESS

Forged and Cast Engineered Products Segment

The *FCEP segment* produces forged hardened steel rolls, cast rolls and forged engineered products ("FEP"). Forged hardened steel rolls are used primarily in hot and cold rolling mills by producers of steel, aluminum and other metals. Cast rolls, which are produced in a variety of iron and steel qualities, are used mainly in hot strip mills, medium/heavy section mills, roughing mills, and plate mills. FEP principally are sold to customers in the steel distribution market, oil and gas industry and the aluminum and plastic extrusion industries. The segment has operations in the United States, England, Sweden, Slovenia, and an equity interest in three joint venture companies in China. Collectively, the segment primarily competes with European, Asian and North and South American companies in both domestic and foreign markets and distributes a significant portion of its products through sales offices located throughout the world.

Union Electric Steel Corporation ("UES") produces forged hardened steel rolls and FEP. It is headquartered in Carnegie, Pennsylvania, with three manufacturing facilities in Pennsylvania and one in Indiana. The following entities are direct or indirect operating subsidiaries of UES:

Union Electric Steel UK Limited produces cast rolls in a variety of iron and steel qualities for hot strip mills, medium/heavy section mills and plate mills. It is located in Gateshead, England.

Åkers Sweden AB produces cast rolls in a variety of iron and steel qualities for hot strip mills, medium/heavy section mills, roughing mills, and plate mills. It is located in Åkers Styckebruk, Sweden.

Åkers Valji Ravne d.o.o. produces forged rolls for cluster mills and Z-Hi mills, work rolls for narrow and wide strip and aluminum mills, back-up rolls for narrow strip mills, and leveling rolls and shafts. It is located in Ravne, Slovenia.

Alloys Unlimited Processing, LLC is a distributor of tool steels and alloys and carbon round bar. It is located in Austintown, Ohio.

The segment's three joint venture companies in China include:

Shanxi Åkers TISCO Roll Co., Ltd. is a joint venture between Taiyuan Iron and Steel Co. Ltd. and Åkers AB, a non-operating subsidiary of UES, that produces cast rolls for hot strip mills, steckel mills and medium plate mills. It is located in Taiyuan, Shanxi Province, China. Åkers AB holds a 59.88% interest in the joint venture.

Anhui Baochang Roll Co., Ltd., previously known as Magong Gongchang United Rollers Co., Ltd., is a joint venture among UES, Magang (Group) Holding Co., Ltd. and Jiangsu Gong-Chang Roll Co., Ltd. that produces large forged backup rolls for hot and cold strip mills. It is located in Maanshan, Anhui Province, China. Union Electric Steel (Hong Kong) Limited, a non-operating subsidiary of UES, holds a 33% interest in the joint venture.

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Jiangsu Gong-Chang Roll Co., Ltd. is a joint venture that produces cast rolls for hot strip mills, medium/heavy section mills and plate mills. It is located in Xinjian Town Yixing City, Jiangsu Province, China. Union Electric Steel UK Limited holds a 24.03% interest in the joint venture.

Air and Liquid Processing Segment

The *ALP* segment includes Aerofin, Buffalo Air Handling and Buffalo Pumps, all divisions of Air & Liquid Systems Corporation ("Air & Liquid"), a wholly owned subsidiary of the Corporation. The segment has operations in Virginia and New York with headquarters in Carnegie, Pennsylvania. The segment distributes a significant portion of its products through a common independent group of sales offices located throughout the United States and has several major competitors.

Aerofin Division of Air & Liquid Systems Corporation produces custom-engineered finned tube heat exchange coils and related heat transfer products for a variety of industries including OEM/commercial, nuclear power generation and industrial manufacturing. It is located in Lynchburg, Virginia.

Buffalo Air Handling Division of Air & Liquid Systems Corporation produces large custom-designed air handling systems for institutional (e.g., hospital, university), pharmaceutical and general industrial building markets. It is located in Amherst, Virginia.

Buffalo Pumps Division of Air & Liquid Systems Corporation manufactures centrifugal pumps for the fossil fueled power generation, marine defense and industrial refrigeration industries. It is located in North Tonawanda, New York.

Products

In both segments, the products are dependent on engineering, principally custom designed, and are sold to sophisticated commercial and industrial users located throughout the world. Products are delivered directly to the customer via third-party carriers or customer-arranged transportation. For the FCEP segment, one customer accounted for 10% of its net sales in 2022, the loss of which could have a material adverse effect on the segment, and no customers exceeded 10% of its net sales in 2021. For the ALP segment, no customers exceeded 10% of its net sales in 2022 or 2021. For additional information on the products produced and financial information about each segment, see Note 17, *Revenue*, and Note 24, *Business Segments*, to the Consolidated Financial Statements.

Raw Materials

Raw materials used in both segments are generally available from many sources, and neither segment is dependent upon any single supplier for any raw material. Substantial volumes of raw materials used by each segment are subject to significant variations in price. The Corporation's subsidiaries generally do not purchase or commit for the purchase of a major portion of raw materials significantly in advance of the time they require such materials but periodically make forward commitments for natural gas, electricity and certain commodities (copper and aluminum). See Note 15, *Derivative Instruments*, to the Consolidated Financial Statements.

Patents and Trademarks

While the Corporation and its subsidiaries hold certain patents, trademarks and licenses, in the opinion of the Corporation, they are not material to either segment.

Backlog

The backlog of orders at December 31, 2022 was approximately $369.0 million compared to a backlog of $292.6 million at year-end 2021. Both segments contributed to the improvement in backlog. Backlog for the FCEP segment increased by approximately $28.8 million year over year due to the net of improved demand and sale price increases for mill rolls offset by lower FEP backlog and foreign exchange rates used to translate the backlog of the Corporation's foreign subsidiaries into the U.S. dollar. Backlog for the ALP segment increased by approximately $47.6 million and benefited from improved order intake for each of its product lines. Approximately 6% of the backlog is expected to be released after 2023.

Competition

The Corporation faces considerable competition from a large number of companies in both segments. The Corporation believes, however, that its subsidiaries are significant participants in each of the niche markets that they serve. Competition in both segments is based on quality, service, price, and delivery.

Environmental Protection Compliance Costs

Expenditures for environmental control matters were not material to either segment in 2022 and are not expected to be material in 2023.

Employees and Human Capital Management

Employees

On December 31, 2022, the Corporation and its subsidiaries had 1,565 active employees worldwide (substantially all full-time), of which approximately 54% were employed in the United States. Approximately 34% of the Corporation's employees are covered by collective bargaining agreements or agreements with works councils.

Oversight

The Compensation Committee of the Board of Directors maintains oversight of the Corporation's human capital management strategies that it may deem important to the long-term sustainability of the Corporation.

Key Areas of Focus for the Corporation

Health and Safety – The Corporation's health and safety program is designed around the regulations associated with the specific hazards and unique working environments of the Corporation's manufacturing and headquarter operations. The Corporation requires all of its locations to perform regular safety audits to ensure compliance with the safety program. Leading indicators, such as reporting and training of all near-miss events, are used to identify risks for potential future incidents. Lagging indicators, such as OSHA recordable rates and lost-time incidence rates, are used to measure achievement of safety metrics.

Diversity and Inclusion – The Corporation tracks various metrics such as turnover, absenteeism and diversity. The Corporation has developed strategies to ensure that employees of diverse backgrounds and perspectives enjoy a culture of mutual respect, inclusiveness and teamwork in an environment which values diversity.

AVAILABLE INFORMATION

The Corporation files annual, quarterly and current reports; amendments to those reports; proxy statements; and other information with the Securities and Exchange Commission ("SEC"). You may access and read the Corporation's filings without charge through the SEC's website at www.sec.gov. The Corporation's internet address is www.ampcopittsburgh.com. The Corporation makes available, free of charge on its website, access to these reports as soon as reasonably practicable after such material is filed with, or furnished to, the SEC. The information on the Corporation's website is not part of this Annual Report on Form 10-K.

EXECUTIVE OFFICERS

The name, age, position with the Corporation, and business experience for at least the past five years of the Executive Officers[(1)] of the Corporation are as follows:

J. Brett McBrayer (age 57). Mr. McBrayer has served as the Corporation's Chief Executive Officer since July 2018. He previously served as President and Chief Executive Officer at Airtex Products and ASC Industries, a global manufacturer and distributor of automotive after-market and OEM fuel and water pumps from 2012 to 2017. Airtex Products and ASC Industries, together with its parent company, UCI International LLC, and affiliated companies, filed for bankruptcy protection in June 2016, and successfully emerged in December 2016. Mr. McBrayer also served as Vice President and General Manager of the Alcan Cable business at Rio Tinto Alcan, as Vice President and General Manager of the Specialty Metals Division at Precision Cast Parts Corporation, and held positions of various responsibility and leadership during his 20 years with Alcoa, Inc. Mr. McBrayer received a Bachelor of Science in Industrial Engineering from the University of Tennessee and a Master of Arts in Applied Behavioral Science from Bastyr University.

Michael G. McAuley (age 59). Mr. McAuley has served as Senior Vice President, Chief Financial Officer and Treasurer of the Corporation since March 2018 and as Vice President, Chief Financial Officer and Treasurer since April 2016. Previously, he served as Senior Vice President and Chief Financial Officer of RTI International Metals, Inc., a producer of titanium mill products and fabricated metal components from July 2014 to October 2015.

Samuel C. Lyon (age 54). Mr. Lyon has served as President of Union Electric Steel Corporation since February 2019. He previously served as Vice President and Group President of Performance Engineered Products at Carpenter Technology Corporation, a developer, manufacturer and distributor of stainless steels and corrosion-resistant alloys from July 2017 to January 2019. Prior to that, he served as Vice President and General Manager of Dynamet Incorporated, the titanium business unit of Carpenter Technology Corporation from October 2016 to June 2017, and as Chief Operating Officer of UCI-Pumps business of UCI-Fram, an OEM and after-market automotive parts supplier from March 2013 to September 2016.

David G. Anderson (age 55). Mr. Anderson has been employed by the Corporation since 2010 and has served as President of Air & Liquid Systems Corporation since January 2022. He previously served as Vice President of Finance for Union Electric Steel Corporation from October 2018 to December 2021, and as Vice President of Air & Liquid Systems Corporation from May 2016 to October 2018.

(1) Officers serve at the discretion of the Board of Directors of the Corporation and none of the listed individuals serves as a director of another public company.

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ITEM 1A. RISK FACTORS

Our business, financial condition, results of operations, liquidity, and the value of any investment in our securities are subject to a number of risks. The risks and uncertainties described below are those that we have identified as material, but are not the only risks and uncertainties we face. Additional risks and uncertainties not currently known to us or that we currently believe are not material also may impair our business, financial condition, results of operations, liquidity, and the value of any investment in our securities.

RISKS RELATED TO OUR BUSINESS AND INDUSTRY

Cyclical demand for products and economic downturns could reduce the demand for, and sales of, our products, which could adversely affect our margins and profitability.

A significant portion of the FCEP segment's sales consists of mill rolls to customers in the global steel and aluminum industry that can be periodically impacted by economic or cyclical downturns. Such downturns, the timing and length of which are difficult to predict, may reduce the demand for, and sales of, our forged and cast rolls both in the United States and the rest of the world. Lower demand for rolls may also adversely impact profitability as other competing roll producers lower selling prices in the marketplace in order to fill their manufacturing capacity. Cancellation of orders or deferral of delivery of rolls may occur and produce an adverse impact on our financial results. In addition, sales of FEP, specifically open-die forged products for the oil and gas industry and steel distribution markets, are impacted by fluctuations in global energy prices, which also could adversely affect our margins and profitability.

Excess global capacity in the steel industry could lower prices for our products, which could adversely affect our sales, margins and profitability, as well as the collectability of our receivables and the salability of our in-process inventory.

The global steel manufacturing capacity continues to exceed global consumption of steel products. Such excess capacity often results in manufacturers in certain countries exporting steel at prices significantly below their home market prices (often due to local government assistance or subsidies), which leads to global market destabilization and reduced sales and profitability of some of our customers which, in turn, affects our sales and profit margins, as well as the collectability of our receivables and the salability of our in-process inventory. Excess capacity in the global roll industry and cyclicality in end-market demand also pose risks of potential impairment of our long-lived assets, which could be material to our results of operations and the carrying value of our assets.

A reduction in the level of our export sales, as well as other economic factors in foreign countries, could have an adverse impact on our financial results.

Exports are a significant portion of our sales. Historically, changes in foreign exchange rates, particularly in respect of the U.S. dollar, British pound, Swedish krona, and euro, have impacted the export of our products and may do so again in the future. Other factors that may adversely impact our export sales and our operating results include political and economic instability, export controls, changes in tax laws and tariffs, and new indigenous producers in overseas markets. A reduction in the level of our export sales may have an adverse impact on our financial results. In addition, changes in foreign currency exchange rates may provide foreign roll suppliers with advantages based on those lower foreign currency exchange rates and, therefore, permit them to compete in our home markets.

Fluctuation in the value of the U.S. dollar relative to other currencies could adversely affect our business, results of operations and financial condition.

Certain of our subsidiaries operate in foreign jurisdictions and, accordingly, earn revenues, pay expenses, own assets, and incur liabilities in countries using currencies other than the U.S. dollar. Since our consolidated financial statements are presented in U.S. dollars, we must translate revenues and expenses into U.S. dollars at the average exchange rate during each reporting period and assets and liabilities into U.S. dollars at the exchange rate in effect at the end of each reporting period. Therefore, increases or decreases in the value of the U.S. dollar against other major currencies will affect the translated value for revenue, expenses and balance sheet items denominated in foreign currencies and could materially affect our financial results expressed in U.S. dollars.

Increases in energy and commodity prices, reductions in electricity and natural gas supply or shortage of key production materials could adversely impact our production, which could result in lower profitability or higher losses.

Our subsidiaries use certain commodities in the manufacture of their products. These include steel scrap, ferroalloys and energy. Any unexpected, sudden or prolonged price increase may cause a reduction in our profit margins or losses where beneficial fixed-priced contracts do not exist, unfavorable fixed-price contracts cannot be modified or increases cannot be obtained in our selling prices. In addition, there could be a time lag between when we incur such price increases and when we are able to recover such increases in our selling prices. Global increases in transportation costs and more limited availability of freight carriers may impact timely delivery of supplies to our subsidiaries and product to our customers, which may be accentuated during pandemics, and may negatively impact our sales, production and profitability. There also may be curtailment in electricity or natural gas supply or availability of key production materials, which may be accentuated during global conflict: all of which could adversely impact our production. Increases in energy and commodity prices, and/or reductions in electricity and natural gas supply could adversely impact our production or result in lower profitability or higher losses or impairment of our long-lived assets. Shortage of key production materials, while driving up costs, may be of such severity as to disrupt our production, all of which may impact our sales and profitability. Geopolitical factors or wars could exacerbate these risks. In particular, the Russia-Ukraine conflict may intensify the inflationary effect for the cost of natural gas, electricity, raw materials and other production components which are difficult to predict given the fluidity of the military conflict, the novelty of Western sanctions against Russia and possibility of yet harsher ones.

We could face limitations in availability of capital to fund our strategic plans. Additionally, deterioration in our credit profile or increases in interest rates could increase our costs of borrowing and further limit our access to capital markets and commercial credit.

We are parties to a senior secured asset-based revolving credit facility with a consortium of banks. The credit facility is collateralized by a first priority perfected security interest in substantially all of our assets. The credit facility provides for borrowings not to exceed $100 million and an allowance of $20 million for new capital equipment financing (which was accessed in September 2022) but otherwise restricts us from incurring additional indebtedness outside of the agreement, unless approved by the banks. The credit facility is subject to various affirmative and negative covenants and contains various sub-limits, including those based on the type of collateral and borrowings by geographic region. If the financial covenants become difficult to meet or if our borrowing needs increase beyond the prescribed limits, our financial position, results of operations and liquidity may be materially adversely affected. In addition, changes in our credit profile could cause less favorable commercial terms for the procurement of materials required to manufacture our products, which also could have a negative impact on our financial position, results of operations and liquidity. Further, our access to public and private debt markets is limited based on our size, credit profile and not being a well-known seasoned issuer, which may result in limitations in availability of capital to fund our strategic plans.

We have entered into sale-leaseback transactions, which create the risk of loss if we default.

UES and Air & Liquid have entered into sale and leaseback financing transactions with Store Capital Acquisitions, LLC ("STORE") relating to certain properties utilized by segments of the Corporation. Pursuant to such sale and leaseback, UES has entered into a lease with STORE, through which it will sublease properties to Air & Liquid. Such lease entered into by UES contains certain representations, warranties, covenants, obligations, conditions, indemnification provisions and termination provisions customary for that type of agreement. If the Corporation defaults on the terms of such transaction, the Corporation could lose the properties.

We need to maintain adequate liquidity to meet our operating cash flow requirements, debt service costs and other financial obligations. If we fail to comply with the covenants contained in our revolving credit facility or our equipment financing facilities, it may adversely affect our liquidity, results of operations and financial condition.

Our liquidity is a function of our cash on-hand, our ability to successfully generate cash flows from a combination of efficient operations and continuing operating improvements, availability from our revolving credit facility, access to capital markets, and funding from other third parties. We believe our liquidity (including operating and other cash flows that we expect to generate and revolving credit availability) should be sufficient to meet our operating requirements as they occur; however, our ability to maintain sufficient liquidity going forward is subject to the general liquidity of and ongoing changes in the credit markets as well as general economic, financial, competitive, legislative, regulatory, and other market factors that are beyond our control. If we are not able to maintain adequate liquidity, we may not be able to meet our operating cash flow requirements; debt service costs; future required contributions to our employee benefit plans (which are expected to increase in 2024/2025 primarily due to lower than expected pension asset performance in 2022); and other financial obligations.

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Our revolving credit facility is subject to various affirmative and negative covenants and our equipment financing facilities include various affirmative covenants. Failure to comply with material provisions or covenants in these facilities could have a material adverse effect on our liquidity, results of operations and financial condition. We may seek to renegotiate or replace a facility, or may determine not to replace a facility at all and may instead pursue other forms of liquidity. Any new credit agreement or these other forms of liquidity may result in higher borrowing costs and contain non-investment grade covenants that are less advantageous to us than our existing revolving credit and equipment financing facilities.

Our growth strategy has required substantial capital expenditures, which have been funded by the incurrence of additional debt. If we are unable to repay debt service costs, we may be unable to obtain alternative financing on satisfactory terms and our liquidity, results of operations and financial conditions may be adversely affected.

To support our growth strategy, we have made and expect to continue to make substantial capital expenditures. We expect to continue to fund these capital expenditures with our equipment financing facilities. The incurrence of additional indebtedness would require that a portion of our cash flows from operations be used for the payment of interest and principal, thereby reducing our ability to use our cash flows from operations to fund working capital, other capital expenditures and acquisitions. Furthermore, raising equity capital generally would dilute existing shareholders. If additional capital is needed, we may not be able to obtain debt or equity financing on terms acceptable to us, if at all.

Dependence on certain equipment may cause an interruption in our production if such equipment is out of operation for an extended period of time, which could result in lower sales and profitability.

Our principal business relies on certain unique equipment such as an electric arc furnace and a spin cast work roll machine. Although a comprehensive critical spare inventory of key components for this equipment is maintained, if any such unique equipment is out of operation for an extended period of time, it may result in a significant reduction in our sales and earnings.

The ultimate liability of our subsidiaries for claims alleging personal injury from exposure to asbestos-containing components historically used in certain products of our subsidiaries could have a material adverse effect on our financial condition, results of operations or liquidity in the future.

Certain of our subsidiaries and, in some cases, we, are defendants in numerous claims alleging personal injury from exposure to asbestos-containing components historically used in certain products of these subsidiaries. Through the current year end, our insurance has covered a majority of our settlement and defense costs. We believe that the estimated costs, net of anticipated insurance recoveries, of our pending and future asbestos legal proceedings should not have a material adverse effect on our financial condition or liquidity. However, there can be no assurance that our subsidiaries or we will not be subject to significant additional claims in the future or that our subsidiaries' ultimate liability with respect to asbestos claims will not present significantly greater and longer lasting financial exposure than provided in our consolidated financial statements. The ultimate net liability with respect to such pending and any unasserted claims is subject to various uncertainties, including the following:

- the number and nature of claims in the future;
- the costs of defending and settling these claims;
- insolvencies among our insurance carriers and the risk of future insolvencies;
- the possibility that adverse jury verdicts could require damage payments in amounts greater than the amounts for which we have historically settled claims;
- possible changes in the litigation environment or federal and state law governing the compensation of asbestos claimants; and
- the risk that the bankruptcies of other asbestos defendants may increase our costs.

Because of the uncertainties related to such claims, it is possible that our ultimate liability could have a material adverse effect on our financial condition, results of operations or liquidity in the future.

A change in the existing regulatory environment could negatively affect our operations and financial performance.

We are subject to a wide variety of complex domestic and foreign laws, rules and regulations, including trade policies and tax regimes. We are affected by new laws and regulations and changes to existing laws and regulations, including interpretations by the courts and regulators, whether prompted by changes in government administrations or otherwise. These laws, regulations and policies, and changes thereto, may result in restrictions or limitations to our current operational practices and processes and product/service offerings which could negatively impact our current cost structure, revenue streams, future tax obligations, the value of our deferred income tax assets, cash flows, and overall financial position.

In addition, our tax filings are subject to audits by tax authorities in the various jurisdictions in which we do business. These audits may result in assessments of additional taxes that are subsequently resolved with the taxing authorities or through the courts. Currently, we believe there are no outstanding assessments whose resolution would result in a material adverse financial result. However, we cannot offer assurances that unasserted or potential future assessments would not have a material adverse effect on our financial condition or results of operations.

In 2018, the United States imposed tariffs of 25% on primary steel imports and 10% on primary aluminum imports into the United States. As consumers of steel and aluminum in some of our products, our cost base is exposed to the impact of this action, or similar actions, which could reduce our margins, and we could potentially lose market share to foreign competitors not subject to similar tariff increases. Our financial condition, results of operations and liquidity may be affected by these tariffs, or similar actions. Moreover, these new tariffs, or other changes in U.S. trade policy, have resulted in, and may continue to trigger, retaliatory actions by affected countries which could adversely impact demand for our products, as well as impact our costs, customers, suppliers, and/or the U.S. economy or certain sectors thereof and, thus, may adversely impact our business, operations and financial performance.

Pandemics may cause disruptions to our business and the industries in which we operate.

Pandemics may increase economic and demand uncertainty and could cause a sustained global recession. We may experience episodic disruptions to our operations or to the operations of our customers and suppliers; global supply chain issues causing global inflationary pressures; customer-requested delays of deliveries or cancellation of orders; lower order intake resulting from customers postponing projects; the inability to obtain raw materials and supplies critical to the manufacturing process; delays in receiving and shipping product due to the lack of transportation; higher cost of production and transportation; long-term disruptions to our operations resulting from changes in government policy or guidance; quarantines of employees, customers and suppliers in areas affected by a pandemic; closures of businesses or manufacturing facilities that are critical to our business or our supply chains; and higher write-offs of accounts receivables and impairment charges on our asset values, including property, plant and equipment and intangible assets, which, individually or in the aggregate, may impact, our financial condition, results of operations and liquidity. Further, local governmental measures may be implemented to control the spread of the virus, including restrictions on manufacturing and the movement of employees in many regions and countries, and may be significant.

A pandemic may adversely affect our liquidity and our ability to access the capital markets. Additionally, government stimulus programs available to us, our customers or our suppliers, if any, may prove to be insufficient or ineffective. Furthermore, in the event that the impact from a pandemic causes us to be unable to maintain a certain level of excess availability under our revolving credit facility, our availability of funds may become limited, or we may be required to renegotiate the facility on less favorable terms. If we are unable to access additional credit at the levels we require, or the cost of credit is greater than expected, it could materially adversely affect our financial condition, results of operations and liquidity.

We have significant international operations. A pandemic could negatively affect our workforce, both domestically and abroad, requiring some or all of our employees to work from home on a longer-term or permanent basis, thereby requiring new processes, procedures and controls to respond to changes in our business environment. We may be susceptible to increased litigation related to, among other things, the financial impacts of the pandemic on our business, our ability to meet contractual obligations due to the pandemic, employment practices or policies adopted during the health crisis, or litigation related to individuals contracting any disease as a result of alleged exposures on our premises.

The impact of a pandemic also may have the effect of exacerbating many of the other risks described herein.

Uncertainty related to environmental regulation and industry standards, as well as the physical risks of climate change, could impact our results of operations and financial position.

Increased public awareness and concern regarding environmental risks, including global climate change, may result in more international, regional and/or federal requirements or industry standards to reduce or mitigate global warming and other environmental risks. New climate change laws and regulations could require us to change our manufacturing processes or obtain substitute materials that may cost more or be less available for our manufacturing operations. Various jurisdictions in which we do business have implemented, or in the future could implement or amend, restrictions on emissions of carbon dioxide or other greenhouse gases, limitations or restrictions on water use, changes from traditional fossil fuel sources to renewables, regulations on energy management and waste management, and other climate change-based rules and regulations, which may increase our costs and adversely affect our operating results. In addition, the physical risks of climate change may impact the availability and cost of materials, sources and supply of energy, product demand and manufacturing and could increase our insurance and other operating costs. The expected future increased worldwide regulatory activity relating to climate change could expand the nature, scope and complexity of matters that we are required to control, assess and report. If environmental laws or regulations or industry standards are either changed or adopted and impose significant operational restrictions and compliance requirements upon us, our suppliers, our customers, or our products, or if our operations are disrupted due to the physical impacts of climate change on us, our suppliers, our customers or our business, our results of operations and financial condition could be adversely impacted.

A work stoppage or another industrial action on the part of any of our unions could be disruptive to our operations.

Our subsidiaries have several key operations which are subject to multi-year collective bargaining agreements or agreements with works councils with their hourly work forces. While we believe we have good relations with our unions, there is the risk of industrial action or work stoppage at the expiration of an agreement if contract negotiations fail, which may disrupt our manufacturing processes and impact our results of operations.

The Corporation may not realize the expected benefits from any restructuring and improvement efforts that we have taken or may take in the future.

We periodically evaluate our segments and we have and continue to undertake restructuring and realignment initiatives to reduce our overall cost basis and improve efficiency. There can be no assurance that we will fully realize the benefits of such efforts as anticipated, and we may incur additional and/or unexpected costs to realize them. These actions could yield other unintended consequences, such as distraction of management and employees, business disruption, reduced employee morale and productivity, and unexpected employee attrition, including the inability to attract or retain key personnel. If we fail to achieve the expected benefits of any restructuring or realignment initiatives and improvement efforts, or if other unforeseen events occur in conjunction with such efforts, our business, results of operations and financial condition could be negatively impacted.

RISKS RELATED TO OWNERSHIP OF OUR SECURITIES

If we fail to maintain an effective system of internal control, we may not be able to accurately determine our financial results or prevent fraud. As a result, our shareholders could lose confidence in our financial results, which could harm the business and the value of our securities.

Effective internal control is necessary to provide reliable financial reports and effectively prevent fraud. Section 404 of the Sarbanes-Oxley Act of 2002 requires us to evaluate and report on our internal control over financial reporting. Our internal control over financial reporting is not subject to attestation by our independent registered public accounting firm pursuant to the exemption provided to issuers that are not "large accelerated filers" or "accelerated filers" under the Dodd-Frank Act of 2010. We cannot be certain that we will be successful in maintaining adequate internal control over our financial reporting and financial processes in the future. We may in the future discover areas of our internal control that need improvement. Furthermore, to the extent our business grows, our internal control may become more complex, and we would require significantly more resources to ensure our internal control remains effective.

We assessed the effectiveness of internal control over financial reporting as of December 31, 2022. In making this assessment, we used the criteria set forth in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on those criteria and our assessment, we concluded that our internal control over financial reporting was not effective as of December 31, 2022, because of the material weaknesses as described below. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of the annual or interim financial statements, including footnotes to the annual or interim financial statements, will not be prevented or detected on a timely basis.

As of December 31, 2022, we had material weaknesses related to (i) the accounting for claims asserted alleging personal injury from exposure to asbestos-containing components historically used in some products manufactured by predecessors of Air & Liquid ("Asbestos Liability") and (ii) management review control activities related to the tax accounting of a non-routine transaction. The material weakness related to the Asbestos Liability is a result of the aggregation of the following control deficiencies: insufficient design and business process controls surrounding a new asbestos claims management database, insufficient testing of data migration from the previous asbestos claims management database to the new asbestos claims management database, and inadequate information technology ("IT") general controls which ensure the integrity of the data and processes that the new asbestos claims management system supports. The material weakness related to management review control activities of the non-routine transaction is a result of management review control activities not operating at a sufficient level of precision to detect errors related to the income tax footnote disclosures of the non-routine transaction. See Part II, Item 9A, *Controls and Procedures,* for further discussion.

Our remediation efforts have and will continue to require significant resources and attention. If we are unable to remediate these material weaknesses or other identified deficiencies in our internal control over financial reporting, or if we identify additional material weaknesses in our internal control over financial reporting, we will be unable to assert in future reports that our disclosure controls and procedures and our internal control over financial reporting are effective. This could cause investors, counterparties and customers to lose confidence in the accuracy and completeness of our financial statements and reports and have a material adverse effect on our liquidity, access to capital markets and perceptions of our creditworthiness, and/or a decline in the market price of our common stock. Additionally, the existence of any material weakness could require us to devote significant time and incur significant expense to identify and remediate any such material weaknesses, and we may not be able to remediate any such material weaknesses in a timely manner. We also may become subject to investigations by the New York Stock Exchange, the SEC or other regulatory authorities, which could require additional financial and management resources. These events could have a material adverse effect on our business, financial condition and results of operations.

Actions of activist shareholders with respect to us or our securities could be disruptive and potentially costly and the possibility that activist shareholders may contest, or seek changes that conflict with, our strategic direction could cause uncertainty about the strategic direction of our business.

Activist shareholders may from time-to-time attempt to effect changes in our strategic direction and, in furtherance thereof, may seek changes in how we are governed. While our Board of Directors and management team strive to maintain constructive, ongoing communications with all of our shareholders, including activist shareholders, and welcome their views and opinions with the goal of working together constructively to enhance value for all shareholders, activist campaigns that contest, or conflict with, our strategic direction could have an adverse effect on us because: (i) responding to actions by activist shareholders can disrupt our operations, be costly and time-consuming and divert the attention of our Board of Directors and senior management from the pursuit of business strategies, which could adversely affect our results of operations and financial condition; (ii) perceived uncertainties as to our future direction may lead to the perception of a change in the direction of the business, instability or lack of continuity which may be exploited by our competitors, cause concern to our current or potential customers, result in the loss of potential business opportunities and make it more difficult to attract and retain qualified personnel and business partners; and (iii) these types of actions could cause significant fluctuations in our stock price due to factors that do not necessarily reflect the underlying fundamentals and prospects of our business.

We may not be able to satisfy the continued listing requirements of the New York Stock Exchange and the NYSE American Exchange for our common stock and Series A warrants, respectively.

Our common stock is currently listed on the New York Stock Exchange, and our Series A warrants are listed on the NYSE American Exchange, with each imposing objective and subjective requirements for continued listing.

Continued listing criteria of the New York Stock Exchange include maintaining prescribed levels of financial condition, market capitalization and shareholders' equity. Specifically, the New York Stock Exchange requires a company with common equity listed on its exchange to maintain average global market capitalization over a consecutive 30 trading-day period of at least $50 million or maintain shareholders' equity of at least $50 million and maintain a share price of at least $1.00. Our common stock's average-global market capitalization over the 30 trading-day period ended December 31, 2022 was $54.6 million, and our total Ampco-Pittsburgh shareholders' equity was $104.3 million as of December 31, 2022. Should we receive a notice of non-compliance, the New York Stock Exchange may allow up to an 18-month cure period if we present a plan to become compliant with adequate strategic actions and progress reporting satisfactory to the New York Stock Exchange. If the New York Stock Exchange determines that our common stock fails to satisfy the requirements for continued listing, or we continue to fail to meet listing criteria, our common stock could be de-listed from the New York Stock Exchange, which could impact potential liquidity for our shareholders.

Continued listing criteria of the NYSE American Exchange include maintaining prescribed levels of financial condition, market capitalization and shareholders' equity. Among other requirements, there must be an aggregate of at least 50,000 Series A warrants. Satisfaction of the NYSE American Exchange's listing requirements therefore depends upon the extent to which warrant holders elect to exercise their Series A warrants. We cannot provide assurance that we will continue to meet these, or other, listing standards of the NYSE American Exchange with respect to the Series A warrants. If we fail to meet the listing criteria, our warrants could be de-listed from the NYSE American Exchange, which could impact potential liquidity for our shareholders.

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Holders of Series A warrants will have no rights as holders of our common stock until they exercise their Series A warrants and acquire our common stock.

Until holders of our Series A warrants acquire shares of our common stock upon exercise of such Series A warrants, they will have no rights with respect to the shares of our common stock underlying such Series A warrants. Upon exercise of the Series A warrants, the holders thereof will be entitled to exercise the rights of holders of our common stock only as to matters for which the record date occurs after the warrant exercise date.

The market price of our common stock may not exceed the exercise price of the Series A warrants at such time as the holder desires to exercise such Series A warrants and, accordingly, the Series A warrants may have no value.

The Series A warrants are exercisable through August 1, 2025. The market price of our common stock may not exceed the exercise price of the Series A warrants at such times prior to their date of expiration that the holder desires to exercise such warrants. Any Series A warrants not exercised by their date of expiration will expire without residual value to the holders. Additionally, the price of the Series A warrants may fluctuate, and liquidity may be limited. Holders of Series A warrants may be unable to resell their Series A warrants at a favorable price, or at all.

Because the Series A warrants are executory contracts, they may have no value in a bankruptcy or reorganization proceeding.

In the event a bankruptcy or reorganization proceeding is commenced by or against us, a bankruptcy court may hold that any unexercised Series A warrants are executory contracts subject to rejection by us with the approval of a bankruptcy court. As a result, even if we have sufficient funds, holders may not be entitled to receive any consideration for their Series A warrants or may receive an amount less than they would be entitled to if they had exercised their Series A warrants prior to the commencement of any such bankruptcy or reorganization proceeding.

GENERAL RISK FACTORS

Potential attacks on information technology infrastructure and other cyber-based business disruptions could have a material adverse effect on our financial condition, results of operations and liquidity.

We depend on integrated IT systems to conduct our business. IT systems failures, including risks associated with upgrading our systems or in successfully integrating IT and other systems to common platforms, network disruptions and breaches of data security could disrupt our operations by impeding our processing of transactions, our ability to protect customer or company information and our financial reporting. Our computer systems, including our back-up systems, could be damaged or interrupted by power outages; computer and telecommunications failures; computer viruses; internal or external security breaches; events such as fires, earthquakes, floods, tornadoes, and hurricanes; and errors by our employees. Cyber-based risks, in particular, are evolving and include potential attacks to our IT infrastructure and to the IT infrastructure of third parties in attempts to gain unauthorized access to our confidential or other proprietary information or information relating to our employees, customers and other third parties or to seek ransom. Although we have taken steps to address these concerns, there can be no assurance that a system failure or data security breach will not have a material adverse effect on our financial condition, results of operations and liquidity.

Our By-laws designate the state and federal courts sitting in the judicial district of the Commonwealth of Pennsylvania as the sole and exclusive forum for certain types of actions and proceedings that may be initiated by our shareholders and the federal courts as the sole and exclusive forum for claims arising under the Securities Act of 1933, as amended, which could discourage lawsuits against us and our directors and officers but may be found to be inapplicable or unenforceable.

Our By-laws provide, unless we otherwise consent in writing, the state and federal courts sitting in the judicial district of the Commonwealth of Pennsylvania embracing the county in which our principal executive office is located will be the sole and exclusive forum for (a) any derivative action or proceeding brought on behalf of us, (b) any action asserting a claim of breach of a fiduciary duty owed to us or our shareholders by any director, officer or other employee of ours, (c) any action asserting a claim against us or against any of our directors, officers or other employees arising pursuant to any provision of the Pennsylvania Business Corporation Law of 1988 or our Articles of Incorporation or By-laws, (d) any action seeking to interpret, apply, enforce, or determine the validity of our Article of Incorporation or By-laws, or (e) any action asserting a claim against us or any director or officer or other employee of ours governed by the internal affairs doctrine (collectively, "Internal Governance Claims"). This exclusive forum provision does not apply to suits brought to enforce a duty or liability created by the Securities Exchange Act of 1934, as amended (the "Exchange Act") or the Securities Act of 1933, as amended (the "Securities Act"). However, the federal courts are the sole and exclusive forum for any complaint asserting a cause of action arising under the Securities Act, pursuant to our By-laws, and any complaint asserting a cause of action arising under the Exchange Act, pursuant to Section 27 of the Exchange Act. This exclusive forum provision may limit the ability of our shareholders to bring a claim in a judicial forum that such shareholders find favorable for disputes with us or our directors or officers, which may discourage such lawsuits against us and our directors and officers. Alternatively, if a court outside of Pennsylvania with respect to Internal Governance Claims or any other state court with respect to a cause of action under the Securities Act were to find this exclusive forum provision inapplicable to, or unenforceable in respect of, one or more of the specified types of actions or proceedings described above, we may incur additional costs associated with resolving such matters in other jurisdictions, which could adversely affect our business, financial condition and results of operations.

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ITEM 1B. UNRESOLVED STAFF COMMENTS

The Corporation has no unresolved staff comments.

ITEM 2. PROPERTIES

The location and general character of the principal locations in each segment are included in the below summary. All domestic locations are leased and foreign locations are owned, unless otherwise noted. In addition, the Corporation has sales offices located in several foreign countries. See Note 4, *Property, Plant and Equipment*, and Note 9, *Debt*, to the Consolidated Financial Statements for disclosure of properties held as collateral.

Company and Location	Principal Use	Approximate Square Footage	Type of Construction
FORGED AND CAST ENGINEERED PRODUCTS SEGMENT			
Union Electric Steel Corporation			
Route 18 Burgettstown, PA 15021*	Manufacturing facilities	296,800 on 55 acres	Metal and steel
726 Bell Avenue Carnegie, PA 15106*	Manufacturing facilities and offices	165,900 on 8.7 acres	Metal and steel
U.S. Highway 30 Valparaiso, IN 46383*	Manufacturing facilities	88,000 on 20 acres	Metal and steel
1712 Greengarden Road Erie, PA 16501*	Manufacturing facilities	40,000 on 1 acre	Metal and steel
Union Electric Steel UK Limited			
Coulthards Lane Gateshead, England	Manufacturing facilities and offices	274,000 on 10 acres	Steel framed, metal and brick
Åkers Sweden AB			
Bruksallén 12SE-647 51 Åkers Styckebruk, Sweden	Manufacturing facilities and offices	394,000 on 162 acres	Steel framed, metal and brick
Åkers Valji Ravne d.o.o.			
Koroška c. 14 SI-2390 Ravne na Koroškem, Slovenia	Manufacturing facilities and offices	106,000 on 2.1 acres	Brick
Shanxi Åkers TISCO Roll Co., Ltd.			
No. 2 Jian Cao Ping Taiyuan, Shanxi, China	Manufacturing facilities and offices	338,000 on 14.6 acres	Metal, steel and brick
Alloys Unlimited and Processing, LLC			
3760 Oakwood Avenue Austintown, OH 44515*	Manufacturing facilities and offices	69,800 on 1.5 acres	Steel framed and cement block

Company and Location	Principal Use	Approximate Square Footage	Type of Construction
AIR AND LIQUID PROCESSING SEGMENT			
Air & Liquid Systems Corporation			
Aerofin Division 4621 Murray Place Lynchburg, VA 24506*	Manufacturing facilities and offices	146,000 on 15.3 acres	Brick, concrete and steel
Buffalo Air Handling Division Zane Snead Drive Amherst, VA 24531*	Manufacturing facilities and offices	89,000 on 19.5 acres	Metal and steel
Buffalo Pumps Division 874 Oliver Street N. Tonawanda, NY 14120*	Manufacturing facilities and offices	94,000 on 9 acres	Metal, brick and cement block

** Facility is leased.*

During 2022, Air & Liquid completed sale and leaseback financing transactions with STORE for its real property, including its manufacturing facilities, located in Lynchburg, Virginia; Amherst, Virginia and North Tonawanda, New York (collectively, the "ALP Properties"). Previously, in 2018, UES completed a sale and leaseback financing transaction with STORE for certain of its real property, including its manufacturing facilities in Valparaiso, Indiana and Burgettstown, Pennsylvania, and its manufacturing facility and corporate headquarters located in Carnegie, Pennsylvania (the "UES Properties"), and simultaneously entered into a lease agreement with STORE whereby UES would lease the properties from STORE. In connection with the sale and leaseback financing transactions in 2022, UES and STORE amended their existing lease whereby UES will lease the UES Properties and the ALP Properties with UES subleasing the ALP Properties to Air & Liquid.

UES subleases office space to the Corporation. The Corporation further subleases a portion of its office space to Air & Liquid for use as its headquarters.

All of the owned facilities are adequate and suitable for their respective purposes.

The facilities of the FCEP segment operated within 85% to 90% of their normal capacity during 2022. The facilities of the ALP segment operated within 60% to 70% of their normal capacity. Normal capacity is defined as capacity under approximately normal conditions with allowances made for unavoidable interruptions, such as lost time for repairs, maintenance, breakdowns, set-up, failure, supply delays, labor shortages and absences, Sundays, holidays, vacation, and inventory taking. The number of work shifts is also taken into consideration.

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ITEM 3. LEGAL PROCEEDINGS

LITIGATION

The Corporation and its subsidiaries may become involved in various claims and lawsuits incidental to their businesses. In addition, claims been asserted alleging personal injury from exposure to asbestos-containing components historically used in some products manufactured by predecessors of Air & Liquid. Air & Liquid and, in some cases, the Corporation, are defendants (among a number of defendants, often in excess of 50) in cases filed in various state and federal courts. See Note 20, *Litigation*, to the Consolidated Financial Statements.

ENVIRONMENTAL

The Corporation is currently performing certain remedial actions in connection with the sale of real estate previously owned and periodically incurs costs to maintain compliance with environmental laws and regulations. Environmental exposures are difficult to assess and estimate for numerous reasons, including lack of reliable data, the multiplicity of possible solutions, the years of remedial and monitoring activity required, and identification of new sites. The Corporation believes appropriate reserves have been established. See Note 22, *Environmental Matters*, to the Consolidated Financial Statements.

ITEM 4. MINE SAFETY DISCLOSURES

Not applicable.

– PART II –

ITEM 5. MARKET FOR REGISTRANT'S COMMON EQUITY, RELATED STOCKHOLDER MATTERS AND ISSUER PURCHASES OF EQUITY SECURITIES

The shares of common stock of Ampco-Pittsburgh Corporation are traded on the New York Stock Exchange (symbol AP). The Corporation paid cash dividends on common shares in every year since 1965 through mid-2017. In June 2017, the Corporation announced that it would suspend quarterly cash dividends, beginning with the second quarter of 2017.

The Series A warrants are traded on the NYSE American Exchange (symbol AP WS). Each warrant entitles the holder with the right to purchase 0.4464 shares of common stock of Ampco-Pittsburgh Corporation.

The number of registered shareholders at December 31, 2022 and 2021 equaled 356 and 364, respectively.

The number of registered warrant holders equaled 21 at December 31, 2022 and 2021, respectively.

ITEM 6. RESERVED

ITEM 7. MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

(in thousands, except per share amounts)

THE BUSINESS

Ampco-Pittsburgh Corporation and its subsidiaries (collectively, the "Corporation") manufacture and sell highly engineered, high-performance specialty metal products and customized equipment utilized by industry throughout the world. It operates in two business segments – the *Forged and Cast Engineered Products* ("FCEP") segment and the *Air and Liquid Processing* ("ALP") segment. This segment presentation is consistent with how the Corporation's chief operating decision-maker evaluates financial performance and makes resource allocation and strategic decisions about the business.

The *FCEP segment* produces forged hardened steel rolls, cast rolls and forged engineered products ("FEP"). Forged hardened steel rolls are used primarily in hot and cold rolling mills by producers of steel, aluminum and other metals. Cast rolls, which are produced in a variety of iron and steel qualities, are used mainly in hot strip mills, medium/heavy section mills and plate mills. FEP principally are sold to customers in the steel distribution market, oil and gas industry and the aluminum and plastic extrusion industries. The segment has operations in the United States, England, Sweden, Slovenia, and an equity interest in three joint venture companies in China. Collectively, the segment primarily competes with European, Asian and North and South American companies in both domestic and foreign markets and operates several sales offices located throughout the world.

The *ALP segment* includes Aerofin, Buffalo Air Handling and Buffalo Pumps, all divisions of Air & Liquid Systems Corporation ("Air & Liquid"), a wholly owned subsidiary of the Corporation. Aerofin produces custom-engineered finned tube heat exchange coils and related heat transfer products for a variety of industries including OEM/commercial, nuclear power generation and industrial manufacturing. Buffalo Air Handling produces large custom-designed air handling systems for institutional (e.g., hospital, university), pharmaceutical and general industrial building markets. Buffalo Pumps manufactures centrifugal pumps for the fossil-fueled power generation, marine defense and industrial refrigeration industries. The segment has operations in Virginia and New York with headquarters in Carnegie, Pennsylvania. The segment utilizes a common independent group of sales offices located throughout the United States and Canada.

EXECUTIVE OVERVIEW

While the Corporation operated at normal levels in 2022, it continues to be challenged by lingering global economic effects of a post-pandemic environment and repercussions from the Russia-Ukraine conflict, including:

- Periodic disruptions to the global supply chain for the Corporation, its vendors and its customers,
- Global inflationary pressures,
- European energy crisis, and
- Delays in receiving and shipping product due to lack of transportation.

The Corporation is actively monitoring, and will continue to actively monitor, the geopolitical and economic consequence of these events and the potential impact on its operations, financial condition, liquidity, suppliers, industry, and workforce.

For the FCEP segment, the forged roll market in North America has stabilized while the cast roll market has softened due to economic uncertainty in the European markets, primarily linked to the Russia-Ukraine conflict and resulting European energy crisis. The FEP market was strong in the first part of the year, as distributors began inventory re-stocking programs and as the oil and gas market demands increased on rising oil prices, but stabilized in the latter part of the year. The FCEP segment experienced higher costs for direct and indirect materials, energy and transportation in 2022. Although the segment continues to be adversely impacted by escalating costs, particularly for raw and ancillary materials, energy and transportation, price increases and changes to surcharge policies announced in the fourth quarter of 2021 are absorbing a significant portion of these costs. In addition, in February 2023, UES announced a price increase on all new quotations and new orders for forged and cast roll products. Approximately 80% of customer orders include a commodity surcharge. The primary focus for this segment is to maintain a strong position in the roll market; continue diversification and development of FEP for use in other industries; improve operational efficiency at its facilities; and complete its capital equipment investment to upgrade existing equipment with a goal of reducing operating costs, improving reliability and increasing FEP capacity and capabilities.

The ALP businesses are benefiting from steady demand, but are facing increasing production and transportation costs and supply chain issues. The segment has been implementing price increases for certain of its products to help mitigate these inflationary effects. The focus for this segment is to grow revenues, strengthen engineering and manufacturing capabilities, and continue to improve its sales distribution network.

CONSOLIDATED RESULTS OF OPERATIONS OVERVIEW

Change in Accounting Principle

During the fourth quarter of 2022, the Corporation changed its method of accounting for valuing domestic inventories from the last-in, first-out ("LIFO") basis to the first-in, first-out ("FIFO") basis. Foreign inventories have historically been maintained on the FIFO basis. The Corporation believes changing to the FIFO method of inventory valuation is preferable as it provides a better matching of costs with the physical flow of goods, standardizes the Corporation's inventory valuation methodology, and improves comparability with industry peers. The Corporation has retrospectively applied this change to its prior year consolidated financial statements, footnotes and other financial information. (See Note 2, *Change in Method of Accounting for Inventory Valuation*, to the Consolidated Financial Statements for further information.)

The Corporation

	2022		2021 - as adjusted [1]	
Net Sales:				
Forged and Cast Engineered Products	**$ 299,484**	**77%**	$ 260,204	75%
Air and Liquid Processing	**90,705**	**23%**	84,716	25%
Consolidated	**$ 390,189**	**100%**	$ 344,920	100%
Income (Loss) from Operations: [1]				
Forged and Cast Engineered Products	**$ 444**		$ 5,073	
Air and Liquid Processing [2]	**13,686**		2,601	
Corporate costs	**(11,352)**		(12,456)	
Consolidated	**$ 2,778**		$ (4,782)	
Backlog:				
Forged and Cast Engineered Products	**$ 252,165**	**68%**	$ 223,321	76%
Air and Liquid Processing	**116,853**	**32%**	69,233	24%
Consolidated	**$ 369,018**	**100%**	$ 292,554	100%

(1) Income (loss) from operations for 2022 and 2021 includes inventory costs using the FIFO method of inventory valuation as more fully explained in Note 2, Change in Method of Accounting for Inventory Valuation, to the Consolidated Financial Statements.

(2) Income from operations for the ALP segment includes a (benefit) charge for asbestos-related items of $(2,226) and $6,661 in 2022 and 2021, respectively, as more fully explained in Note 20, Litigation, to the Consolidated Financial Statements.

Net sales equaled $390,189 and $344,920 for 2022 and 2021, respectively. While both segments contributed to the $45,269 increase in net sales, the majority of the increase is attributable to the FCEP segment which benefited from improved pricing, including a higher variable-index surcharge, and increasing demand. A discussion of sales by segment is included below.

Operating income (loss) equaled $2,778 and $(4,782) for 2022 and 2021, respectively, an improvement of $7,560. Included in income from operations for 2022, is a:

- Credit for asbestos-related costs of $2,226 representing the benefit from the change in the estimated defense-to-indemnity cost ratio from 70% to 65% based on ongoing experience and improvements in defense costs which are

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- Benefit of approximately $1,431 resulting from a change in how certain employees earn certain benefits (the "Change in Employee Benefit Policy"); offset by
- Charge of approximately $664 for excess COVID-19 subsidies received in 2020 but returned in 2022 ("the Refund of Excess COVID-19 Subsidies").

By comparison, included in loss from operations for 2021 is a:

- Charge for asbestos-related costs of $6,661 representing the expense associated with changes in the estimated costs of pending and future asbestos claims, net of additional insurance recoveries through the estimated final date by which the Corporation expects to have settled all asbestos-related claims ("the Asbestos-Related Charge"); and
- Charge for costs associated with early-retirement incentives for two executive officers, employee terminations at one of the Corporation's cast roll facilities and costs associated with the closing of a foreign sales office of approximately $1,600 (the "Reorganization-Related Costs").

A discussion of income (loss) from operations for the Corporation's two segments is included below. Corporate costs decreased in 2022, when compared to 2021, by $1,104 due to lower employee-related costs including lower incentive compensation and a portion of the benefit from the Change in Employee Benefit Policy being attributable to Corporate employees, offset by higher professional fees.

Backlog equaled $369,018 at December 31, 2022, versus $292,554 as of December 31, 2021. Backlog represents the accumulation of firm orders on hand which: (i) are supported by evidence of a contractual arrangement, (ii) include a fixed and determinable sales price, (iii) have collectability that is reasonably assured, and (iv) generally are expected to ship within two years from the backlog reporting date. Backlog at a certain date may not be a direct measure of future revenue for a particular order because price increases, negotiated subsequently to the original order, are not included in backlog until the updated contract is received from the customer and certain surcharges are not determinable until the order is completed and ready for shipment to the customer. Approximately 6% of the backlog is expected to be released after 2023. A discussion of backlog by segment is included below.

Gross margin, excluding depreciation and amortization, as a percentage of net sales was 15.9% and 19.2% for 2022 and 2021, respectively. The decrease from the prior year is primarily attributable to the FCEP segment which experienced higher costs, particularly for direct and indirect materials, energy and transportation, when compared to the prior year. Although a portion of these costs are recovered via the variable-index surcharge, the variable-index surcharge does not cover all elements of all costs. In addition, in 2022, gross margin, excluding depreciation and amortization, includes a benefit from the Change in Employee Benefit Policy of $331 and, for the FCEP segment, expense associated with the Refund of Excess COVID-19 Subsidies. For the ALP segment, gross margin, excluding depreciation and amortization, as a percentage of net sales improved slightly as a result of a higher volume of sales, changes in product mix and savings generated from process improvements offset, in part, by higher costs.

Selling and administrative expenses were comparable, totaling $43,527 (11.2% of net sales) and $45,998 (13.3% of net sales) for 2022 and 2021, respectively. The decrease of $2,471 is principally due to:

- Lower exchange rates used to translate the selling and administrative costs of the Corporation's foreign subsidiaries into the U.S. dollar, which reduced expense in 2022 when compared to 2021 by approximately $1,900; and
- Benefit from the Change in Employee Benefit Policy, which reduced expense in 2022 when compared to 2021 by approximately $1,100; offset by
- Higher professional fees, which increased expense in 2022 when compared to 2021 by approximately $1,000; and
- Higher employee-related costs as key positions were filled, including positions within the ALP sales distribution network.

In addition, the prior year included the Reorganization-Related Costs of $1,600.

Depreciation and amortization expense was comparable, equaling $17,408 and $17,877 for 2022 and 2021, respectively.

(Credit) charge for asbestos-related costs equaled $(2,226) and $6,661 in 2022 and 2021, respectively. The credit in 2022 represents a change in the estimated defense-to-indemnity cost ratio from 70% to 65% based on ongoing experience and improvements in defense costs which are expected to continue. The charge in 2021 represents changes in the estimated costs of pending and future asbestos claims, net of additional insurance recoveries through the estimated final date by which the Corporation expects to have settled all asbestos-related claims. See Note 20, *Litigation,* to the Consolidated Financial Statements.

Investment-related income equaled $519 and $1,084 for 2022 and 2021, respectively, and represents primarily dividends received from one of the Corporation's Chinese joint ventures.

Interest expense equaled $5,434 and $3,599 for 2022 and 2021, respectively. The increase of $1,835 is principally due to:

- New debt transactions entered into in 2022, including the equipment financing and sale-leaseback transactions;
- Higher interest rates year-over-year; and
- Higher average borrowings outstanding under the revolving credit facility in 2022 compared to 2021.

Other income – net is comprised of the following:

	2022	2021	Change
Net pension and other postretirement income	**$ 6,552**	$ 6,694	$ (142)
Unrealized (loss) gain on Rabbi trust investments	**(1,144)**	661	(1,805)
Gain (loss) on foreign exchange transactions	**2,293**	(1,134)	3,427
Other	**(8)**	81	(89)
	$ 7,693	$ 6,302	$ 1,391

Other income – net fluctuated primarily due to changes in foreign exchange gains and losses and, as a result of volatility in the financial markets during 2022, unrealized losses in the market value of the Rabbi trust investments.

Income tax provision equaled $(1,576) and $(2,305) for 2022 and 2021, respectively, and includes income taxes associated with the Corporation's profitable operations. An income tax benefit is not able to be recognized on losses of certain of the Corporation's entities since it is "more likely than not" the asset will not be realized. Accordingly, changes in the income tax provision for each period includes the effects of changes in the pre-tax income of the Corporation's profitable operations. In addition, the income tax provision for 2022 includes $165 of expense resulting from the revaluation of the deferred income tax assets of the ALP segment following new legislation enacted in 2022, which will decrease the Pennsylvania state income tax rate from 9.99% to 4.99% in 2031. By comparison, the income tax provision for 2021 includes $452 of expense associated with the (i) restructuring of a foreign sales office and (ii) revaluation of the deferred income tax liabilities of the Corporation's U.K. entity following new legislation enacted in 2021, which will increase the U.K. corporate tax rate from 19% to 25% in 2023.

Net income (loss) attributable to Ampco-Pittsburgh was approximately $3,416 or $0.18 per common share for 2022 and $(3,861) or $(0.20) per common share for 2021.

Net income attributable to Ampco-Pittsburgh and income per common share attributable to Ampco-Pittsburgh for 2022, include a net benefit of $2,727 or $0.14 per common share associated with the net benefit from the Asbestos-Related Credit, the Change in Employee Benefit Policy, the Refund of Excess COVID-19 Subsidies and the additional tax of $165 resulting from the revaluation of the deferred income tax assets of the ALP segment following new legislation enacted in 2022, which will reduce the Pennsylvania state income tax rate from 9.99% to 4.99% in 2031.

Net (loss) attributable to Ampco-Pittsburgh and (loss) per common share attributable to Ampco-Pittsburgh for 2021, include net expense of $8,444 or $0.45 per common share for the Asbestos-Related Charge, the Reorganization-Related Costs and additional income tax expense of $452 associated with the (i) restructuring of a foreign sales office and (ii) resulting from the revaluation of the deferred income taxes of the Corporation's U.K. entity following new legislation enacted in 2021, which will increase the U.K. corporate tax rate from 19% to 25% in 2023.

Non-GAAP Financial Measures

The Corporation presents non-GAAP adjusted (loss) income from operations, which is calculated as income (loss) from operations excluding the Asbestos-Related (Credit) Charge, the Change in Employee Benefit Policy, the Refund of Excess COVID-19 Subsidies, and the Reorganization-Related Costs for each of the years, as applicable. This non-GAAP financial measure is not based on any standardized methodology prescribed by accounting principles generally accepted in the United States of America ("GAAP") and may not be comparable to similarly-titled measures presented by other companies.

The Corporation has presented non-GAAP adjusted (loss) income from operations because it is a key measure used by the Corporation's management and Board of Directors to understand and evaluate the Corporation's operating performance and to develop operational goals for managing its business. This non-GAAP financial measure excludes significant charges or credits that are one-time charges or credits, or unrelated to the Corporation's ongoing results of operations, or beyond its control. Additionally, a portion of the incentive and compensation arrangements for certain employees is based on the Corporation's business performance. The Corporation believes this non-GAAP financial measure helps identify underlying trends in its business that otherwise could be masked by the effect of the items that it excludes from adjusted (loss) income from operations. In particular, the Corporation believes that the exclusion of the Asbestos-Related (Credit) Charge, the Change in Employee Benefit Policy, the Refund of Excess COVID-19 Subsidies, and the Reorganization-Related Costs can provide a useful measure for period-to-period comparisons of the Corporation's

core business performance. The Corporation also believes this non-GAAP financial measure provides useful information to management, shareholders and investors, and others in understanding and evaluating its operating results, enhancing the overall understanding of its past performance and future prospects and allowing for greater transparency with respect to key financial metrics used by the Corporation's management in its financial and operational decision-making.

Adjusted (loss) income from operations is not prepared in accordance with GAAP and should not be considered in isolation of, or as an alternative to, measures prepared in accordance with GAAP. There are limitations related to the use of adjusted (loss) income from operations rather than income (loss) from operations, which is the nearest GAAP equivalent. Among other things, there can be no assurance that additional benefits similar to the Asbestos-Related (Credit) and the Change in Employee Benefit Policy or additional expenses similar to the Asbestos-Related Charge, the Refund of Excess COVID-19 Subsidies, and the Reorganization-Related Costs will not occur in future periods.

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The adjustments reflected in adjusted (loss) income from operations are pre-tax. The tax impact associated with these adjustments would be additional income tax expense of $101 for 2022 and an income tax benefit of $132 for 2021.

The following is a reconciliation of income (loss) from operations to non-GAAP adjusted (loss) income from operations for 2022 and 2021, respectively:

	2022	2021 - as adjusted[1]
Income (loss) from operations, as reported (GAAP)	**$ 2,778**	$ (4,782)
Asbestos-Related (Credit) Charge [2]	**(2,226)**	6,661
Change in Employee Benefit Policy [3]	**(1,431)**	—
Refund of Excess COVID-19 Subsidies [4]	**664**	—
Reorganization-Related Costs [5]	—	1,600
(Loss) income from operations, as adjusted (Non-GAAP)	**$ (215)**	$ 3,479

(1) Income (loss) from operations, as reported (GAAP) and (Loss) income from operations, as adjusted (Non-GAAP) for 2021 include inventory costs using the FIFO method of inventory valuation as more fully explained in Note 2, Change in Method of Accounting for Inventory Valuation, to the Consolidated Financial Statements.

(2) For 2022, represents a credit for a change is the estimated defense-to-indemnity cost ratio from 70% to 65%. For 2021, represents a charge for changes in the estimated costs of pending and future asbestos claims, net of additional insurance recoveries through the estimated final date by which the Corporation expects to have settled all asbestos-related claims. See Note 20, Litigation, to the Consolidated Financial Statements for further information.

(3) Represents a benefit resulting from a change in how certain employees earn certain benefits.

(4) Represents excess COVID-19 subsidies received in 2020 and returned in 2022.

(5) Represents severance costs associated with early-retirement incentives for two executive officers, employee terminations at one of the Corporation's cast roll facilities and costs associated with the closing of a foreign sales office.

Forged and Cast Engineered Products

	2022	2021	Change
Net sales:			
Forged and cast mill rolls	**$ 256,559**	$ 234,926	$ 21,633
FEP	**42,925**	25,278	17,647
	$ 299,484	$ 260,204	$ 39,280
Operating income [1]	**$ 444**	$ 5,073	$ (4,629)
Backlog:			
Forged and cast mill rolls	**$ 243,648**	$ 197,476	$ 46,172
FEP	**8,517**	25,845	(17,328)
	$ 252,165	$ 223,321	$ 28,844

(1) Operating income includes inventory costs determined using the FIFO method of inventory valuation as more fully explained in Note 2, Change in Method of Accounting for Inventory Valuation, to the Consolidated Financial Statements.

Net sales increased by $39,280 in 2022 from 2021 principally due to the net of:

- Improved pricing and higher variable-index surcharges passed through to customers as a result of higher raw material, energy and transportation costs, which increased net sales in 2022 when compared to 2021 by approximately $37,500;
- Higher volume of mill roll shipments primarily from improved demand, which increased net sales in 2022 when compared to 2021 by approximately $10,400;
- Changes in product mix, which increased net sales in 2022 when compared to 2021 by approximately $6,400; and

- Higher volume of FEP as a result of increased demand from the steel distribution and oil and gas markets in early 2022, which increased net sales in 2022 when compared to 2021 by approximately $800; offset by
- Changes in exchange rates used to translate net sales of the segment's foreign subsidiaries into the U.S. dollar, which decreased net sales in 2022 when compared to 2021 by approximately $15,800.

Operating results decreased by $4,629 in 2022 when compared to 2021 primarily as a result of:

- Higher costs of raw materials, energy and other production costs, net of improved pricing and higher variable-index surcharges, which reduced operating results in 2022 when compared to 2021 by approximately $7,800;
- Changes in exchange rates used to translate operating results of the segment's foreign subsidiaries into the U.S. dollar, which reduced operating results in 2022 when compared to 2021 by approximately $1,000;
- Refund of Excess COVID-19 Subsidies of $664;
- Higher losses on disposal of property, plant and equipment associated with equipment being replaced in connection with the segment's strategic capital expenditure program of $350; offset by
- Higher sales volumes and changes in sales product mix, which increased operating results in 2022 when compared to 2021 by approximately $3,300; and
- Lower selling and administrative costs due, in part, to the benefit from the Change in Employee Benefit Policy and lower bad debt expense, which improved operating results in 2022 when compared to 2021 by approximately $1,900.

Backlog equaled $252,165 at December 31, 2022, compared to $223,321 at December 31, 2021, with the improvement in current year-end backlog of $28,844 principally due to:

- Increased mill roll backlog associated with improved demand and better pricing, which increased backlog at December 31, 2022 when compared to December 31, 2021 by $56,900; offset by
- Lower FEP backlog as a result of distributors replenishing their inventories in the first half of the year and not yet issuing replacement orders, which reduced FEP backlog at December 31, 2022 when compared to December 31, 2021 by $17,300;
- Lower foreign exchange rates used to translate the backlog of the Corporation's foreign subsidiaries into the U.S. dollar, which reduced backlog at December 31, 2022 when compared to December 31, 2021 by approximately $10,700.

At December 31, 2022, approximately 3% of the backlog is expected to ship after 2023.

Air and Liquid Processing

	2022	2021	Change
Net sales			
Heat exchange coils	**$ 31,395**	$ 24,372	$ 7,023
Air handling systems	**29,436**	26,477	2,959
Centrifugal pumps	**29,874**	33,867	(3,993)
	$ 90,705	$ 84,716	$ 5,989
Operating income [1], [2]	**$ 13,686**	$ 2,601	$ 11,085
Backlog	**$ 116,853**	$ 69,233	$ 47,620

(1) Operating income for 2022 includes the Asbestos-Related Credit of $2,226 and operating income for 2021 includes the Asbestos-Related Charge of $6,661. See Note 20, Litigation, to the Consolidated Financial Statements for further information.

(2) Operating income includes inventory costs determined using the FIFO method of inventory valuation, as more fully explained in Note 2, Change in the Method of Accounting for Inventory Valuation, to the Consolidated Financial Statements.

Net sales for 2022 increased from the prior year by $5,989. Sales of heat exchange coils and air handling units increased when compared to the prior year as a result of the expansion and strengthening of the segment's sales distribution network. Sales of air handling units improved further due to additional demand, particularly in the hospital/healthcare market. Sales of centrifugal pumps declined when compared to the prior year as a result of project delays associated with ongoing supply chain issues at U.S. Navy shipbuilders.

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Operating income improved by $11,085 in 2022 when compared to 2021 primarily as a result of:

- Asbestos-related items of $8,887 whereby operating income for 2022 includes the Asbestos-Related Credit of $2,226 and 2021 includes the Asbestos-Related Charge of $6,661 (see Note 20, *Litigation,* to the Consolidated Financial Statements);
- Higher volume of shipments, changes in product mix and savings generated from process improvements offset, in part, by higher costs, which increased operating income by approximately $3,100; offset by
- Higher selling and administrative costs due, in part, to expansion of the segment's sales distribution network.

Backlog at December 31, 2022 increased $47,620 from December 31, 2021, with backlog for each product line improving as a result of record-level order intake. At December 31, 2022, approximately 12% of the backlog is expected to ship after 2023.

LIQUIDITY AND CAPITAL RESOURCES

	2022	2021	Change
Net cash flows used in operating activities	**$ (27,208)**	$ (15,866)	$ (11,342)
Net cash flows used in investing activities	**(16,308)**	(14,734)	(1,574)
Net cash flows provided by financing activities	**42,587**	24,402	18,185
Effect of exchange rate changes on cash and cash equivalents	**(673)**	(307)	(366)
Net decrease in cash and cash equivalents	**(1,602)**	(6,505)	4,903
Cash and cash equivalents at beginning of period	**10,337**	16,842	(6,505)
Cash and cash equivalents at end of period	**$ 8,735**	$ 10,337	$ (1,602)

Net cash flows used in operating activities equaled $27,208 and $15,866 for 2022 and 2021, respectively. The change between the years is primarily attributable to the ongoing investment in trade working capital due to a higher level of business activity resulting from increased demand and, for inventories, higher costs associated with inflation and supply chain disruptions. Although the Corporation recorded the Asbestos-Related (Credit) Charge in 2022 and 2021, these were non-cash (credits) charges and, accordingly, did not impact net cash flows used in operating activities. Instead, net asbestos-related payments equaled $9,126 and $9,903 in 2022 and 2021, respectively, and are expected to approximate $8,000 in 2023.

Contributions to the defined benefit pension and other postretirement benefits plans equaled $2,199 and $1,658 in 2022 and 2021, respectively, and are expected to approximate $2,484 in 2023. Contributions beyond 2023 are expected to increase primarily as a result of lower than expected pension asset performance in 2022.

Net cash flows used in investing activities primarily represented expenditures for the FCEP segment. The Corporation has undertaken a significant capital program approximating $27,000 to upgrade existing equipment at certain of its FCEP locations, which is anticipated to be substantially completed by December 31, 2023. At December 31, 2022, commitments for future capital expenditures, including those associated with the FCEP capital program, approximated $16,400.

Net cash flows provided by financing activities increased by $18,185 in 2022 when compared to 2021 primarily due to:

- Proceeds from sale and leaseback financing transactions in 2022 equaling $20,000;
- Proceeds from an equipment financing facility in 2022 equaling $6,388; and
- Lower principal repayments of $1,174;
- Lower debt and equity issuance costs of $148; offset by
- Lower net borrowings from the Corporation's revolving credit facility of $6,410; and
- Lower proceeds from shareholders exercising warrants for the Corporation's common stock of $3,115.

The effect of exchange rate changes on cash and cash equivalents is primarily attributable to the fluctuation of the British pound and Swedish krona against the U.S. dollar.

As a result of the above, cash and cash equivalents decreased by $1,602 during 2022 and ended the period at $8,735 in comparison to $10,337 at December 31, 2021. The majority of the Corporation's cash and cash equivalents is held by its foreign operations. Domestic customer remittances are used to pay down borrowings under the Corporation's revolving credit facility daily, resulting in minimal cash maintained by the Corporation's domestic operations. Cash held by the Corporation's foreign operations is considered to be permanently re-invested; accordingly, a provision for estimated local and withholding tax has not been made. If the Corporation were to remit any foreign earnings to it or any of its U.S. entities, the estimated tax impact would be insignificant.

Funds on hand, funds generated from future operations and availability under the Corporation's revolving credit facility are expected to be sufficient to finance the Corporation's operational requirements and debt service costs. The maturity date for the revolving credit facility is June 29, 2026 and, subject to the other terms and conditions of the revolving credit agreement, will become due on that date. As of December 31, 2022, remaining availability under the revolving credit facility approximated $28,420, net of standard availability reserves.

Availability under the Corporation's equipment financing facility and disbursement agreement is expected to be sufficient to finance the capital program for the FCEP segment in the time frame currently anticipated. At December 31, 2022, availability under the equipment financing facility and disbursement agreements approximated $16,112. Each borrowing on the equipment financing facility will constitute a secured loan transaction (each, a "Term Loan"). Each Term Loan will convert to a Term Note on the earlier of (i) the date in which the associated equipment is placed in service or (ii) December 29, 2023. Each Term Note will have a term of 84 months in arrears fully amortizing and will commence on the date of the Term Note. Borrowings under the disbursement agreement will be repaid over an initial term of 20 years – through August 2042. For a more thorough description of the Corporation's debt and credit documents see Note 9, *Debt*, to the Consolidated Financial Statements.

With respect to litigation, see Note 20, *Litigation*, to the Consolidated Financial Statements. With respect to environmental matters, see Note 22, *Environmental Matters*, to the Consolidated Financial Statements.

OFF-BALANCE SHEET ARRANGEMENTS

The Corporation's off-balance sheet arrangements include the previously mentioned expected future capital expenditures and letters of credit unrelated to the Industrial Revenue Bonds. See Note 12, *Commitments and Contingent Liabilities*, to the Consolidated Financial Statements. These arrangements are not considered significant to the liquidity, capital resources, market risk, or credit risk of the Corporation.

EFFECTS OF INFLATION

Inflationary and market pressures on costs are likely to continue to be experienced. Product pricing is reflective of current costs. For the FCEP segment, approximately 80% of customer orders include a commodity surcharge; the ability to pass on future increases in the price of commodities for the balance of the customer orders will be negotiated on a contract-by-contract basis. To minimize the effect of future increases, the Corporation has entered into pricing for a portion of the electricity and natural gas for certain of its FCEP operating entities and has long-term labor agreements at each of the key locations. Certain of these agreements will expire in 2023. As is consistent with past practice, the Corporation will negotiate with the intent to secure mutually beneficial arrangements covering multiple years. See Note 12, *Commitments and Contingent Liabilities*, and Note 15, *Derivative Instruments*, to the Consolidated Financial Statements.

APPLICATION OF CRITICAL ACCOUNTING ESTIMATES

The Corporation has identified critical accounting estimates that are important to the presentation of its financial condition, changes in financial condition and results of operations and involve the most complex or subjective assessments. Critical accounting estimates relate to assessing recoverability of property, plant and equipment and accounting for pension and other postretirement benefits, litigation and loss contingencies, and income taxes.

Property, plant and equipment is reviewed for recoverability whenever events or circumstances indicate the carrying amount of the long-lived assets may not be recoverable. If the undiscounted cash flows generated from the use and eventual disposition of the assets are less than their carrying value, then the asset value may not be fully recoverable, resulting in a write-down of the asset value. Estimates of future cash flows are based on expected market conditions over the remaining useful life of the primary asset(s). Accordingly, assumptions are made about pricing, volume and asset-resale values. The potential significant change brought about by the Russia-Ukraine conflict resulting in the European energy crisis was deemed to be a triggering event under ASC 360, *Property, Plant and Equipment*, causing the Corporation to evaluate whether the property, plant and equipment of an asset group within the FCEP segment was deemed to be impaired. Accordingly, in connection with preparation of its 2023 business plan in the fourth quarter of 2022, the Corporation completed a quantitative analysis of the long-lived assets for the asset group and determined the assets were not impaired. The Corporation continues to evaluate the uncertainty associated with the Russia-Ukraine conflict and, at December 31, 2022, there were no additional triggering events identified. Additionally, there have been no triggering events for the asset groups within the ALP segment. The Corporation believes the amounts recorded in the accompanying consolidated financial statements for property, plant and equipment are recoverable and are not impaired as of December 31, 2022.

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Accounting for pension and other postretirement benefits involves estimating the cost of benefits to be provided well into the future and attributing that cost over the time period each employee works. To accomplish this, input from the Corporation's actuaries is evaluated and extensive use is made of assumptions about inflation, long-term rate of return on plan assets, longevity, employee turnover and discount rates. The curtailment of the majority of the Corporation's defined benefit pension plans and the amendment of various other postretirement benefit plans has helped to mitigate the volatility in net periodic pension and other postretirement benefit costs resulting from changes in these assumptions.

The expected long-term rate of return on plan assets is an estimate of the average rates of earnings expected to be earned on funds invested, or to be invested, to provide for the benefits included in the projected benefit obligation. Since these benefits will be paid over many years, the expected long-term rate of return is reflective of current investment returns and investment returns over a longer period. Consideration is also given to target and actual asset allocations, inflation and real risk-free return. The Corporation believes the expected long-term rate of return of 6.94% for its domestic plans and 3.00% for its foreign plans to be reasonable. Although, as a result of volatility in the financial markets during the year, actual returns on plan assets approximated -20.81% for the domestic plans and -38.93% for the foreign plans for 2022; however, approximated 8.70% for the domestic plans and 10.76% for the foreign plans for 2021 and averaged 9.30% for the domestic plans and 8.76% for the foreign plans for 2017 - 2021. A percentage point decrease in the expected long-term rate of return would increase annual pension expense by approximately $2,600. Conversely, a percentage point increase in the expected long-term rate of return would decrease annual pension expense by approximately $2,600.

The discount rates used in determining future pension obligations and other postretirement benefits for each of the plans are based on rates of return for high-quality fixed-income investments currently available and expected to be available during the period to maturity of the pension and other postretirement benefits. High-quality fixed-income investments are defined as those investments which have received one of the two highest ratings given by a recognized rating agency with maturities of 10+ years. With the increase in interest rates during 2022 and the resulting impact on bond yields, the discount rate rose significantly at December 31, 2022 when compared to December 31, 2021. Assumed discount rates range between 5.48% and 5.49% for the Corporation's domestic plans, 5.49% for its other postretirement benefits plans, and 4.85% for its foreign plans at December 31, 2022. A 1/4 percentage point increase in the discount rate would decrease projected and accumulated benefit obligations by approximately $5,800. Conversely, a 1/4 percentage point decrease in the discount rate would increase projected and accumulated benefit obligations by approximately $5,800.

The Corporation believes that the amounts recorded in the accompanying consolidated financial statements related to pension and other postretirement benefits are based on assumptions that are appropriate at December 31, 2022, although actual outcomes could differ.

Litigation and loss contingency accruals are made when it is determined that it is probable that a liability has been incurred and the amount can be reasonably estimated. Specifically, the Corporation and certain of its subsidiaries are involved in various claims and lawsuits incidental to its businesses. In addition, claims have been asserted alleging personal injury from exposure to asbestos-containing components historically used in some products manufactured by predecessors of Air & Liquid (the "Asbestos Liability"). To assist the Corporation in determining whether an estimate could be made of the potential liability for pending and unasserted future claims for the Asbestos Liability along with applicable insurance coverage, and the amounts of any estimates, the Corporation hires a nationally recognized asbestos-liability expert and an insurance consultant. Based on their analyses, reserves for probable and reasonably estimable costs for the Asbestos Liability, including defense costs, and receivables for the insurance recoveries that are deemed probable are established. These amounts rely on assumptions which are based on currently known facts and strategy.

The Corporation's policy is to evaluate the Asbestos Liability and related insurance receivables as well as the underlying assumptions on a regular basis. Key variables in these assumptions, including the ability to reasonably estimate the Asbestos Liability through the expected final date by which the Corporation expects to have settled all asbestos-related claims, are summarized in Note 20, *Litigation*, to the Consolidated Financial Statements. Key assumptions include the number and nature of new claims to be filed each year, the average cost of disposing of each new claim, average annual defense costs, and the solvency risk with respect to the relevant insurance carriers. Other factors that may affect the Asbestos Liability and the Corporation's ability to recover under its insurance policies include uncertainties surrounding the litigation process from jurisdiction to jurisdiction and from case to case, reforms that may be made by state and federal courts and the passage of state or federal tort reform legislation. Actual expenses or insurance recoveries could be significantly higher or lower than those recorded if assumptions used in the calculations vary significantly from actual results.

The Corporation intends to continue to evaluate the Asbestos Liability and related insurance receivables as well as the underlying assumptions on a regular basis to determine whether further adjustments to the estimates are required. Due to the uncertainties surrounding asbestos litigation and insurance, these regular reviews may result in the incurrence of future charges or credits; however, the Corporation is currently unable to estimate such future changes. Adjustments, if any, to the Corporation's estimate of the Asbestos Liability and/or insurance receivables could be material to its operating results for the periods in which the adjustments to the liability or receivable are recorded, and to its liquidity and financial position when such liabilities are paid.

Accounting for income taxes includes the Corporation's evaluation of the underlying accounts, permanent and temporary differences, its tax filing positions and interpretations of existing tax law. A valuation allowance is recorded against deferred income tax assets to reduce them to the amount that is "more likely than not" to be realized. In doing so, assumptions are made about the future profitability of the Corporation and the nature of that profitability. Actual results may differ from these assumptions. If the Corporation determined it would not be able to realize all or part of the deferred income tax assets in the future, an adjustment to the valuation allowance would be established resulting in a charge to net income (loss). Likewise, if the Corporation determined it would be able to realize deferred income tax assets in excess of the net amount recorded, a portion of the existing valuation allowance would be released resulting in a credit to net income (loss). As of December 31, 2022, the valuation allowance approximates $31,981, reducing deferred income tax assets to $2,141, an amount the Corporation believes is "more likely than not" to be realized.

The Corporation does not recognize a tax benefit in the consolidated financial statements related to a tax position taken or expected to be taken in a tax return unless it is "more likely than not" that the tax authorities will sustain the tax position solely on the basis of the position's technical merits. Consideration is primarily given to legislation and statutes, legislative intent, regulations, rulings and case law as well as their applicability to the facts and circumstances of the tax position when assessing the sustainability of the tax position. In the event a tax position no longer meets the "more likely than not" criteria, the Corporation would reverse the tax benefit by recognizing a liability and recording a charge to earnings. Conversely, if the Corporation subsequently determined that a tax position met the "more likely than not" criteria, it would recognize the tax benefit by reducing the liability and recording a credit to earnings. As of December 31, 2022, based on information known to date, the Corporation believes the amount of unrecognized tax benefits for tax positions taken or expected to be taken in a tax return, which may be challenged by the tax authorities, not to be significant.

The Corporation's tax filings are subject to audits by tax authorities in the various jurisdictions in which it does business. These audits may result in assessments of additional taxes. At December 31, 2022, based on information known to date, the Corporation believes there are no pending or outstanding assessments whose resolution would require recognition in its consolidated financial statements.

See Note 21, *Income Taxes*, to the Consolidated Financial Statements.

RECENTLY IMPLEMENTED AND ISSUED ACCOUNTING PRONOUNCEMENTS

See Note 1, *Summary of Significant Accounting Policies*, to the Consolidated Financial Statements.

ITEM 7A. QUANTITATIVE AND QUALITATIVE DISCLOSURES ABOUT MARKET RISK

Not applicable.

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ITEM 8. FINANCIAL STATEMENTS AND SUPPLEMENTARY DATA

CONSOLIDATED BALANCE SHEETS

(in thousands, except par value)	December 31, 2022	2021 - as adjusted[1]
Assets		
Current assets:		
Cash and cash equivalents	**$ 8,735**	$ 10,337
Receivables, less allowance for doubtful accounts of $763 in 2022 and $1,240 in 2021	**77,426**	68,829
Receivables from related parties	**1,066**	—
Inventories	**121,739**	108,717
Insurance receivable – asbestos	**15,000**	16,000
Other current assets	**7,442**	4,933
Total current assets	**231,408**	208,816
Property, plant and equipment, net	**154,998**	158,563
Operating lease right-of-use assets, net	**3,522**	4,056
Insurance receivable – asbestos	**90,910**	105,297
Deferred income tax assets	**2,141**	1,985
Intangible assets, net	**5,194**	6,204
Investments in joint ventures	**2,175**	2,175
Prepaid pensions	**7,242**	11,963
Other noncurrent assets	**5,184**	6,901
Total assets	**$ 502,774**	$ 505,960
Liabilities and Shareholders' Equity		
Current liabilities:		
Accounts payable	**$ 43,209**	$ 43,105
Accounts payable to related parties	**412**	1,125
Accrued payrolls and employee benefits	**11,796**	15,954
Debt – current portion	**12,410**	20,007
Operating lease liabilities – current portion	**635**	641
Asbestos liability – current portion	**23,000**	23,000
Other current liabilities	**24,763**	21,210
Total current liabilities	**116,225**	125,042
Employee benefit obligations	**43,431**	62,114
Asbestos liability	**130,575**	157,314
Long-term debt	**93,061**	40,912
Noncurrent operating lease liabilities	**2,886**	3,415
Deferred income tax liabilities	**2,518**	3,858
Other noncurrent liabilities	**682**	1,171
Total liabilities	**389,378**	393,826
Commitments and contingent liabilities (Note 12)		
Shareholders' equity:		
Common stock – par value $1; authorized 40,000 shares; issued and outstanding 19,404 shares at December 31, 2022 and 19,184 shares at December 31, 2021	**19,404**	19,184
Additional paid-in capital	**175,656**	174,561
Retained deficit	**(32,322)**	(35,738)
Accumulated other comprehensive loss	**(58,412)**	(55,106)
Total Ampco-Pittsburgh shareholders' equity	**104,326**	102,901
Noncontrolling interest	**9,070**	9,233
Total shareholders' equity	**113,396**	112,134
Total liabilities and shareholders' equity	**$ 502,774**	$ 505,960

(1) The December 31, 2021 balance sheet was adjusted to present inventory using the FIFO basis of costing. See Note 2.

See Notes to Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF OPERATIONS

(in thousands, except per share amounts)	For The Years Ended December 31, 2022	2021 - as adjusted[1]
Net sales:		
Net sales	**$ 380,255**	$ 335,078
Net sales to related parties	**9,934**	9,842
Total net sales	**390,189**	344,920
Operating costs and expenses:		
Costs of products sold (excluding depreciation and amortization)	**327,996**	278,805
Selling and administrative	**43,527**	45,998
Depreciation and amortization	**17,408**	17,877
(Credit) charge for asbestos-related costs	**(2,226)**	6,661
Loss on disposal of assets	**706**	361
Total operating costs and expenses	**387,411**	349,702
Income (loss) from operations	**2,778**	(4,782)
Other income (expense):		
Investment-related income	**519**	1,084
Interest expense	**(5,434)**	(3,599)
Other – net	**7,693**	6,302
	2,778	3,787
Income (loss) before income taxes	**5,556**	(995)
Income tax provision	**(1,576)**	(2,305)
Net income (loss)	**3,980**	(3,300)
Less: Net income attributable to noncontrolling interest	**564**	561
Net income (loss) attributable to Ampco-Pittsburgh	**$ 3,416**	$ (3,861)
Net income (loss) per share attributable to Ampco-Pittsburgh common shareholders:		
Basic	**$ 0.18**	$ (0.20)
Diluted	**$ 0.18**	$ (0.20)
Weighted-average number of common shares outstanding:		
Basic	**19,319**	18,953
Diluted	**19,444**	18,953

(1) Costs of products sold (excluding depreciation and amortization) and subsequent subtotals and totals along with net loss per share for 2021 were adjusted to include inventory costs using the FIFO basis of costing. See Note 2.

See Notes to Consolidated Financial Statements.

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CONSOLIDATED STATEMENTS OF COMPREHENSIVE INCOME

(in thousands)	For The Years Ended December 31, 2022	2021 - as adjusted[1]
Net income (loss)	**$ 3,980**	$ (3,300)
Other comprehensive (loss) income, net of income tax where applicable:		
Adjustments for changes in:		
Foreign currency translation	**(11,848)**	(2,951)
Unrecognized employee benefit costs (including effects of foreign currency translation)	**6,825**	15,263
Fair value of cash flow hedges	**(512)**	774
Reclassification adjustments for items included in net income (loss):		
Amortization of unrecognized employee benefit costs	**1,115**	1,826
Settlement of cash flow hedges	**387**	(1,086)
Other comprehensive (loss) income	**(4,033)**	13,826
Comprehensive (loss) income	**(53)**	10,526
Less: Comprehensive (loss) income attributable to noncontrolling interest	**(163)**	798
Comprehensive income attributable to Ampco-Pittsburgh	**$ 110**	$ 9,728

(1) Net loss for 2021 and subsequent subtotals and totals were adjusted to include inventory costs using the FIFO basis of costing. See Note 2.

See Notes to Consolidated Financial Statements.

CONSOLIDATED STATEMENTS OF SHAREHOLDERS' EQUITY

(in thousands)	Common Stock	Additional Paid-in Capital	Retained Deficit[1]	Accumulated Other Comprehensive Loss	Noncontrolling Interest	Total[1]
Balance January 1, 2021	$ 18,312	$ 170,318	$ (43,371)	$ (68,695)	$ 8,435	$ 84,999
Impact from change in accounting principle (Note 2)			11,494			11,494
Adjusted balance at January 1, 2021	18,312	170,318	(31,877)	(68,695)	8,435	96,493
Stock-based compensation		2,438				2,438
Comprehensive income:						
Net (loss) income[1]			(3,861)		561	(3,300)
Other comprehensive income				13,589	237	13,826
Comprehensive income					798	10,526
Shareholder exercise of warrants (Note 13)	575	2,733				3,308
Issuance of common stock including excess tax benefits of $0	297	(928)				(631)
Balance December 31, 2021	19,184	174,561	(35,738)	(55,106)	9,233	112,134
Stock-based compensation		**1,665**				**1,665**
Comprehensive loss:						
Net income			**3,416**		**564**	**3,980**
Other comprehensive loss				**(3,306)**	**(727)**	**(4,033)**
Comprehensive loss:					**(163)**	**(53)**
Shareholder exercise of warrants (Note 13)	**48**	**(48)**				**-**
Issuance of common stock including excess tax benefits of $0	**172**	**(522)**				**(350)**
Balance December 31, 2022	**$ 19,404**	**$ 175,656**	**$ (32,322)**	**$ (58,412)**	**$ 9,070**	**$ 113,396**

(1) Retained deficit as of January 1, 2021, net loss for 2021 and retained deficit as of December 31, 2021 were adjusted to include inventory costs using the FIFO basis of costing. See Note 2.

See Notes to Consolidated Financial Statements.

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CONSOLIDATED STATEMENTS OF CASH FLOWS

(in thousands)	For The Years Ended December 31, 2022	2021 - as adjusted[1]
Cash flows from operating activities:		
Net income (loss)	**$ 3,980**	$ (3,300)
Adjustments to reconcile net income (loss) from operations to net cash flows used in operating activities:		
Depreciation and amortization	**17,408**	17,877
(Credit) charge for asbestos-related costs	**(2,226)**	6,661
Deferred income tax expense	**468**	1,304
Difference between net periodic pension and other postretirement costs and contributions	**(9,295)**	(7,489)
Stock-based compensation	**1,665**	2,438
Non-cash provisions – net	**(2,215)**	2,193
Other – net	**(729)**	658
Changes in assets/liabilities:		
Receivables	**(11,626)**	(8,268)
Inventories	**(17,903)**	(27,618)
Other assets	**(3,943)**	(5,918)
Insurance receivable – asbestos	**10,708**	13,312
Asbestos liability	**(19,834)**	(23,215)
Accounts payable	**1,557**	17,601
Accrued payrolls and employee benefits	**3,892**	2,048
Other liabilities	**885**	(4,150)
Net cash flows used in operating activities	**(27,208)**	(15,866)
Cash flows from investing activities:		
Purchases of property, plant and equipment	**(16,688)**	(15,236)
Proceeds from sale of property, plant and equipment	**17**	229
Purchases of long-term marketable securities	**(724)**	(32)
Proceeds from sale of long-term marketable securities	**1,088**	304
Other – net	**(1)**	1
Net cash flows used in investing activities	**(16,308)**	(14,734)
Cash flows from financing activities:		
Proceeds from revolving credit facility	**44,000**	32,244
Payments on revolving credit facility	**(26,666)**	(8,500)
Proceeds from sale and leaseback financing arrangements	**20,000**	—
Payments on sale and leaseback financing arrangements	**(346)**	(245)
Proceeds from equipment financing facility	**6,388**	—
Proceeds from related party debt	**5,776**	—
Repayment of related party debt	**(5,776)**	(1,056)
Repayment of debt	**(645)**	(864)
Proceeds from shareholder exercise of warrants	**193**	3,308
Debt and equity issuance costs	**(337)**	(485)
Net cash flows provided by financing activities	**42,587**	24,402
Effect of exchange rate changes on cash and cash equivalents	**(673)**	(307)
Net decrease in cash and cash equivalents	**(1,602)**	(6,505)
Cash and cash equivalents at beginning of year	**10,337**	16,842
Cash and cash equivalents at end of year	**$ 8,735**	$ 10,337
Supplemental disclosures of cash flow information:		
Income tax payments (net of refunds)	**$ 896**	$ 1,633
Interest payments (net of amounts capitalized)	**5,923**	2,895
Non-cash investing and financing activities:		
Purchases of property, plant and equipment in accounts payable	**$ 994**	$ 1,676
Finance lease right-of-use assets exchanged for lease liabilities	**1,105**	1,258
Operating lease right-of-use assets exchanged for lease liabilities	**194**	199

(1) Net loss and the change in inventories for 2021 were adjusted to include inventory costs using the FIFO basis of costing. See Note 2.

See Notes to Consolidated Financial Statements.

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Description of Business

Ampco-Pittsburgh Corporation and its subsidiaries (collectively, the "Corporation") manufacture and sell highly engineered, high-performance specialty metal products and customized equipment utilized by industry throughout the world. It operates in two business segments, the *Forged and Cast Engineered Products* ("FCEP") segment and the *Air and Liquid Processing* ("ALP") segment. This segment presentation is consistent with how the Corporation's chief operating decision-maker evaluates financial performance and makes resource allocation and strategic decisions about the business.

The Segments

The FCEP segment produces forged hardened steel rolls, cast rolls and forged engineered products ("FEP"). Forged hardened steel rolls are used primarily in hot and cold rolling mills by producers of steel, aluminum and other metals. Cast rolls, which are produced in a variety of iron and steel qualities, are used mainly in hot strip mills, medium/heavy section mills and plate mills. FEP principally are sold to customers in the steel distribution market, oil and gas industry and the aluminum and plastic extrusion industries. The segment has operations in the United States, England, Sweden, and Slovenia and equity interests in three joint venture companies in China. Collectively, the segment primarily competes with European, Asian and North American and South American companies in both domestic and foreign markets and distributes a significant portion of its products through sales offices located throughout the world.

The ALP segment includes Aerofin, Buffalo Air Handling and Buffalo Pumps, all divisions of Air & Liquid Systems Corporation ("Air & Liquid"), a wholly owned subsidiary of the Corporation. Aerofin produces custom-engineered finned tube heat exchange coils and related heat transfer products for a variety of industries including OEM/commercial, nuclear power generation and industrial manufacturing. Buffalo Air Handling produces large custom-designed air handling systems for institutional (e.g., hospital, university), pharmaceutical and general industrial building markets. Buffalo Pumps manufactures centrifugal pumps for the fossil fueled power generation, marine defense and industrial refrigeration industries. The segment has operations in Virginia and New York with headquarters in Carnegie, Pennsylvania. The segment distributes a significant portion of its products through a common independent group of sales offices located throughout the United States and Canada.

While the Corporation operated at normal levels in 2022, it continues to be challenged by lingering global economic effects of a post-pandemic environment and repercussions from the Russia-Ukraine conflict, including:

- Periodic disruptions to the global supply chain for the Corporation, its vendors and its customers,
- Global inflationary pressures,
- European energy crisis, and
- Delays in receiving and shipping product due to lack of transportation.

The Corporation is actively monitoring, and will continue to actively monitor, the geopolitical and economic consequence of these events and the potential impact on its operations, financial condition, liquidity, suppliers, industry, and workforce.

NOTE 1 – SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES:

The Corporation's accounting policies conform to accounting principles generally accepted in the United States of America. The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities as of the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Significant items subject to estimates and assumptions include assessing the carrying value of long-lived assets, valuing the assets and obligations related to employee benefit plans, accounting for loss contingencies associated with claims and lawsuits, and accounting for income taxes. Actual results could differ from those estimates. A summary of the significant accounting policies followed by the Corporation is presented below.

Basis of Presentation

The financial information included herein reflects the consolidated financial position of the Corporation as of December 31, 2022 and 2021, and the consolidated results of its operations and cash flows for the years then ended.

Consolidation

The accompanying consolidated financial statements include the assets, liabilities, revenues, and expenses of all majority-owned subsidiaries and joint ventures over which the Corporation exercises control and, when applicable, entities for which the Corporation has a controlling financial interest or is the primary beneficiary. Investments in joint ventures where the Corporation owns 20% to 50% of the voting stock and has the ability to exercise significant influence over the operating and financial policies of the joint venture are accounted for using the equity method of accounting. Investments in joint ventures where the Corporation does not have the ability to exercise significant influence over the operating and financial policies of the joint venture are accounted for using the cost method of accounting. Investments in joint ventures are reviewed for impairment whenever events or circumstances indicate the carrying amount of the investment may not be recoverable. If the estimated fair value of the investment is less than the carrying amount and such decline is determined to be "other than temporary," then the investment may not be fully recoverable, resulting in a write-down of the investment value. Intercompany accounts and transactions are eliminated.

Cash and Cash Equivalents

Securities with purchased original maturities of three months or less are considered to be cash equivalents. The Corporation maintains cash and cash equivalents at various financial institutions which may exceed federally-insured amounts.

Inventories

Inventories are valued at the lower of cost and net realizable value, which is defined as the estimated selling price in the ordinary course of business less reasonably predictable costs of completion, disposal and transportation. Cost includes the cost of raw materials, direct labor and overhead for those items manufactured but not yet sold or for which control has not yet transferred to the customer. Fixed production overhead is allocated to inventories based on normal capacity of the production facilities. In periods of abnormally high production, the amount of fixed overhead allocated to each unit of production is decreased so that inventories are not measured above cost. The amount of fixed overhead allocated to inventories is not increased as a consequence of abnormally low production or plant idling. Costs for abnormal amounts of spoilage, handling costs and freight costs are charged to expense when incurred. Cost of inventories are primarily determined by the first-in, first-out ("FIFO") method. Prior to the fourth quarter of 2022, the last-in, first-out ("LIFO") method was used to determine the cost of significantly all the Corporation's domestic inventories. Effective December 31, 2022, the Corporation elected to change its method of accounting for domestic inventories costed on the LIFO basis to the FIFO basis. Foreign inventories have historically been maintained on the FIFO basis. Prior period financial statements and affected financial information have been adjusted to reflect results and information, as if the Corporation had always used the FIFO method of inventory valuation for domestic inventories.

Property, Plant and Equipment

Property, plant and equipment purchased new is recorded at cost with depreciation computed using the straight-line method over the following estimated useful lives: land improvements – 15 to 20 years; buildings – 25 to 50 years; machinery and equipment – 3 to 25 years; and other (e.g., furniture and fixtures and vehicles) – 5 to 10 years. Assets under finance leases are depreciated on a straight-line basis over the shorter of the estimated useful life of the asset or the lease term. Property, plant and equipment acquired as part of a business combination is recorded at its estimated fair value with depreciation computed using the straight-line method over the estimated remaining useful lives. Expenditures that extend economic useful lives are capitalized. Routine maintenance is charged to expense. Gains or losses are recognized on retirements or disposals. Proceeds from government grants are recorded as a reduction in the purchase price of the underlying assets and amortized against depreciation over the lives of the related assets.

Property, plant and equipment is reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of the asset may not be recoverable. If the undiscounted cash flows generated from the use and eventual disposition of the assets are less than their carrying value, then the asset value may not be fully recoverable, resulting in a write-down of the asset value. Estimates of future cash flows are based on expected market conditions over the remaining useful life of the primary asset(s). In addition, the remaining depreciation period for the impaired asset would be re-assessed and, if necessary, revised.

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Right-of-Use Assets

A right-of-use ("ROU") asset represents the right to use an underlying asset for the term of the lease, and the corresponding liability represents an obligation to make periodic payments arising from the lease. A determination of whether an arrangement includes a lease is made at the inception of the arrangement. ROU assets and liabilities are recognized on the consolidated balance sheet, at the commencement date of the lease, in an amount equal to the present value of the lease payments over the term of the lease calculated using the interest rate implicit in the lease arrangement or, if not known, the Corporation's incremental borrowing rate. The present value of a ROU asset also includes any lease payments made prior to commencement of the lease and excludes any lease incentives received or to be received under the arrangement. The lease term includes options to extend or terminate the lease when it is reasonably certain that such options will be exercised. Operating leases that have original terms of less than 12 months, inclusive of options to extend that are reasonably certain to be exercised, are classified as short-term leases and are not recognized on the consolidated balance sheet.

ROU assets are recorded as a noncurrent asset on the consolidated balance sheet. The corresponding liabilities are recorded as an operating lease liability, either current or noncurrent, as applicable, on the consolidated balance sheet. Operating lease costs are recognized on a straight-line basis over the lease term within costs of products sold (excluding depreciation and amortization) or selling and administrative expenses based on the use of the related ROU asset.

Intangible Assets

Intangible assets primarily consist of developed technology, customer relationships and trade name. Intangible assets with finite lives are amortized using the straight-line method over their estimated useful life, which is determined by identifying the period over which most of the cash flows are expected to be generated. Intangible assets with indefinite lives are not amortized but reviewed for impairment at least annually, as of October 1. Additionally, intangible assets, both finite- and indefinite-lived, are reviewed for impairment whenever events or changes in circumstances indicate the carrying amount of the asset may not be recoverable. For finite-lived intangible assets, if the undiscounted cash flows attributable to the assets are less than their carrying value, then the asset value may not be fully recoverable, resulting in a write-down of the asset value. For indefinite-lived intangible assets, if the discounted cash flows attributable to the assets are less than their carrying value, then the asset value may not be fully recoverable, resulting in a write-down of the asset value. Also, if the estimate of an intangible asset's remaining useful life changes, the remaining carrying value of the intangible asset will be amortized prospectively over the revised remaining useful life.

Debt Issuance Costs

Debt issuance costs are amortized as interest expense over the scheduled maturity period of the debt. The costs related to a line-of-credit arrangement are amortized over the term of the arrangement, regardless of whether there are any outstanding borrowings. Unamortized debt issuance costs are either recognized as a direct deduction from the carrying amount of the related debt or, if related to a line-of-credit facility, as an other noncurrent asset on the consolidated balance sheet.

Product Warranty

A warranty that ensures basic functionality is an assurance-type warranty. A warranty that goes beyond ensuring basic functionality is considered a service-type warranty. The Corporation provides assurance-type warranties; it does not provide service-type warranties. Provisions for assurance-type warranties are recognized at the time the underlying sale is recorded. The provision is based on historical experience as a percentage of sales adjusted for potential claims when a liability is probable and for known claims.

Employee Benefit Plans

Funded Status

If the fair value of the plan assets exceeds the projected benefit obligation, the over-funded projected benefit obligation is recognized as an asset (prepaid pensions) on the consolidated balance sheet. Conversely, if the projected benefit obligation exceeds the fair value of the plan assets, the under-funded projected benefit obligation is recognized as a liability (employee benefit obligations) on the consolidated balance sheet. Gains and losses arising from the difference between actuarial assumptions and actual experience and unamortized prior service costs are recorded as a separate component of accumulated other comprehensive loss.

Net Periodic Pension and Other Postretirement Benefit Costs

Net periodic pension and other postretirement benefit costs include service cost, interest cost, expected rate of return on the market-related value of plan assets, amortization of prior service costs, and recognized actuarial gains or losses. When actuarial gains or losses exceed 10% of the greater of the projected benefit obligation or the market-related value of plan assets, they are amortized to net periodic pension and other postretirement benefit costs over the average remaining service period of the employees expected to receive benefits under the plan or over the remaining life expectancy of the employees expected to receive benefits if "all or almost all" of the plan's participants are inactive. When actuarial gains or losses are less than 10% of the greater of the projected benefit obligation or the market-related value of plan assets, they are included in net periodic pension and other postretirement benefit costs indirectly as a result of lower/higher interest costs arising from a decrease/increase in the projected benefit obligation. The market-related value of plan assets is determined using a five-year moving average which recognizes gains or losses in the fair market value of assets at the rate of 20% per year.

Warrants

Accounting for warrants includes an initial assessment of whether the warrants qualify as debt or equity. The Corporation's warrants meet the definition of equity instruments and, accordingly, are recorded within shareholders' equity on the consolidated balance sheet. The fair value of the warrants is determined as of the measurement date. Incremental costs directly attributable to the offering of the securities are deferred and charged against the proceeds of the offering.

Other Comprehensive Income (Loss)

Other comprehensive income (loss) includes changes in assets and liabilities from non-owner sources including foreign currency translation adjustments, unamortized prior service costs and unrecognized actuarial gains and losses associated with employee benefit plans, and changes in the fair value of derivatives designated and effective as cash flow hedges.

Certain components of other comprehensive income (loss) are presented net of income tax. Foreign currency translation adjustments exclude the effect of income tax since earnings of non-U.S. subsidiaries are deemed to be re-invested for an indefinite period of time.

Reclassification adjustments are amounts which are realized during the year and, accordingly, are deducted from other comprehensive income (loss) in the period in which they are included in net income (loss) or when a transaction no longer qualifies as a cash flow hedge. Foreign currency translation adjustments are included in net income (loss) upon sale or upon complete or substantially complete liquidation of an investment in a foreign entity. With respect to employee benefit plans, unamortized prior service costs are included in net income (loss) either immediately upon curtailment of the employee benefit plan or over the average remaining service period or life expectancy of the employees expected to receive benefits, and unrecognized actuarial gains and losses are included in net income (loss) indirectly as a result of lower/higher interest costs arising from a decrease/increase in the projected benefit obligation. Changes in the fair value of derivatives are included in net income (loss) when the projected sale occurs or, if a foreign currency purchase contract, over the estimated useful life of the underlying asset.

Foreign Currency Translation

Assets and liabilities of the Corporation's foreign operations are translated at year-end exchange rates, and the consolidated statements of operations are translated at the average exchange rates for the year. Gains or losses resulting from translating foreign currency financial statements are accumulated as a separate component of accumulated other comprehensive loss until the entity is sold or substantially liquidated.

Revenue Recognition

Revenue recognition requires determination of the sales price, allocation of the sales price to each performance obligation, and satisfaction of each performance obligation. The sales price and performance obligations are outlined in a contract with a customer. A contract is deemed to exist when there is persuasive evidence of an arrangement, the rights and obligations of the parties are identified, the sales price is identifiable, payment terms are known, the contract has commercial substance, and collectability of consideration is probable. A contract can be in the form of an executed purchase order from the customer, combined with an order acknowledgment from the Corporation, a sales agreement or a longer-term supply agreement between the customer and the Corporation, or a similar arrangement deemed to be a normal and customary business practice for that particular customer or class of customer.

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Contracts are short-term in nature with the time between commencement of production to shipment being a few months. A contract could have a single performance obligation or multiple performance obligations for the manufacturing of product(s). For contracts with a single performance obligation, the obligation is satisfied upon transfer of control of the product to the customer. For contracts with multiple performance obligations, the Corporation accounts for individual performance obligations separately if they are distinct. The sales price is allocated to each performance obligation based on the relative standalone selling price of each performance obligation to the total consideration of the contract. The standalone selling price is determined utilizing observable prices to the extent available. If the performance obligations are not distinct and the standalone selling price is not directly observable, the standalone selling price is estimated maximizing the use of observable inputs.

The sales price required to be paid by the customer is identifiable from the contract. It is not subject to refund or adjustment, except for a variable-index surcharge provision which is known at the time of shipment and increases or decreases, as applicable, the selling price of the product for corresponding changes in the published index cost of certain raw materials and energy. The variable-index surcharge is recognized as revenue when the corresponding inventory is revenue recognized.

Likelihood of collectability is assessed prior to acceptance of an order and requires the use of judgment. It considers the customer's ability and intention to pay based on a variety of factors including the customer's historical payment experience. In certain circumstances, the Corporation may require a deposit from the customer, a letter of credit or another form of assurance for payment. An allowance for doubtful accounts is maintained based on historical experience. Payment terms are standard to the industry and generally require payment 30 days after control transfers to the customer.

Transfer of control is assessed based on the terms of the contract. Transfer of control, and therefore revenue recognition, occurs when title, ownership and risk of loss pass to the customer. Typically, this occurs when the product is shipped to the customer (i.e., FOB shipping point), delivered to the customer (i.e., FOB destination) or, for foreign sales, in accordance with trading guidelines known as Incoterms. Incoterms are standard trade definitions used in international contracts and are developed, maintained and promoted by the ICC Commission on Commercial Law and Practice.

Certain customer contracts may include cancellation-for-convenience clauses that provide either (i) the customer with the right to acquire inventory while in-process or (ii) the Corporation with the right for reimbursement with an element of profit in the event the customer cancels. These cancellation-for-convenience clauses result in the recognition of revenue over time and prior to shipment. The amount of revenue and associated costs recognized at a reporting date is based on the costs incurred as of the reporting date in comparison to the estimated total costs to be incurred, which the Corporation believes is a faithful depiction of the transfer of control to the customer.

Shipping terms vary across the businesses and typically depend on the product, country of origin and type of transportation (truck or vessel). There are no customer-acceptance provisions other than, perhaps, customer inspection and testing prior to shipment. Post-shipment obligations are insignificant.

Amounts billed to the customer for shipping and handling are recorded within net sales and the related costs are recorded within costs of products sold (excluding depreciation and amortization). Amounts billed for taxes assessed by various government authorities (e.g., sales tax, value-added tax, etc.) are excluded from the determination of net income (loss) and, instead, are recorded as a liability until remitted to the government authority.

Stock-Based Compensation

Stock-based compensation, such as stock options, restricted stock units and performance share units, is recognized over the vesting period based on the fair value of the award at the date of grant. For stock options, the fair value is determined by the Black-Scholes option pricing model and is expensed over the vesting period of three years. For restricted stock units, the fair value is equal to the closing price of the Corporation's common stock on the New York Stock Exchange ("NYSE") on the date of grant and is expensed over the service period, typically three years. For performance share unit awards that vest subject to a performance condition, the fair value is equal to the closing price of the Corporation's stock on the NYSE on the date of grant. For performance share unit awards that vest subject to a market condition, the fair value is determined using a Monte Carlo simulation model. The fair value of performance share unit awards is expensed over the performance period when it is probable that the performance condition will be achieved.

Asbestos-Related Costs

The amounts recorded for asbestos-related liabilities and insurance receivables for asbestos-related matters rely on assumptions that are based on currently known facts and strategies. Asbestos-related liabilities are recognized when a liability is probable of occurrence and can be reasonably estimated. The liability includes an estimate of future claims as well as settlement or indemnity costs that would be incurred to resolve both pending and future unasserted claims over the period which such claims can be reasonably estimated. Insurance receivables for asbestos-related matters are recognized for the estimated amount of probable insurance recoveries attributable to the claims for which an asbestos-related liability has been recognized, including the portion of incurred defense costs expected to be reimbursed. Neither the asbestos-related liabilities nor the insurance receivables for asbestos-related matters are discounted to their present values due to the inability to reliably forecast the timing of future cash flows. The asbestos-related liabilities and insurance receivables for asbestos-related matters, as well as the underlying assumptions, are reviewed on a regular basis to determine whether any adjustments to the estimates are required. If it is determined there is an increase in asbestos-related liabilities net of insurance recoveries, then a charge to net income (loss) would be recorded. Similarly, if it is determined there is a decrease in asbestos-related liabilities net of insurance recoveries, then a credit to net income (loss) would be recorded.

Derivative Instruments

Derivative instruments which include forward exchange (for foreign currency sales and purchases) and futures contracts are recorded on the consolidated balance sheet as either an asset or a liability measured at their fair value. The accounting for changes in the fair value of a derivative depends on the use of the derivative. To the extent that a derivative is designated and effective as a cash flow hedge of an exposure to future changes in value, the change in the fair value of the derivative is deferred in accumulated other comprehensive loss. Any portion considered to be ineffective, including that arising from the unlikelihood of an anticipated transaction to occur, is reported as a component of earnings (other income/expense) immediately.

Upon occurrence of the anticipated sale, the foreign currency sales contract designated and effective as a cash flow hedge is de-designated as a fair value hedge, and the change in fair value previously deferred in accumulated other comprehensive loss is reclassified to earnings (net sales) with subsequent changes in fair value recorded as a component of earnings (other income/expense). Upon occurrence of the anticipated purchase, the foreign currency purchase contract is settled, and the change in fair value deferred in accumulated other comprehensive loss is reclassified to earnings (depreciation and amortization expense) over the life of the underlying asset. Upon settlement of a futures contract, the change in fair value deferred in accumulated other comprehensive loss is reclassified to earnings (costs of products sold, excluding depreciation and amortization) when the corresponding inventory is sold and revenue is recognized. To the extent a derivative is designated and effective as a hedge of an exposure to changes in fair value, the change in the derivative's fair value will be offset in the consolidated statement of operations by the change in the fair value of the item being hedged and is recorded as a component of earnings (other income/expense). Cash flows associated with the derivative instruments are recorded as a component of operating activities on the consolidated statement of cash flows.

The Corporation does not enter into derivative transactions for speculative purposes and, therefore, holds no derivative instruments for trading purposes.

Fair Value

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants as of the measurement date. A hierarchy of inputs is used to determine fair value measurements with three levels. Level 1 inputs are quoted prices in active markets for identical assets or liabilities and are considered the most reliable evidence of fair value. Level 2 inputs are observable prices that are not quoted on active exchanges. Level 3 inputs are unobservable inputs used for measuring the fair value of assets or liabilities.

Legal Costs

Legal costs expected to be incurred in connection with loss contingencies are accrued when such costs are probable and estimable.

Income Taxes

Income taxes are recognized during the year in which transactions enter into the determination of financial statement income (loss). Any taxes on foreign income in excess of a deemed return on tangible assets of foreign corporations are accounted for as period costs. Deferred income tax assets and liabilities are recognized for the future tax consequences of temporary differences between the book carrying amount and the tax basis of assets and liabilities including net operating loss carryforwards. A valuation allowance is provided against a deferred income tax asset when it is "more likely than not" the asset will not be realized. Similarly, if a determination is made that it is "more likely than not" the deferred income tax asset will be realized, the related valuation allowance would be reduced and a benefit to earnings would be recorded. Penalties and interest are recognized as a component of the income tax provision.

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Tax benefits are recognized in the consolidated financial statements for tax positions taken or expected to be taken in a tax return when it is "more likely than not" the tax authorities will sustain the tax position solely on the basis of the position's technical merits. Consideration is given primarily to legislation and statutes, legislative intent, regulations, rulings, and case law as well as their applicability to the facts and circumstances of the tax position when assessing the sustainability of the tax position. In the event a tax position no longer meets the "more likely than not" criteria, the tax benefit is reversed by recognizing a liability and recording a charge to earnings. Conversely, if a tax position subsequently meets the "more likely than not" criteria, a tax benefit would be recognized by reducing the liability and recording a credit to earnings.

Earnings Per Common Share

Basic earnings per common share is computed by dividing net income (loss) by the weighted-average number of common shares outstanding for the period. The computation of diluted earnings per common share is similar to basic earnings per common share except the denominator is increased to include the dilutive effect of the net additional common shares that would have been outstanding assuming exercise of outstanding stock awards and warrants, calculated using the treasury stock method. The computation of diluted earnings per share would not assume the exercise of an outstanding stock award or warrant if the effect on earnings per common share would be antidilutive. Similarly, the computation of diluted earnings per share would not assume the exercise of outstanding stock awards and warrants if the Corporation incurred a net loss since the effect on earnings per common share would be antidilutive. The weighted-average number of common shares outstanding assuming exercise of dilutive stock awards and warrants was 19,444,083 for 2022 and 19,696,397 for 2021. Weighted-average outstanding stock awards and warrants excluded from the diluted earnings per common share calculation, since the effect would have been antidilutive, were 5,339,002 for 2022 and 359,940 for 2021. With respect to amounts attributable to Ampco-Pittsburgh common shareholders, net income (loss) attributable to Ampco-Pittsburgh common shareholders excludes net income (loss) attributable to noncontrolling interest.

Recently Issued Accounting Pronouncements

In September 2016, the Financial Accounting Standards Board issued ASU 2016-13, *Financial Instruments – Credit Losses*, which adds a new impairment model, known as the current expected credit loss ("CECL") model, that is based on expected losses rather than incurred losses. Under the new guidance, an entity recognizes an allowance for its estimate of expected credit losses at the initial recognition of an in-scope financial instrument and applies it to most debt instruments, trade receivables, lease receivables, financial guarantee contracts, and other loan commitments. The CECL model does not have a minimum threshold for recognition of impairment losses and entities will need to measure expected credit losses on assets that have a low risk of loss. The guidance originally became effective for the Corporation on January 1, 2020; however, since the Corporation meets the definition of a Smaller Reporting Company, as defined by the Securities Exchange Commission, the effective date was subsequently revised to fiscal years beginning after December 15, 2022. The Corporation is nearly complete in its assessment of ASU 2016-13 and estimates its impact to approximate $500 to $1,000, which will be recorded as an adjustment to opening retained earnings as of January 1, 2023.

NOTE 2 - CHANGE IN METHOD OF ACCOUNTING FOR INVENTORY VALUATION

Effective December 31, 2022, the Corporation changed its method of accounting for the cost of its domestic inventories from the LIFO method to the FIFO method. At December 31, 2021, approximately 35% of the Corporation's inventories were accounted for using the LIFO method and, at December 31, 2022, approximately 41% of the Corporation's inventories would have been accounted for using the LIFO method had the Corporation not changed.

The Corporation believes the change to the FIFO method of inventory valuation is preferable as it provides a better matching of costs with the physical flow of goods, standardizes the Corporation's inventory valuation methodology among the locations, and improves comparability with industry peers.

A change from the LIFO method to the FIFO method is considered a change in accounting principle requiring all prior periods to be restated as if the Corporation had used the FIFO method to value its domestic inventories for those periods and with a cumulative adjustment recorded to retained deficit, net of tax, of the earliest year presented (i.e., January 1, 2021). The cumulative impact decreased the Corporation's consolidated retained deficit on January 1, 2021, net of tax, by $11,494. There is no significant change to the Corporation's deferred income tax assets due to the Corporation having a valuation allowance recorded against those deferred income tax assets (See Note 21).

The following tables present the consolidated financial statement line items as of and for the year ended December 31, 2022, as if the Corporation had not changed its method of accounting for its domestic inventories from the LIFO method to the FIFO method:

Consolidated Statement of Operations

	Year Ended December 31, 2022		
	As reported - FIFO	Effect of Change	If adjusted - LIFO
Costs of products sold (excluding depreciation and amortization)	**$ 327,996**	$ 2,763	$ 330,759
Total operating costs and expenses	**387,411**	2,763	390,174
Income from operations	**2,778**	(2,763)	15
Income before income taxes	**5,556**	(2,763)	2,793
Net income	**3,980**	(2,763)	1,217
Net income attributable to Ampco-Pittsburgh	**3,416**	(2,763)	653
Net income per basic share attributable to Ampco-Pittsburgh common shareholders	**$ 0.18**	(0.14)	$ 0.04
Net income per diluted share attributable to Ampco-Pittsburgh common shareholders	**$ 0.18**	(0.14)	$ 0.04

Consolidated Balance Sheet

	As of December 31, 2022		
	As reported - FIFO	Effect of Change	If adjusted - LIFO
Inventories	**$ 121,739**	$ (23,282)	$ 98,457
Total current assets	**231,408**	(23,282)	208,126
Deferred income tax assets	**2,141**	191	2,332
Total assets	**502,774**	(23,091)	479,683
Retained deficit	**(32,322)**	(23,091)	(55,413)
Total liabilities and shareholders' equity	**502,774**	(23,091)	479,683

Consolidated Statement of Cash Flows

	Year Ended December 31, 2022		
	As reported - FIFO	Effect of Change	If adjusted - LIFO
Net income	**$ 3,980**	$ (2,763)	$ 1,217
Non-cash provisions - net	**$ (2,215)**	$ 893	(1,322)
Changes in assets/liabilities:			
Inventories	**(17,903)**	1,870	(16,033)

The following tables present the consolidated financial statement line items affected as of and for the year ended December 31, 2021, as a result of the Corporation changing its method of accounting for its domestic inventories from the LIFO method to the FIFO method.

Consolidated Statement of Operations

	Year Ended December 31, 2021		
	As originally reported - LIFO	Effect of Change	As adjusted - FIFO
Costs of products sold (excluding depreciation and amortization)	**$ 287,639**	$ (8,834)	$ 278,805
Total operating costs and expenses	**358,536**	(8,834)	349,702
Loss from operations	**(13,616)**	8,834	(4,782)
Loss before income taxes	**(9,829)**	8,834	(995)
Net loss	**(12,134)**	8,834	(3,300)
Net loss attributable to Ampco-Pittsburgh	**(12,695)**	8,834	(3,861)
Net loss per basic share attributable to Ampco-Pittsburgh common shareholders	**$ (0.67)**	0.47	$ (0.20)
Net loss per diluted share attributable to Ampco-Pittsburgh common shareholders	**$ (0.67)**	0.47	$ (0.20)

Consolidated Balance Sheet

	As of December 31, 2021		
	As originally reported - LIFO	Effect of Change	As adjusted - FIFO
Inventories	**$ 88,198**	$ 20,519	$ 108,717
Total current assets	**188,297**	20,519	208,816

Deferred tax assets	**2,176**	(191)	1,985
Total assets	**485,632**	20,328	505,960
Retained deficit	**(56,066)**	20,328	(35,738)
Total liabilities and shareholders' equity	**485,632**	20,328	505,960

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Consolidated Statement of Cash Flows

	Year Ended December 31, 2021		
	As originally reported - LIFO	Effect of Change	As adjusted - FIFO
Net loss	**$ (12,134)**	$ 8,834	$ (3,300)
Non-cash provisions - net	**$ 1,809**	$ 384	$ 2,193
Changes in assets/liabilities:			
Inventories	**(18,400)**	(9,218)	(27,618)

The following tables present the unaudited interim consolidated financial statement line items affected for 2022 and 2021, as a result of the Corporation changing its method of accounting for its domestic inventories from the LIFO method to the FIFO method.

Unaudited Condensed Consolidated Statements of Operations

	Three Months Ended March 31, 2022			Three Months Ended March 31, 2021		
	As originally reported - LIFO	Effect of Change	As adjusted - FIFO	As originally reported - LIFO	Effect of Change	As adjusted - FIFO
Costs of products sold (excluding depreciation and amortization)	**$ 78,820**	$ 1,696	$ 80,516	**$ 69,588**	$ 432	$ 70,020
Total operating costs and expenses	**93,183**	1,696	94,879	**85,893**	432	86,325
Income (loss) from operations	**1,243**	(1,696)	(453)	**907**	(432)	475
Income (loss) before income taxes	**1,665**	(1,696)	(31)	**695**	(432)	263
Net income (loss)	**1,609**	(1,696)	(87)	**314**	(432)	(118)
Net income (loss) attributable to Ampco-Pittsburgh	**1,645**	(1,696)	(51)	**167**	(432)	(265)
Net income (loss) per basic share attributable to Ampco-Pittsburgh common shareholders	**$ 0.09**	(0.09)	$ (0.00)	**$ 0.01**	(0.02)	$ (0.01)
Net income (loss) per diluted share attributable to Ampco-Pittsburgh common shareholders	**$ 0.08**	(0.08)	$ (0.00)	**$ 0.01**	(0.02)	$ (0.01)

	Three Months Ended June 30, 2022			Three Months Ended June 30, 2021		
	As originally reported - LIFO	Effect of Change	As adjusted - FIFO	As originally reported - LIFO	Effect of Change	As adjusted - FIFO
Costs of products sold (excluding depreciation and amortization)	**$ 87,487**	$ (2,404)	$ 85,083	**$ 75,433**	$ (2,391)	$ 73,042
Total operating costs and expenses	**102,902**	(2,404)	100,498	**91,959**	(2,391)	89,568
(Loss) income from operations	**(320)**	2,404	2,084	**469**	2,391	2,860
Income before income taxes	**911**	2,404	3,315	**2,596**	2,391	4,987
Net income	**522**	2,404	2,926	**1,224**	2,391	3,615
Net income attributable to Ampco-Pittsburgh	**403**	2,404	2,807	**1,063**	2,391	3,454
Net income per basic share attributable to Ampco-Pittsburgh common shareholders	**$ 0.02**	0.13	$ 0.15	**$ 0.06**	0.12	$ 0.18
Net income per diluted share attributable to Ampco-Pittsburgh common shareholders	**$ 0.02**	0.12	$ 0.14	**$ 0.05**	0.11	$ 0.16

	Six Months Ended June 30, 2022			Six Months Ended June 30, 2021		
	As originally reported - LIFO	Effect of Change	As adjusted - FIFO	As originally reported - LIFO	Effect of Change	As adjusted - FIFO
Costs of products sold (excluding depreciation and amortization)	**$ 166,307**	$ (708)	$ 165,599	**$ 145,021**	$ (1,959)	$ 143,062
Total operating costs and expenses	**196,085**	(708)	195,377	**177,852**	(1,959)	175,893
Income from operations	**923**	708	1,631	**1,376**	1,959	3,335
Income before income taxes	**2,576**	708	3,284	**3,291**	1,959	5,250
Net income	**2,131**	708	2,839	**1,538**	1,959	3,497
Net income attributable to Ampco-Pittsburgh	**2,048**	708	2,756	**1,230**	1,959	3,189
Net income per basic share attributable to Ampco-Pittsburgh common shareholders	**$ 0.11**	0.03	$ 0.14	**$ 0.07**	0.10	$ 0.17

Net income per diluted share attributable to Ampco-Pittsburgh common shareholders	**$**	**0.11**	0.03	$	0.14	**$**	**0.06**	0.09	$	0.15

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	Three Months Ended September 30, 2022			Three Months Ended September 30, 2021		
	As originally reported - LIFO	Effect of Change	As adjusted - FIFO	As originally reported - LIFO	Effect of Change	As adjusted - FIFO
Costs of products sold (excluding depreciation and amortization)	**$ 84,378**	$ (277)	$ 84,101	**$ 67,990**	$ (1,979)	$ 66,011
Total operating costs and expenses	**99,721**	(277)	99,444	**83,546**	(1,979)	81,567
(Loss) income from operations	**(74)**	277	203	**(2,361)**	1,979	(382)
Income (loss) before income taxes	**2,121**	277	2,398	**(1,175)**	1,979	804
Net income (loss)	**1,134**	277	1,411	**(1,466)**	1,979	513
Net income (loss) attributable to Ampco-Pittsburgh	**846**	277	1,123	**(1,589)**	1,979	390
Net income (loss) per basic share attributable to Ampco-Pittsburgh common shareholders	**$ 0.04**	0.02	$ 0.06	**$ (0.08)**	0.10	$ 0.02
Net income (loss) per diluted share attributable to Ampco-Pittsburgh common shareholders	**$ 0.04**	0.02	$ 0.06	**$ (0.08)**	0.10	$ 0.02

	Nine Months Ended September 30, 2022			Nine Months Ended September 30, 2021		
	As originally reported - LIFO	Effect of Change	As adjusted - FIFO	As originally reported - LIFO	Effect of Change	As adjusted - FIFO
Costs of products sold (excluding depreciation and amortization)	**$ 250,685**	$ (985)	249,700 $ 0	**$ 213,011**	$ (3,938)	209,07 $ 3
Total operating costs and expenses	**295,806**	(985)	294,82 1	**261,398**	(3,938)	257,46 0
Income (loss) from operations	**849**	985	1,834	**(985)**	3,938	2,953
Income before income taxes	**4,697**	985	5,682	**2,116**	3,938	6,054
Net income	**3,265**	985	4,250	**72**	3,938	4,010
Net income (loss) attributable to Ampco-Pittsburgh	**2,894**	985	3,879	**(359)**	3,938	3,579
Net income (loss) per basic share attributable to Ampco-Pittsburgh common shareholders	**$ 0.15**	0.05	$ 0.20	**$ (0.02)**	0.21	$ 0.19
Net income (loss) per diluted share attributable to Ampco-Pittsburgh common shareholders	**$ 0.15**	0.05	$ 0.20	**$ (0.02)**	0.20	$ 0.18

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NOTE 3 – INVENTORIES:

Inventories as of December 31, 2022 and 2021 were comprised of the following:

	2022	2021
Raw materials	**$ 42,736**	$ 28,841
Work-in-progress	**48,809**	47,069
Finished goods	**23,231**	22,481
Supplies	**6,963**	10,326
Inventories	**$ 121,739**	$ 108,717

NOTE 4 – PROPERTY, PLANT AND EQUIPMENT:

Property, plant and equipment as of December 31, 2022 and 2021 was comprised of the following:

	2022	2021
Land and land improvements	**$ 9,887**	$ 10,377
Buildings	**62,102**	63,166
Machinery and equipment	**339,134**	345,118
Construction-in-process	**16,005**	11,019
Other	**6,706**	6,798
	433,834	436,478
Accumulated depreciation	**(278,836)**	(277,915)
Property, plant and equipment, net	**$ 154,998**	$ 158,563

The land and building of Union Electric Steel UK Limited, an indirect subsidiary of the Corporation ("UES-UK"), equal to approximately $2,565 (£2,122) at December 31, 2022, are held as collateral by the trustees of the UES-UK defined benefit pension plan (see Note 11). Machinery and equipment purchased with proceeds from the equipment financing facility (see Note 9), equal to $6,388 at December 31, 2022, are included in construction-in-process and pledged as collateral for the facility. The remaining assets, other than real property, are pledged as collateral for the Corporation's revolving credit facility (see Note 9).

Certain land and land improvements and buildings were included in the sale and leaseback financing transactions (see Note 9). Title to these assets lie with the lender; however, since the transactions qualified as financing transactions, versus sales, the assets remain recorded on the Corporation's consolidated balance sheet.

The gross value of assets under finance leases and the related accumulated amortization approximated $3,917 and $1,577 as of December 31, 2022, respectively, and $3,882 and $1,263 as of December 31, 2021, respectively. Depreciation expense approximated $17,040 and $17,336, including depreciation of assets under finance leases of approximately $496 and $473, for the years ended December 31, 2022 and 2021, respectively.

The potential significant change brought about by the Russia-Ukraine conflict resulting in the European energy crisis was deemed to be a triggering event under ASC 360, *Property, Plant and Equipment*, causing the Corporation to evaluate whether the property, plant and equipment of an asset group within the FCEP segment was deemed to be impaired. Accordingly, in connection with preparation of its 2023 business plan in the fourth quarter of 2022, the Corporation completed a quantitative analysis of the long-lived assets for the asset group and determined the assets were not impaired. The Corporation continues to evaluate the uncertainty associated with the Russia-Ukraine conflict and, at December 31, 2022, there were no additional triggering events identified. Additionally, there have been no triggering events for the asset groups within the ALP segment.

NOTE 5 – OPERATING LEASE RIGHT-OF-USE ASSETS:

The Corporation leases certain factory and office space and equipment. Additionally, the manufacturing facilities of one of the Corporation's cast roll joint ventures in China are located on land leased by the joint venture from the other partner. The land lease commenced in 2007, the date the joint venture was formed, and continues through 2054, the expected end date of the joint venture,

and includes variable lease payment provisions based on the land standard price prevailing in Taiyuan, China, where the joint venture is located.

Right-of-use assets associated with operating leases as of December 31, 2022 and 2021 were comprised of the following:

	2022	2021
Land	**$ 2,729**	$ 2,928
Buildings	**1,945**	1,953
Machinery and equipment	**690**	511
Other	**367**	429
	5,731	5,821
Accumulated amortization	**(2,209)**	(1,765)
Operating lease right-of-use assets, net	**$ 3,522**	$ 4,056

NOTE 6 – INTANGIBLE ASSETS:

Intangible assets as of December 31, 2022 and 2021 were comprised of the following:

	2022	2021
Customer relationships	**$ 5,375**	$ 5,850
Developed technology	**3,847**	4,201
Trade name	**2,167**	2,442
	11,389	12,493
Accumulated amortization	**(6,195)**	(6,289)
Intangible assets, net	**$ 5,194**	$ 6,204

The trade name is an indefinite-lived asset and, accordingly, is not subject to amortization. The fluctuation between the years is due to changes in foreign currency exchange rates. The following summarizes changes in intangible assets for the years ended December 31:

	2022	2021
Balance at the beginning of the year	**$ 6,204**	$ 7,217
Amortization of intangible assets	**(368)**	(541)
Other, primarily impact from changes in foreign currency exchange rates	**(642)**	(472)
Balance at the end of the year	**$ 5,194**	$ 6,204

Identifiable intangible assets are reviewed for impairment whenever events or circumstances indicate that the carrying values may not be recoverable. The potential significant change brought about by the Russia-Ukraine conflict resulting in the European energy crisis was deemed to be a triggering event causing the Corporation to evaluate whether the identifiable intangible assets of an asset group within the FCEP segment were deemed to be impaired. Accordingly, in connection with preparation of its 2023 business plan in the fourth quarter of 2022, the Corporation completed a quantitative analysis of the identifiable intangible assets for the asset group and determined the assets were not impaired. The Corporation continues to evaluate the uncertainty associated with the Russia-Ukraine conflict and, at December 31, 2022, there were no additional triggering events identified.

Identifiable intangible assets are expected to be amortized over a weighted-average period of approximately 12 years or $350 for 2023, $350 for 2024, $296 for 2025, $202 for 2026, $224 for 2027, and $1,605 thereafter.

NOTE 7 – INVESTMENTS IN JOINT VENTURES:

The Corporation has interests in three joint ventures:

- Shanxi Åkers TISCO Roll Co., Ltd. ("ATR") – a cast roll joint venture in China for which the Corporation accounts using the consolidated method of accounting. ATR principally manufactures and sells cast rolls for hot strip mills, steckel mills and medium plate mills.
- Anhui Baochang Roll Co., Ltd., previously known as Magong Gongchang United Rollers Co., Ltd. ("MG") – a forged roll joint venture in China for which the Corporation accounts using the cost method of accounting. MG principally manufactures and sells large forged backup rolls for hot and cold strip mills.

- Jiangsu Gong-Chang Roll Co., Ltd. ("Gongchang") – a cast roll joint venture in China for which the Corporation accounts using the cost method of accounting. Gongchang principally manufactures and sells cast rolls for hot strip mills, medium/heavy section mills and plate mills.

ATR

In 2007, Åkers AB, a subsidiary of Union Electric Steel Corporation, a wholly owned subsidiary of the Corporation ("UES"), entered into an agreement with Taiyuan Iron & Steel Co., Ltd. ("TISCO") to form ATR, with Åkers AB owning 59.88% and TISCO owning 40.12%. Since Åkers AB is the majority shareholder, has voting rights proportional to its ownership interest and exercises control over TISCO, Åkers AB is considered the primary beneficiary and, accordingly, accounts for its investment in ATR using the consolidated method of accounting. The net assets and net income (loss) attributable to TISCO are reflected as noncontrolling interest in the consolidated financial statements.

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MG

The Corporation has a 33% interest in MG, which is recorded at cost, or $835. The Corporation does not participate in the management or daily operation of MG, has not guaranteed any of its obligations and has no ongoing responsibilities to it. Dividends may be declared by the Board of Directors of the joint venture after allocation of after-tax profits to various "funds" equal to the minimum amount required under Chinese law. No dividends were declared or received in 2022 or 2021.

Gongchang

The Corporation has a 24.03% interest in Gongchang, which is recorded at cost, or $1,340. The Corporation does not participate in the management or daily operation of Gongchang, has not guaranteed any of its obligations and has no ongoing responsibilities to it. Dividends may be declared by the Board of Directors of the joint venture after allocation of after-tax profits to various "funds" equal to the minimum amount required under Chinese law. Dividends of $504 and $1,025 were declared and received in 2022 and 2021, respectively.

NOTE 8 – OTHER CURRENT LIABILITIES:

Other current liabilities as of December 31, 2022 and 2021 were comprised of the following:

	2022	2021
Customer-related liabilities	**$ 16,771**	$ 12,548
Accrued utilities	**2,484**	3,098
Accrued sales commissions	**1,681**	1,864
Accrued interest payable	**185**	1,772
Other	**3,642**	1,928
Other current liabilities	**$ 24,763**	$ 21,210

Customer-related liabilities primarily include liabilities for product warranty claims and deposits received on future orders. Changes in the liability for product warranty claims for the years ended December 31, 2022 and 2021 consisted of the following:

	2022	2021
Balance at the beginning of the year	**$ 7,331**	$ 8,105
Satisfaction of warranty claims	**(3,020)**	(3,220)
Provision for warranty claims	**1,438**	2,509
Other, primarily impact from changes in foreign currency exchange rates	**(556)**	(63)
Balance at the end of the year	**$ 5,193**	$ 7,331

Customer deposits represent amounts collected from, or invoiced to, a customer in advance of revenue recognition and are recorded as an other current liability on the consolidated balance sheet. The liability for customer deposits is reversed when the Corporation satisfies its performance obligations and control of the inventory transfers to the customer, typically when title transfers. Performance obligations related to customer deposits are expected to be satisfied in less than one year.

Changes in customer deposits for the years ended December 31, 2022 and 2021 consisted of the following:

	2022	2021
Balance at the beginning of the year	**$ 4,328**	$ 6,507
Satisfaction of performance obligations	**(10,735)**	(12,870)
Receipt of additional deposits	**17,026**	10,729
Other, primarily changes in foreign currency exchange rates	**(166)**	(38)
Balance at the end of the year	**$ 10,453**	$ 4,328

NOTE 9 – DEBT:

Debt as of December 31, 2022 and 2021 was comprised of the following:

	2022	2021
Revolving credit facility	**$ 47,078**	$ 29,744
Sale and leaseback financing obligations	**41,011**	20,546
Industrial Revenue Bonds	**9,191**	9,191
Equipment financing facility	**6,388**	—
Finance leases	**1,803**	1,438
Outstanding borrowings	**105,471**	60,919
Debt – current portion	**(12,410)**	(20,007)
Long-term debt	**$ 93,061**	$ 40,912

The current portion of debt includes primarily swing loans under the revolving credit facility and the Industrial Revenue Bonds ("IRBs"). By definition, swing loans are temporary advances under the revolving credit facility and short-term in nature. Accordingly, swing loans are classified as a current liability until the amount is either repaid, as customers remit payments, or, if elected by the Corporation, refinanced as a longer-term loan under the revolving credit facility. The swing loans balance was $2,078 and $8,744 at December 31, 2022 and 2021, respectively. Although the IRBs begin to become due in 2027, the bonds can be put back to the Corporation on short notice if they are not able to be remarketed, which is considered remote by the Corporation; accordingly, the IRBs are classified as a current liability. Future principal payments, assuming the swing loans are repaid in 2023 and the IRBs are called in 2023, are $12,410 for 2023, $1,509 for 2024, $1,615 for 2025, $46,617 for 2026, $1,801 for 2027, and $41,519 thereafter.

Revolving Credit Facility

The Corporation is a party to a revolving credit security agreement with a syndicate of banks that was amended on June 29, 2021 (as amended, the "First Amended and Restated Security Agreement"), and subsequently amended on December 17, 2021, and May 26, 2022. The First Amended and Restated Security Agreement, provides for a senior secured asset-based revolving credit facility of $100,000, that can be increased to $130,000 at the option of the Corporation and with the approval of the lenders, and an allowance of $20,000 for new equipment financing (see Equipment Financing Facility below) but, otherwise, restricts the Corporation from incurring additional indebtedness outside of the agreement, unless approved by the banks. The revolving credit facility includes sub-limits for letters of credit not to exceed $40,000 and European borrowings not to exceed $30,000, of which up to $7,500 may be allocated for Swedish borrowings. The maturity date for the revolving credit facility is June 29, 2026 and, subject to other terms and conditions of the agreement, would become due on that date.

Availability under the revolving credit facility is based on eligible accounts receivable, inventory and fixed assets. Domestic borrowings from the credit facility bear interest, at the Corporation's option, at either (i) LIBOR plus an applicable margin ranging between 2.00% to 2.50% based on the quarterly average excess availability or (ii) the alternate base rate plus an applicable margin ranging between 1.00% to 1.50% based on the quarterly average excess availability. European borrowings denominated in euros, pound sterling or krona bear interest at the Successor Rate as defined in the First Amended and Restated Security Agreement. As of December 31, 2022 and 2021, there were no European borrowings outstanding. Additionally, the Corporation is required to pay a commitment fee of 0.25% based on the daily unused portion of the credit facility.

As of December 31, 2022, the Corporation had outstanding borrowings under the First Amended and Restated Credit Agreement of $47,078. The average interest rate approximated 4.50% for 2022 and 4.00% for 2021. Additionally, the Corporation had utilized a portion of the credit facility for letters of credit (see Note 12). As of December 31, 2022, the remaining availability under the First Amended and Restated Credit Agreement approximated $28,420, net of standard availability reserves. Deferred financing fees of $485 were incurred in 2021 related to the First Amended and Restated Security Agreement and are being amortized over the remaining term of the agreement.

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Borrowings outstanding under the First Amended and Restated Security Agreement are collateralized by a first priority perfected security interest in substantially all assets of the Corporation and its subsidiaries (other than real property). Additionally, the First Amended and Restated Security Agreement contains customary affirmative and negative covenants and limitations including, but not limited to, investments in certain of its subsidiaries, repurchase of the Corporation's shares, payment of dividends, incurrence of additional indebtedness and guaranties, and acquisitions and divestitures. In addition, the Corporation must maintain a certain level of excess availability or otherwise maintain a minimum fixed charge coverage ratio of not less than 1.05 to 1.00. The Corporation was in compliance with the applicable covenants under the First Amended and Restated Security Agreement as of December 31, 2022.

Sale and Leaseback Financing Obligations

In September 2018, UES completed a sale and leaseback financing transaction with Store Capital Acquisitions, LLC ("STORE") for certain of its real property, including its manufacturing facilities in Valparaiso, Indiana and Burgettstown, Pennsylvania, and its manufacturing facility and corporate headquarters located in Carnegie, Pennsylvania (the "UES Properties").

On August 30, 2022, Air & Liquid completed a sale and leaseback financing transaction with STORE, valued at $15,500, for certain of its real property, including its manufacturing facilities in Lynchburg, Virginia and Amherst, Virginia. Net proceeds, after transaction-related costs, approximated $15,396. On October 14, 2022, Air & Liquid completed a sale and leaseback financing transaction with STORE, valued at $4,500 for its real property, including its manufacturing facility, located in North Tonawanda, New York (collectively with the Virginia properties, the "ALP Properties"). Net proceeds, after transaction-related costs, approximated $4,460.

In connection with the August 2022 sale and leaseback financing transaction, and as modified by the October 2022 sale and leaseback financing transaction, UES and STORE entered into a Second Amended and Restated Master Lease Agreement (the "Restated Lease"), which amended and restated the existing lease agreement between UES and STORE. Pursuant to the Restated Lease, UES will lease the ALP Properties and the UES Properties (collectively, the "Properties"), subject to the terms and conditions of the Restated Lease, and UES will sublease the ALP Properties to Air & Liquid on the same terms as the Restated Lease. The Restated Lease provides for an initial term of 20 years; however, UES may extend the lease for the Properties for four successive periods of five years each. If fully extended, the Restated Lease would expire in August 2062. UES also has the option to repurchase the Properties, which it may, and intends to, exercise in 2032, for a price equal to the greater of (i) the Fair Market Value of the Properties, or (ii) 115% of Lessor's Total Investment, with such terms defined in the Restated Lease.

Annual payments for the Properties are equal to $3,347 (the "Base Annual Rent"), payable in equal monthly installments. On each anniversary date through August 2052, the Base Annual Rent will increase each anniversary date by an amount equal to the lesser of 2.04% or 1.25% of the change in the consumer price index, as defined in the Restated Lease. The Base Annual Rent during the remaining ten years of the Restated Lease will be equal to the Fair Market Rent, as defined in the Restated Lease.

In connection with the execution of the Restated Lease, UES and STORE entered into a Disbursement Agreement dated August 30, 2022 (the "Disbursement Agreement"), pursuant to which STORE agreed to provide up to $2,500 to UES towards certain improvements in the Carnegie, Pennsylvania manufacturing facility. As of December 31, 2022, no amounts were outstanding under the Disbursement Agreement. The Base Annual Rent under the Restated Lease will be adjusted to repay any amounts advanced under the Disbursement Agreement, at the time of the advance, with such advances to be repaid over the initial term of the Restated Lease of 20 years. Advances under the Disbursement Agreement will be secured by the capital improvements.

The Restated Lease and the Disbursement Agreement contain certain representations, warranties, covenants, obligations, conditions, indemnification provisions and termination provisions customary for those types of agreements.

The effective interest rate approximated 6.73% and 8.06% for 2022 and 2021, respectively. Deferred financing fees of $144 were incurred related to the sale and leaseback of the ALP Properties and are being amortized over the initial term of the Restated Lease of 20 years.

Industrial Revenue Bonds

At December 31, 2022, the Corporation had the following IRBs outstanding: (i) $7,116 taxable IRB maturing in 2027, interest at a floating rate which averaged 1.83% and 0.19% for 2022 and 2021, respectively; and (ii) $2,075 tax-exempt IRB maturing in 2029, interest at a floating rate which averaged 2.32% and 0.09% for 2022 and 2021, respectively. The IRBs are secured by letters of credit of equivalent amounts and are remarketed periodically at which time the interest rates are reset. If the IRBs are not able to be remarketed, although considered remote by the Corporation, the bondholders can seek reimbursement immediately from the letters of credit which serve as collateral for the bonds. Accordingly, the IRBs are recorded as current debt on the consolidated balance sheets.

Equipment Financing Facility

On September 29, 2022, UES and Clarus Capital Funding I, LLC ("Clarus") entered into a Master Loan and Security Agreement, pursuant to which UES can borrow up to $20,000 to finance certain equipment purchases associated with the FCEP capital program, including progress payments and reimbursement of deposits made to date. Each borrowing will constitute a secured loan transaction (each, a "Term Loan"). Each Term Loan will convert to a Term Note on the earlier of (i) the date in which the associated equipment is placed in service or (ii) December 29, 2023. Each Term Note will have a term of 84 months in arrears fully amortizing and will commence on the date of the Term Note.

Interest on each Term Loan will accrue at an annual fixed rate of 8%, payable monthly. Interest on each Term Note will accrue at a fixed rate to be calculated by Clarus equal to the like-term swap rate, as reported in ICE Benchmark, or such other information service available to Clarus, for the week ending immediately prior to the commencement date for such Term Note, plus 4.5%.

The Term Loans and Term Notes will be secured by a first priority security interest in and to all of UES's rights, title and interests in the underlying equipment.

At December 31, 2022, $6,388 was outstanding as Term Loans.

Minority Shareholder Loan

In 2022, ATR periodically had loans outstanding with its minority shareholder. Amounts borrowed and repaid approximated $5,776 (RMB 38,471) in 2022. In addition, ATR repaid an existing loan in 2021 of approximately $1,056 (RMB 6,901). No loans are outstanding as of December 31, 2022 or 2021.

Interest on the borrowings equaled the three-to-five-year loan interest rate set by the People's Bank of China in effect at the time of the borrowing, which approximated 4.785% and 5% for 2022 and 2021, respectively. Interest paid in 2022, including interest accumulated on previous loans, approximated $1,766 (RMB 11,063). Interest paid in 2021 approximated $479 (RMB 3,046). Accrued interest as of December 31, 2021 approximated $1,713 (RMB 10,901), and was recorded in other current liabilities on the consolidated balance sheet. No interest was outstanding as of December 31, 2022.

Finance Leases

The Corporation leases equipment under various noncancelable lease agreements ending 2023 to 2028. Effective interest rates ranged between approximately 2% and 6% for 2022 and between 1% and 3% for 2021. The weighted-average remaining lease term approximated 5 years at December 31, 2022 and 2021. Cash paid for amounts included in the measurement of finance lease liabilities totaled $695 and $884 for the years ended December 31, 2022 and 2021, respectively, of which $55 and $29 were classified as operating cash flows and $640 and $855 were classified as financing cash flows in the consolidated statements of cash flows for each of the respective years. Interest on the finance lease liabilities was insignificant for both years.

NOTE 10 – OPERATING LEASE LIABILITIES:

The current and noncurrent portions of the Corporation's operating lease arrangements as of December 31, 2022 and 2021 were as follows:

	2022	2021
Operating lease liabilities – current portion	**$ 635**	$ 641
Noncurrent operating lease liabilities	**2,886**	3,415
Total operating lease liabilities	**$ 3,521**	$ 4,056

Future operating lease payments as of December 31, 2022 were as follows:

2023	$ 647
2024	589
2025	342
2026	176
2027	141
2028 and thereafter	3,417
Total undiscounted payments	5,312
Less: amount representing interest	(1,791)
Present value of net minimum lease payments	**$ 3,521**

At December 31, 2022 and 2021, the weighted-average remaining lease term approximated 7.86 years and 8.76 years, respectively, and the weighted-average discount rate approximated 3.97% and 4.66%, respectively.

Cash paid for amounts included in the measurement of operating lease liabilities totaled $644 and $671 for the years ended December 31, 2022 and 2021, respectively, and was classified as operating cash flows in the consolidated statements of cash flows. The components of lease cost for the years ended December 31, 2022 and 2021, were as follows:

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	2022	2021
Short-term operating lease costs	**$ 15**	$ 29
Long-term operating lease costs	**629**	642
Total operating lease costs	**$ 644**	$ 671

NOTE 11 – PENSION AND OTHER POSTRETIREMENT BENEFITS:

U.S. Pension Benefits

The Corporation had two qualified domestic defined benefit pension plans that were merged as of December 31, 2022. The benefits for participants under either plan were not affected by the merger. The plan covers substantially all of the Corporation's U.S. employees. For all locations except one, benefit accruals and participation in the plan have been curtailed and replaced with a defined contribution pension plan. The defined benefit pension plan is covered by the Employee Retirement Income Security Act of 1974 ("ERISA"); accordingly, the Corporation's policy is to fund at least the minimum actuarially-computed annual contribution required under ERISA. Minimum contributions for 2022 were $444 and are expected to approximate $339 in 2023. No minimum contributions were due for 2021 due to relief provided by the American Rescue Plan Act. The fair value of the plan assets as of December 31, 2022 and 2021, approximated $161,374 and $214,937, respectively, in comparison to accumulated benefit obligations of $185,210 and $249,180 for the same periods. Employer contributions to the defined contribution plan totaled $3,064 and $2,893 for 2022 and 2021, respectively, and are expected to approximate $3,400 in 2023.

The Corporation also maintained nonqualified defined benefit pension plans for selected executive officers in addition to the benefits provided under the Corporation's qualified defined benefit pension plan. Benefit accruals and participation in the plans have been curtailed. The objectives of the nonqualified plans were to provide supplemental retirement benefits or restore benefits lost due to limitations set by the Internal Revenue Service. The assets of the nonqualified plans are held in a grantor tax trust known as a "Rabbi" trust and are subject to claims of the Corporation's creditors, but otherwise must be used only for purposes of providing benefits under the plans. The fair market value of the trust at December 31, 2022 and 2021, which is included in other noncurrent assets on the consolidated balance sheets, was $3,353 and $4,860, respectively. The plans are treated as non-funded pension plans for financial reporting purposes. Accordingly, benefit payments would represent employer contributions. Accumulated benefit obligations approximated $8,460 and $11,121 at December 31, 2022 and 2021, respectively.

Employees at one location participate in a multi-employer plan, *I.A.M. National Pension Fund* (employer identification number 51-6031295, plan number 002), in lieu of the Corporation's defined benefit pension plan. A multi-employer plan generally receives contributions from two or more unrelated employers pursuant to one or more collective bargaining agreements. The assets contributed by one employer may be used to fund the benefits provided to employees of other employers in the plan because the plan assets, once contributed, are not restricted to individual employers. The latest report of summary plan information (for the 2021 plan year) provided by *I.A.M. National Pension Fund* indicates:

- Approximately 1,700 employer locations contribute to the plan;
- Approximately 100,000 active employees participate in the plan; and
- Assets of approximately $13.4 billion and a funded status of approximately 83.7%.

Less than 100 of the Corporation's employees participate in the plan and contributions are based on a rate per hour. The Corporation's contributions to the plan were less than $300 for 2022 and 2021 and represent less than five percent of total contributions to the plan by all contributing employers. Contributions are expected to be less than $300 in 2023.

Foreign Pension Benefits

Employees of UES-UK participated in a defined benefit pension plan that was curtailed effective December 31, 2004, and replaced with a defined contribution pension plan. The plans are non-U.S. plans and, therefore, are not covered by ERISA. Employer contributions to the defined benefit pension plan, when necessary, are agreed to by the Trustees and UES-UK, based on U.K. regulations, with the objective of maintaining the self-sufficiency of the plan. Accordingly, estimated contributions are subject to change based on the future investment performance of the plan's assets. Currently, the plan is fully funded and no contributions were required in 2022 or 2021, and none are expected in 2023. The fair value of the plan's assets as of December 31, 2022 and 2021, approximated $41,679 (£34,475) and $71,614 (£53,008), respectively, in comparison to accumulated benefit obligations of $34,438

(£28,485) and $59,651 (£44,153) for the same periods. Contributions to the defined contribution pension plan approximated $253 and $322 in 2022 and 2021, respectively, and are expected to approximate $250 in 2023.

The Corporation has two additional foreign defined benefit pension plans, which are not funded. Accordingly, benefit payments would represent employer contributions. Projected and accumulated benefit obligations approximated $4,881 and $7,356 at December 31, 2022 and 2021, respectively.

Other Postretirement Benefits

The Corporation provides a monthly reimbursement of postretirement health care benefits for up to a 6-year period principally to the bargaining groups of two subsidiaries. The plans cover participants and their spouses who retire under an existing pension plan on other than a deferred vested basis and at the time of retirement also have rendered 10 or more years of continuous service irrespective of age. Retiree life insurance is provided to substantially all retirees. The Corporation's postretirement health care and life insurance plans are not funded or subject to any minimum regulatory funding requirements. Instead, benefit payments are made from the general assets of the Corporation at the time they are due.

Significant Activity

Actuarial (gains) losses were comprised of the following components:

	U.S. Pension Benefits		Foreign Pension Benefits		Other Postretirement Benefits	
	2022	2021	**2022**	2021	**2022**	2021
Changes in assumptions	**$ (57,439)**	$ (6,234)	**$ (19,804)**	$ (164)	**$ (2,225)**	$ (365)
Other	**202**	2,027	**(190)**	167	**(536)**	(442)
Total actuarial (gains) losses	**$ (57,237)**	$ (4,207)	**$ (19,994)**	$ 3	**$ (2,761)**	$ (807)

Changes in actuarial assumptions principally include the effect of changes in discount rates which are used to estimate plan liabilities. A 1/4 percentage point decrease in the discount rate would increase projected and accumulated benefit obligations by approximately $5,800. Conversely, a 1/4 percentage point increase in the discount rate would decrease projected and accumulated benefit obligations by approximately $5,800.

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Reconciliations

The following tables provide a reconciliation of projected benefit obligations ("PBO"), plan assets and the funded status of the plans for the Corporation's defined benefit plans calculated using a measurement date as of the end of the respective years.

	U.S. Pension Benefits[a]		Foreign Pension Benefits[b]		Other Postretirement Benefits	
	2022	2021	**2022**	2021	**2022**	2021
Change in projected benefit obligations:						
PBO at January 1	**$ 260,301**	$ 273,776	**$ 67,007**	$ 69,923	**$ 10,430**	$ 11,410
Service cost	**51**	243	**286**	375	**234**	245
Interest cost	**6,185**	5,349	**1,079**	829	**220**	182
Foreign currency exchange rate changes	**—**	—	**(6,690)**	(1,354)	**—**	—
Actuarial (gains) losses	**(57,237)**	(4,207)	**(19,994)**	3	**(2,761)**	(807)
Participant contributions	**—**	—	**—**	—	**30**	161
Benefits paid from plan assets	**(14,860)**	(14,457)	**(1,863)**	(2,114)	**—**	—
Benefits paid by the Corporation	**(770)**	(403)	**(506)**	(655)	**(509)**	(761)
PBO at December 31	**$ 193,670**	$ 260,301	**$ 39,319**	$ 67,007	**$ 7,644**	$ 10,430
Change in plan assets:						
Fair value of plan assets at January 1	**$ 214,937**	$ 210,880	**$ 71,614**	$ 66,957	**$ —**	$ —
Actual return on plan assets	**(39,147)**	18,514	**(21,069)**	7,550	**—**	—
Foreign currency exchange rate changes	**—**	—	**(7,003)**	(779)	**—**	—
Corporate contributions	**1,214**	403	**506**	655	**479**	600
Participant contributions	**—**	—	**—**	—	**30**	161
Gross benefits paid	**(15,630)**	(14,860)	**(2,369)**	(2,769)	**(509)**	(761)
Fair value of plan assets at December 31	**$ 161,374**	$ 214,937	**$ 41,679**	$ 71,614	**$ —**	$ —
Funded status of the plans:						
Fair value of plan assets	**$ 161,374**	$ 214,937	**$ 41,679**	$ 71,614	**$ —**	$ —
Less benefit obligations	**193,670**	260,301	**39,319**	67,007	**7,644**	10,430
Funded status at December 31	**$ (32,296)**	$ (45,364)	**$ 2,360**	$ 4,607	**$ (7,644)**	$ (10,430)

(a) Includes the nonqualified defined benefit pension plan.

(b) Includes the over-funded U.K. defined benefit pension plan and two smaller unfunded defined benefit pension plans.

The following tables provide a summary of amounts recognized in the consolidated balance sheets at December 31, 2022 and 2021.

	U.S. Pension Benefits		Foreign Pension Benefits		Other Postretirement Benefits	
	2022	2021	**2022**	2021	**2022**	2021
Employee benefit obligations:						
Prepaid pensions[a]	**$ —**	$ —	**$ 7,242**	$ 11,963	**$ —**	$ —
Accrued payrolls and employee benefits[b]	**(726)**	(740)	**—**	—	**(833)**	(932)
Employee benefit obligations[c]	**(31,570)**	(44,624)	**(4,882)**	(7,356)	**(6,811)**	(9,498)
Total employee benefit obligations	**$ (32,296)**	$ (45,364)	**$ 2,360**	$ 4,607	**$ (7,644)**	$ (10,430)
Accumulated other comprehensive loss:[d]						
Net actuarial loss (gain)	**$ 44,361**	$ 51,476	**$ 16,963**	$ 16,046	**$ (3,031)**	$ (405)
Prior service cost (credit)	**8**	15	**(5,952)**	(6,952)	**(4,767)**	(5,803)
Total accumulated other comprehensive loss	**$ 44,369**	$ 51,491	**$ 11,011**	$ 9,094	**$ (7,798)**	$ (6,208)

(a) Represents the over-funded U.K. defined benefit pension plan which is recorded as a noncurrent asset in the consolidated balance sheets.

(b) Recorded as a current liability in the consolidated balance sheets.

(c) Recorded as a noncurrent liability in the consolidated balance sheets.

(d) Amounts are pre-tax.

As of December 31, 2022, estimated benefit payments for subsequent years are as follows:

	U.S. Pension Benefits	Foreign Pension Benefits	Other Postretirement Benefits
2023	$ 16,017	$ 2,141	$ 856
2024	15,942	2,293	865
2025	15,782	2,275	846
2026	15,557	2,369	656
2027	15,320	2,322	618
2028-2032	72,418	12,808	2,610
Total benefit payments	**$ 151,036**	**$ 24,208**	**$ 6,451**

Investment Policies and Strategies

The investment policies and strategies are determined by the Ampco-Pittsburgh Corporation Retirement Committee (the "Retirement Committee") and monitored by the Finance and Investment Committee of the Board of Directors of the Corporation for the U.S. pension plan and by the Trustees (as appointed by UES-UK and the employees of UES-UK) for the UES-UK pension plan, each of whom employ their own investment managers to manage the plan's assets in accordance with the policy guidelines. The U.S. defined benefit pension plan follows a glide-path strategy whereby target asset allocations are rebalanced based on projected payment obligations and the funded status of the plan. The U.K. defined benefit pension plan employs a liability-matching portfolio whereby a higher percentage of plan assets are invested in fixed-income securities. Pension assets of the UES-UK plan are invested with the objective of the plan maintaining self-sufficiency.

Attempts to minimize risk include allowing temporary changes to the allocation mix in response to market conditions, diversifying investments among asset categories (e.g., equity securities, fixed-income securities, alternative investments, cash and cash equivalents) and within these asset categories (e.g., economic sector, industry, geographic distribution, size) and consulting with independent financial and legal counsels to assure that the investments and their expected returns and risks are consistent with the goals of the Retirement and Finance and Investment Committees or Trustees.

Investments in equity securities are primarily in common stocks of publicly-traded U.S. and international companies across a broad spectrum of industry sectors. Investments in fixed-income securities are principally A-rated or better bonds with maturities of less than ten years, preferred stocks and convertible bonds. Investments in equity and fixed-income securities are either direct or through designated mutual funds. The Corporation believes there are no significant concentrations of risk associated with the plans' assets. With respect to the U.S. pension plan, the following investments are prohibited unless otherwise approved by the Board of Directors: stock of the Corporation, futures and options except for hedging purposes, unregistered or restricted stock, warrants, margin trading, short-selling, real estate excluding public or real estate partnerships, and commodities including art, jewelry and gold. The UES-UK pension plan invests in specific funds. Any investments other than those specifically identified would be considered prohibited.

The following table summarizes target asset allocations for 2022 (within +/-5% considered acceptable) and major asset categories. Certain investments are classified differently for target asset allocation purposes and external reporting purposes. The Corporation intends to continue to liquidate the alternative investments of the U.S. pension plan to provide additional flexibility with investment allocation.

	U.S. Pension Benefits			Foreign Pension Benefits		
	Target Allocation	Percentage of Plan Assets		Target Allocation	Percentage of Plan Assets	
	Dec. 31, 2022	2022	2021	Dec. 31, 2022	2022	2021
Equity securities	**54 %**	**45 %**	50 %	**0 %**	**0 %**	15 %
Fixed-income securities	**43 %**	**49 %**	43 %	**89 %**	**89 %**	44 %
Alternative investments	**0 %**	**4 %**	4 %	**2 %**	**2 %**	29 %
Other (primarily cash and cash equivalents)	**3 %**	**2 %**	3 %	**9 %**	**9 %**	12 %

Fair Value Measurement of Plan Assets

Equity securities, exchange-traded funds ("ETFs"), mutual funds and treasury bonds are actively traded on exchanges or broker networks and price quotes for these investments are readily available. While not quoted on active exchanges, price quotes for corporate and agency bonds are readily available. Similarly, certain commingled funds are not traded publicly, but the underlying assets (such as stocks and bonds) held in the funds are traded on active markets and the prices for the underlying assets are readily observable. For securities not actively traded, the fair value may be based on third-party appraisals, discounted cash flow analysis, benchmark yields, and inputs that are currently observable in markets for similar securities.

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Investment Strategies

The significant investment strategies of the various funds are summarized below.

Fund	Investment Strategy	Primary Investment Objective
Temporary Investment Funds	Invests primarily in a diversified portfolio of investment grade money market instruments.	Achieve a market level of current income while maintaining stability of principal and liquidity.
Various Equity Funds	Each fund maintains a diversified holding in common stock of applicable companies (e.g., common stock of small capitalization companies if a small-cap fund, common stock of medium capitalization companies if a mid-cap fund, common stock of foreign corporations if an international fund, etc.).	Outperform the fund's related index.
Various Fixed-Income Funds	Invests primarily in a diversified portfolio of fixed-income securities of varying maturities or in commingled funds which invest in a diversified portfolio of fixed-income securities of varying maturities.	Achieve a rate of return that matches or exceeds the expected growth in plan liabilities.
Alternative Investments – Managed Funds	Invests in equities and equity-like asset classes and strategies (such as public equities, venture capital, private equity, real estate, natural resources, and hedged strategies) and fixed-income securities approved by the Retirement Committee.	Generate a minimum annual inflation adjusted return of 5% and outperform a traditional 70/30 equities/bond portfolio.
Alternative Investments – Absolute Return Funds	Invests in a diversified portfolio of alternative investment styles and strategies approved by the Trustees of the UES-UK defined benefit pension plan.	Generate long-term capital appreciation while maintaining a low correlation with the traditional global financial markets.

Categories of Plan Assets

Asset categories based on the nature and risks of the U.S. pension benefit plan's assets as of December 31, 2022 are summarized below.

	Quoted Prices in Active Markets for Identical Inputs (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Equity Securities:				
U.S.				
Consumer discretionary	$ 2,697	$ —	$ —	**$ 2,697**
Consumer staples	2,454	—	—	**2,454**
Energy	1,112	—	—	**1,112**
Financial	3,165	—	—	**3,165**
Healthcare	5,967	—	—	**5,967**
Industrials	4,222	—	—	**4,222**
Information technology	5,631	—	—	**5,631**
Materials	369	—	—	**369**
Mutual funds and ETFs	43,408	—	—	**43,408**
Real estate	279	—	—	**279**
Telecommunications	1,183	—	—	**1,183**
Utilities	324	—	—	**324**
International				
Consumer discretionary	66	—	—	**66**
Financial	450	—	—	**450**
Healthcare	123	—	—	**123**
Industrials	463	—	—	**463**
Information technology	438	—	—	**438**
Materials	646	—	—	**646**
Total Equity Securities	72,997	—	—	**72,997**
Fixed-Income Securities:				
U.S.				
Corporate bonds	—	39,047	—	**39,047**
Treasury bonds	26,247	—	—	**26,247**
Agency bonds	—	231	—	**231**
Mutual funds and ETFs	6,162	—	—	**6,162**
International				
Corporate bonds	—	5,983	—	**5,983**
Total Fixed-Income Securities	32,409	45,261	—	**77,670**
Alternative Investments:				
Managed funds[(a)]	—	—	6,569	**6,569**
Total Alternative Investments	—	—	6,569	**6,569**
Other:				
Cash and cash equivalents[(b)]	4,138	—	—	**4,138**
Total Other	4,138	—	—	**4,138**
Total assets	**$ 109,544**	**$ 45,261**	**$ 6,569**	**$ 161,374**

(a) Includes approximately 98.5% in alternative investments (real assets, commodities and resources, absolute return funds) and 1.5% in cash and cash equivalents.

(b) Includes investments in temporary funds.

Asset categories based on the nature and risks of the U.S. pension benefit plans' assets as of December 31, 2021 are summarized below.

	Quoted Prices in Active Markets for Identical Inputs (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Equity Securities:				
U.S.				
Consumer discretionary	$ 6,442	$ —	$ —	$ 6,442
Consumer staples	3,050	—	—	3,050
Energy	1,167	—	—	1,167
Financial	4,617	—	—	4,617
Healthcare	10,526	—	—	10,526
Industrials	8,089	—	—	8,089
Information technology	11,819	—	—	11,819
Materials	938	—	—	938
Mutual funds and ETFs	58,440	—	—	58,440
Real estate	824	—	—	824
Telecommunications	2,388	—	—	2,388
Utilities	146	—	—	146
International				
Consumer discretionary	426	—	—	426
Financial	751	—	—	751
Healthcare	880	—	—	880
Industrials	1,410	—	—	1,410
Information technology	2,065	—	—	2,065
Materials	1,330	—	—	1,330
Total Equity Securities	115,308	—	—	115,308
Fixed-Income Securities:				
U.S.				
Corporate bonds	—	41,991	—	41,991
Treasury bonds	28,694	—	—	28,694
Agency bonds	—	257	—	257
Mutual funds and ETFs	7,334	—	—	7,334
International				
Corporate bonds	—	3,711	—	3,711
Total Fixed-Income Securities	36,028	45,959	—	81,987
Alternative Investments:				
Managed funds[(a)]	—	—	8,167	8,167
Total Alternative Investments	—	—	8,167	8,167
Other:				
Cash and cash equivalents[(b)]	9,349	—	—	9,349
Other[(c)]	76	—	50	126
Total Other	9,425	—	50	9,475
Total assets	$ 160,761	$ 45,959	$ 8,217	$ 214,937

(a) Includes approximately 89.6% in alternative investments (real assets, commodities and resources, absolute return funds) and 10.4% in cash and cash equivalents.

(b) Includes investments in temporary funds.

(c) Includes accrued receivables and pending broker settlements.

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Asset categories based on the nature and risks of the foreign pension benefit plan's assets as of December 31, 2022 are summarized below.

	Quoted Prices in Active Markets for Identical Inputs (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Fixed-Income Securities:				
Commingled funds (U.K.)	$ —	$ 24,144	$ —	**$ 24,144**
Commingled funds (International)	—	13,355	831	**14,186**
Total Fixed-Income Securities	—	37,499	831	**38,330**
Alternative Investments:				
Absolute Return Funds	—	—	—	—
Cash and cash equivalents	647	2,702	—	**3,349**
Total assets	**$ 647**	**$ 40,201**	**$ 831**	**$ 41,679**

Asset categories based on the nature and risks of the foreign pension benefit plan's assets as of December 31, 2021 are summarized below.

	Quoted Prices in Active Markets for Identical Inputs (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Equity Securities:				
Commingled funds (U.K.)	$ —	$ —	$ 1,079	$ 1,079
Commingled funds (International)	—	1,663	8,205	9,868
Total Equity Securities	—	1,663	9,284	10,947
Fixed-Income Securities:				
Commingled funds (U.K.)	$ —	16,320	—	16,320
Commingled funds (International)	—	15,281	10,197	25,478
Total Fixed-Income Securities	—	31,601	10,197	41,798
Multi-Asset Commingled Funds (International)	—	9,077	—	9,077
Alternative Investments:				
Absolute Return Funds	—	—	1,347	1,347
Cash and cash equivalents	—	8,445	—	8,445
Total assets	$ —	$ 50,786	$ 20,828	$ 71,614

The following table sets forth a summary of changes in the fair value of the Level 3 plan assets for the U.S. and foreign pension benefit plans for the years ended December 31, 2022 and 2021.

	U.S. Pension Benefits		Foreign Pension Benefits	
	2022	2021	**2022**	2021
Fair value as of January 1	**$ 8,167**	$ 7,557	**$ 20,828**	$ 23,765
Transfers from other plan assets	**—**	—	**—**	10,214
Transfers to other plan assets	**(1,677)**	(1,600)	**(16,557)**	(16,957)
Realized gains	**526**	273	**1,763**	5,989
Change in net unrealized (losses) gains	**(447)**	1,937	**(3,109)**	(2,085)
Other, primarily impact from changes in foreign currency exchange rates	**—**	—	**(2,094)**	(98)
Fair value as of December 31	**$ 6,569**	$ 8,167	**$ 831**	$ 20,828

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Net Periodic Pension and Other Postretirement Benefit Costs

The actual return on the fair value of the plan assets is included in determining the funded status of the plans. In determining net periodic pension benefit costs, the expected long-term rate of return on the market-related value of the plan assets is used. Differences between the actual return on the fair value of the plan assets and the expected long-term rate of return on the market-related value of the plan assets are classified as part of unrecognized actuarial gains or losses and are recorded as a component of accumulated other comprehensive loss on the consolidated balance sheet. When these gains or losses exceed 10% of the greater of the projected benefit obligation or the market-related value of plan assets, they are amortized to net periodic pension and other postretirement benefit costs over the average remaining service period or life expectancy of the employees expected to receive benefits under the plans. When the gains or losses are less than 10% of the greater of the projected benefit obligation or the market-related value of plan assets, they are included in net periodic pension and other postretirement benefit costs indirectly as a result of lower/higher interest costs arising from a decrease/increase in the projected benefit obligation.

Net periodic pension and other postretirement benefit costs include the following components for each of the years.

	U.S. Pension Benefits		Foreign Pension Benefits		Other Postretirement Benefits	
	2022	2021	**2022**	2021	**2022**	2021
Service cost	**$ 51**	$ 243	**$ 286**	$ 375	**$ 234**	$ 245
Interest cost	**6,185**	5,349	**1,079**	829	**220**	182
Expected return on plan assets	**(13,207)**	(12,995)	**(1,945)**	(1,935)	**—**	—
Amortization of:						
Prior service cost (credit)	**8**	23	**(275)**	(306)	**(1,035)**	(1,030)
Actuarial loss (gain)	**2,231**	2,632	**322**	635	**(135)**	(78)
Total net periodic pension and other postretirement benefit costs	**$ (4,732)**	$ (4,748)	**$ (533)**	$ (402)	**$ (716)**	$ (681)

Assumptions

Assumptions are reviewed on an annual basis. The expected long-term rate of return on plan assets is an estimate of average rates of earnings expected to be earned on funds invested, or to be invested, to provide for the benefits included in the projected benefit obligation. Since these benefits will be paid over many years, the expected long-term rate of return is reflective of current investment returns and investment returns over a longer period. Consideration is also given to target and actual asset allocations, inflation and real risk-free return. A percentage point decrease in the expected long-term rate of return would increase annual pension expense by approximately $2,600. Conversely, a percentage point increase in the expected long-term rate of return would decrease annual pension expense by approximately $2,600. The discount rates used in determining future pension obligations and other postretirement benefits for each of the plans are based on rates of return on high-quality fixed-income investments currently available, and expected to be available, during the period to maturity of the pension and other postretirement benefits. High-quality fixed-income investments are defined as those investments which have received one of the two highest ratings given by a recognized rating agency with maturities of 10+ years. With the increase in interest rates during 2022 and the resulting impact on bond yields, the discount rate rose significantly at December 31, 2022 when compared to December 31, 2021. Assumptions about wage increases are not relevant since substantially all the benefits available under the defined benefit pension plans are either frozen or based on a multiplier, versus wages.

The discount rates used to determine the benefit obligations as of December 31, 2022 and 2021 are summarized below.

	U.S. Pension Benefits		Foreign Pension Benefits		Other Postretirement Benefits	
	2022	2021	**2022**	2021	**2022**	2021
Discount rate	**5.48-5.49%**	2.79-2.91%	**4.85%**	1.95%	**5.49%**	2.91%

In addition, the assumed health care cost trend rate at December 31, 2022 for other postretirement benefits, is 6.50% for 2023 gradually decreasing to 4.75% in 2028. In selecting rates for current and long-term health care assumptions, the Corporation considers known health care cost increases, the design of the benefit programs, the demographics of its active and retiree populations, and expectations of inflation rates in the future.

The following assumptions were used to determine net periodic pension and other postretirement benefit costs for the years ended December 31, 2022 and 2021.

	U.S. Pension Benefits		Foreign Pension Benefits		Other Postretirement Benefits	
	2022	2021	**2022**	2021	**2022**	2021
Discount rate	**2.79-2.91%**	2.50-2.63%	**1.95%**	1.45%	**2.91%**	2.61%
Expected long-term rate of return	**6.94%**	6.50-7.00%	**3.00%**	2.90%	**n/a**	n/a

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NOTE 12 – COMMITMENTS AND CONTINGENT LIABILITIES:

Outstanding standby and commercial letters of credit as of December 31, 2022 approximated $18,970, of which approximately half serves as collateral for the IRB debt. In addition, outstanding surety bonds guaranteeing certain obligations of the two unfunded foreign defined benefit pension plans approximated $3,300 (SEK 33,900) as of December 31, 2022.

The Corporation has undertaken a significant capital program to upgrade existing equipment at certain of its FCEP locations which is anticipated to cost approximately $27,000 and be substantially completed by December 31, 2023. At December 31, 2022, commitments for future capital expenditures, including those associated with the FCEP capital program, approximated $16,400.

Approximately 34% of the Corporation's employees are covered by collective bargaining agreements or agreements with works councils that have expiration dates ranging from September 2023 to May 2026. Collective bargaining agreements and agreements with works councils expiring in 2023 (representing approximately 59% of the covered employees) will be negotiated with the intent to secure mutually beneficial, long-term arrangements.

See Note 15 regarding derivative instruments, Note 20 regarding litigation and Note 22 for environmental matters.

NOTE 13 – EQUITY RIGHTS OFFERING:

In September 2020, the Corporation completed an equity rights offering, issuing 5,507,889 shares of its common stock and 12,339,256 Series A warrants to existing shareholders. The shares of common stock and warrants are classified as equity instruments in the consolidated statements of shareholders' equity. Additional proceeds may be received from the future exercise of the Series A warrants. Each Series A warrant provides the holder with the right to purchase 0.4464 shares of common stock at an exercise price of $2.5668, or $5.75 per whole share of common stock, and expires on August 1, 2025. In 2021, the Corporation received proceeds of $3,308 from shareholders who exercised 1,289,009 Series A warrants, equating to the issuance of 575,405 common shares.

In May 2022, the Corporation filed a Tender Offer and Prospectus Supplement (the "Offer") with the SEC pursuant to which the exercise price of each tendered Series A warrant was temporarily reduced. During the Offer period, the holders of Series A warrants were given the opportunity to exercise their Series A warrants at a temporarily reduced cash exercise price of $1.7856 per Series A warrant (or $4.00 per whole share of common stock). The Offer expired on July 15, 2022. The Corporation raised $193 in gross proceeds resulting from the tender and exercise of 108,378 Series A warrants. Series A warrants not exercised during the Offer period reverted to their original terms including the right to purchase 0.4464 shares of common stock at an exercise price of $2.5668, or $5.75 per whole share of common stock. Stock issuance costs approximated $193 and were recorded against the proceeds in additional paid-in capital.

The following summarizes outstanding warrants as of December 31, 2022 and 2021 and activity for the years then ended.

	Number of Warrants
Outstanding as of January 1, 2021	12,339,256
Issued	—
Converted to common stock	(1,289,009)
Outstanding as of December 31, 2021	11,050,247
Issued	—
Converted to common stock	**(108,378)**
Outstanding as of December 31, 2022	**10,941,869**

NOTE 14 – ACCUMULATED OTHER COMPREHENSIVE LOSS:

Net changes and ending balances for the various components of other comprehensive income (loss) and for accumulated other comprehensive loss as of and for the years ended December 31, 2022 and 2021 are summarized below.

	Foreign Currency Translation Adjustments	Unrecognized Components of Employee Benefit Plans	Derivatives	Total Accumulated Other Comprehensive Loss	Noncontrolling Interest	Accumulated Other Comprehensive Loss Attributable to Ampco-Pittsburgh
January 1, 2021	$ (11,371)	$ (57,652)	$ 589	$ (68,434)	$ 261	$ (68,695)
Net change	(2,951)	17,089	(312)	13,826	237	13,589
December 31, 2021	(14,322)	(40,563)	277	(54,608)	498	(55,106)
Net change	(11,848)	7,940	(125)	(4,033)	(727)	(3,306)
December 31, 2022	**$ (26,170)**	**$ (32,623)**	**$ 152**	**$ (58,641)**	**$ (229)**	**$ (58,412)**

The following summarizes the line items affected on the consolidated statements of operations for components reclassified from accumulated other comprehensive loss for the years ended December 31, 2022 and 2021. Amounts in parentheses represent credits to net income (loss).

	2022	2021
Amortization of unrecognized employee benefit costs:		
Other – net	**$ 1,116**	$ 1,876
Income tax (provision)	**(1)**	(50)
Net of income tax	**$ 1,115**	$ 1,826
Settlement of cash flow hedges:		
Depreciation and amortization (foreign currency purchase contracts)	**$ (27)**	$ (27)
Costs of products sold (excluding depreciation and amortization) (futures contracts – copper and aluminum)	**426**	(1,092)
Total before income tax	**399**	(1,119)
Income tax (provision) benefit	**(12)**	33
Net of income tax	**$ 387**	$ (1,086)

The income tax effect associated with the various components of other comprehensive income (loss) for the years ended December 31, 2022 and 2021 is summarized below. Amounts in parentheses represent credits to net income (loss) when reclassified to earnings. Certain amounts have no tax effect due to the Corporation having a valuation allowance recorded against the deferred income tax assets for the jurisdiction where the income or expense is recognized. Foreign currency translation adjustments exclude the effect of income taxes since earnings of non-U.S. subsidiaries are deemed to be re-invested for an indefinite period of time.

	2022	2021
Income tax effect associated with changes in:		
Unrecognized employee benefit costs	**$ 1,554**	$ (1,049)
Fair value of cash flow hedges	**16**	(38)
Income tax effect associated with reclassification adjustments:		
Amortization of unrecognized employee benefit costs	**(1)**	(50)
Settlement of cash flow hedges	**(12)**	33

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NOTE 15 – DERIVATIVE INSTRUMENTS:

Certain divisions of the ALP segment are subject to risk from increases in the price of commodities (copper and aluminum) used in the production of inventory. To minimize this risk, futures contracts are entered into which are designated as cash flow hedges. At December 31, 2022, approximately 43% or $2,216 of anticipated copper purchases over the next eight months and 57% or $751 of anticipated aluminum purchases over the next seven months are hedged. At December 31, 2021, approximately 67% or $3,434 of anticipated copper purchases over the next eight months and 56% or $684 of anticipated aluminum purchases over the next six months were hedged.

At December 31, 2022, the Corporation has purchase commitments covering approximately 25% or $760 of anticipated natural gas usage through December 31, 2023, for one of its subsidiaries and approximately 25% or $1,547 of anticipated electricity usage through December 31, 2025, for one of its subsidiaries. Purchases of natural gas and electricity under previously existing commitments approximated $3,077 for 2022. No purchase commitments for anticipated natural gas usage were outstanding during 2021; however, at December 31, 2021, the Corporation had purchase commitments covering approximately 29% or $1,753 of anticipated natural gas usage through December 31, 2023, for one of its subsidiaries and approximately 34% or $2,125 of anticipated electricity usage through December 31, 2024, for two of its subsidiaries. The commitments qualify as normal purchases and, accordingly, are not reflected on the consolidated balance sheet.

The Corporation previously entered into foreign currency purchase contracts to manage the volatility associated with euro-denominated progress payments to be made for certain machinery and equipment. Upon occurrence of an anticipated purchase and placement of the underlying fixed assets in service, the foreign currency purchase contract is settled and the change in fair value deferred in accumulated other comprehensive loss is reclassified to earnings (depreciation and amortization expense) over the life of the underlying asset. As of December 31, 2010, all contracts had been settled, the underlying fixed assets were placed in service and the change in fair value of the foreign currency purchase contract deferred in accumulated other comprehensive loss is being amortized to earnings over the life of the underlying assets.

No portion of the existing cash flow hedges is considered to be ineffective, including any ineffectiveness arising from the unlikelihood of an anticipated transaction to occur. Additionally, no amounts have been excluded from assessing the effectiveness of a hedge. The Corporation does not enter into derivative transactions for speculative purposes and, therefore, holds no derivative instruments for trading purposes.

The change in the fair value of the cash flow contracts is recorded as a component of accumulated other comprehensive loss. Amounts recognized as and reclassified from accumulated other comprehensive loss are recorded as a component of other comprehensive income (loss) and are summarized below. Amounts are after-tax, where applicable. Certain amounts recognized as or reclassified from comprehensive income (loss) for 2022 and 2021 have no tax effect due to the Corporation recording a valuation allowance against the deferred income tax assets in the related jurisdictions.

For the Year Ended December 31, 2022	**Beginning of the Year**	**Recognized**	**Reclassified**	**End of the Year**
Foreign currency purchase contracts	$ 135	$ —	$ 27	**$ 108**
Future contracts – copper and aluminum	142	(512)	(414)	**44**
Change in fair value	**$ 277**	**$ (512)**	**$ (387)**	**$ 152**
For the Year Ended December 31, 2021				
Foreign currency purchase contracts	$ 162	$ —	$ 27	$ 135
Future contracts – copper and aluminum	427	774	1,059	142
Change in fair value	$ 589	$ 774	$ 1,086	$ 277

The change in fair value reclassified or expected to be reclassified from accumulated other comprehensive loss to earnings is summarized below. All amounts are pre-tax.

	Location of Gain (Loss) in Consolidated Statements of Operations	**Estimated to be Reclassified in the Next 12 Months**	**Years Ended December 31,** **2022**	2021
Foreign currency purchase contracts	Depreciation and amortization	**$ 27**	**$ 27**	$ 27
Futures contracts – copper and aluminum	Costs of products sold (excluding depreciation and amortization)	**44**	**(414)**	1,059

Losses on foreign exchange transactions included in other income (expense) approximated $2,293 and $(1,134) for 2022 and 2021, respectively.

NOTE 16 – FAIR VALUE:

The following summarizes financial assets and liabilities reported at fair value on a recurring basis in the consolidated balance sheets at December 31:

2022	Quoted Prices in Active Markets for Identical Inputs (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)	Total
Investments				
Other noncurrent assets	$ 3,353	$ —	$ —	**$ 3,353**

2021				
Investments				
Other noncurrent assets	$ 4,860	$ —	$ —	$ 4,860

The investments held as other noncurrent assets represent assets held in the "Rabbi" trust for the purpose of providing benefits under the non-qualified defined benefit pension plan. The fair value of the investments is based on quoted prices of the investments in active markets. The fair value of foreign currency exchange contracts is determined based on the fair value of similar contracts with similar terms and remaining maturities. The fair value of futures contracts is based on market quotations. The fair values of the variable-rate IRB debt and borrowings under the revolving credit facility and other debt facilities approximate their carrying values. Additionally, the fair values of trade receivables and trade payables approximate their carrying values.

NOTE 17 – REVENUE:

Net sales by geographic area and product line for the years ended December 31, 2022 and 2021 are outlined below. Net sales are attributed to the geographic areas based on the location of the customer. Sales to individual foreign countries were less than 10% of consolidated net sales for each of the years.

Net Sales by Geographic Area

	2022	2021
United States	**$ 204,952**	$ 178,090
Foreign	**185,237**	166,830
Consolidated total	**$ 390,189**	$ 344,920

Net Sales by Product Line

	2022	2021
Forged and cast mill rolls	**$ 256,559**	$ 234,926
Forged engineered products	**42,925**	25,278
Heat exchange coils	**31,395**	24,372
Air handling systems	**29,436**	26,477
Centrifugal pumps	**29,874**	33,867
Consolidated total	**$ 390,189**	$ 344,920

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NOTE 18 – STOCK-BASED COMPENSATION:

The Ampco-Pittsburgh Corporation 2016 Omnibus Incentive Plan, as amended (the "Incentive Plan"), authorizes the issuance of up to 2,700,000 shares of the Corporation's common stock for awards under the Incentive Plan. Awards under the Incentive Plan may include incentive stock options and non-qualified stock options, stock appreciation rights, restricted shares and restricted stock units, performance awards, other stock-based awards, or short-term cash incentive awards. If any award is canceled, terminates, expires, or lapses for any reason prior to the issuance of the shares, or if the shares are issued under the Incentive Plan and thereafter are forfeited to the Corporation, the shares subject to such awards and the forfeited shares will not count against the aggregate number of shares available under the Incentive Plan. Shares tendered or withheld to pay the option exercise price or tax withholding will continue to count against the aggregate number of shares of common stock available for grant under the Incentive Plan. Any shares repurchased by the Corporation with cash proceeds from the exercise of options will not be added back to the pool of shares available for grant under the Incentive Plan.

The Incentive Plan may be administered by the Board of Directors or the Compensation Committee of the Board of Directors. The Compensation Committee has the authority to determine, within the limits of the express provisions of the Incentive Plan, the individuals to whom the awards will be granted and the nature, amount and terms of such awards.

The Incentive Plan also provides for equity-based awards during any one year to non-employee members of the Board of Directors, based on the grant date fair value, not to exceed $200. The limit does not apply to shares received by a non-employee director at his or her election in lieu of all or a portion of the director's retainer for board service.

The Compensation Committee has granted stock options, time-vesting restricted stock units (RSUs) and performance-vesting restricted stock units (PSUs) to select individuals. Each stock option represents the right to purchase one share of common stock of the Corporation at a designated price, subject to the terms and conditions of the stock option award agreement. All stock options are fully vested. Each RSU represents the right to receive one share of common stock of the Corporation at a future date after the RSU has become earned and vested, subject to the terms and conditions of the RSU award agreement. The RSUs typically vest over a three-year period. The PSUs can be earned depending upon the achievement of a performance or market condition and a time-vesting condition as follows: (i) achievement of a targeted return on invested capital over a three-year performance period; (ii) achievement of a three-year cumulative relative total shareholder return as ranked against other companies included in the Corporation's peer group; and (iii) remaining continuously employed with the Corporation through the end of the third year following the date of grant. Earlier vesting of the stock units is permitted under certain conditions, such as upon a change of control of the Corporation, or as approved by the Board of Directors. In 2021, in connection with the early retirement of two executive officers, the Board of Directors approved modifying certain terms of their outstanding awards including accelerating the vesting requirements. The modifications increased stock-based compensation expense for 2021 by approximately $369.

The grant date fair value for the RSUs equals the closing price of the Corporation's common stock on the NYSE on the date of grant. The grant date fair value for PSUs subject to a market condition is determined using a Monte Carlo simulation model and the grant date fair value for PSUs that vest subject to a performance condition is equal to the closing price of the Corporation's stock on the NYSE on the date of grant. The determination of the fair value of these awards takes into consideration the likelihood of achievement of the market or performance condition and, in certain circumstances, is adjusted for subsequent changes in the estimated or actual outcome of the condition. Unrecognized compensation expense associated with the RSUs and PSUs equaled $2,688 at December 31, 2022, and is expected to be recognized over a weighted-average period of approximately 2 years.

Outstanding RSUs and PSUs, which would represent non-vested awards, as of December 31, 2022 and 2021, and activity for the years then ended, are as follows:

	Number of RSUs	Weighted-Average Fair Value	Number of PSUs	Weighted-Average Fair Value
Outstanding at January 1, 2021	278,658	$ 3.68	348,196	$ 4.45
Granted	207,381	5.74	215,150	6.78
Converted to common stock	(169,757)	4.39	(133,745)	5.98
Forfeited	(15,435)	4.80	(96,994)	4.30
Outstanding at December 31, 2021	300,847	4.64	332,607	5.39
Granted	**200,485**	**5.50**	**179,389**	**6.80**
Converted to common stock	**(142,968)**	**4.20**	**(52,801)**	**4.05**
Forfeited	**(15,182)**	**5.24**	**(62,658)**	**3.08**
Outstanding at December 31, 2022	**343,182**	**$ 5.29**	**396,537**	**$ 6.57**

Outstanding stock options, all of which are fully vested, as of December 31, 2022 and 2021, and activity for the years then ended, are as follows:

	Number of Shares Under Options	Weighted-Average Exercise Price	Remaining Contractual Life In Years	Intrinsic Value
Outstanding at January 1, 2021	269,250	$ 19.85	2.0	$ —
Granted	—	N/A		
Exercised	—	N/A		
Forfeited	(5,000)	20.00		
Expired	(58,750)	25.18		
Outstanding at December 31, 2021	205,500	18.32	1.4	—
Granted	—	N/A		
Exercised	—	N/A		
Forfeited	—	N/A		
Expired	**(131,500)**	**18.16**		
Outstanding at December 31, 2022	**74,000**	**$ 18.60**	**0.8**	**$ —**
Exercisable at December 31, 2022	**74,000**	**$ 18.60**	**0.8**	**$ —**
Vested or expected to vest at December 31, 2022	**74,000**	**$ 18.60**	**0.8**	**$ —**

Stock-based compensation expense for all awards, including expense associated with the modified awards and equity-based awards granted to non-employee members of the Board of Directors, approximated $1,665 and $2,438 for 2022 and 2021, respectively. The income tax benefit recognized in the consolidated statements of operations was not significant due to the Corporation having a valuation allowance recorded against its deferred income tax assets for the jurisdiction where the expense was recognized (see Note 21).

NOTE 19 – RESEARCH AND DEVELOPMENT COSTS:

Expenditures relating to the development of new products, identification of products or process alternatives and modifications and improvements to existing products and processes are expensed as incurred. These expenses approximated $1,024 for 2022 and $1,229 for 2021.

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NOTE 20 – LITIGATION:

The Corporation and its subsidiaries are involved in various claims and lawsuits incidental to their businesses and are also subject to asbestos litigation as described below.

Asbestos Litigation

Claims have been asserted alleging personal injury from exposure to asbestos-containing components historically used in some products manufactured by predecessors of Air & Liquid (the "Asbestos Liability"). Air & Liquid and, in some cases, the Corporation, are defendants (among a number of defendants, often in excess of 50) in cases filed in various state and federal courts.

Asbestos Claims

The following table reflects approximate information about the claims for the Asbestos Liability against Air & Liquid and the Corporation for the years ended December 31, 2022 and 2021. The majority of the settlement and defense costs were reported and paid by insurer carriers. Because claims are often filed and can be settled or dismissed in large groups, the amount and timing of settlements, as well as the number of open claims, can fluctuate significantly from period to period.

	2022	2021
Total claims pending at the beginning of the period	**6,097**	5,891
New claims served	**1,200**	1,233
Claims dismissed	**(634)**	(605)
Claims settled	**(404)**	(422)
Total claims pending at the end of the period[(1)]	**6,259**	6,097
Administrative closures[(2)]	**(3,109)**	(2,941)
Total active claims pending at the end of the period[(2)]	**3,150**	3,156
Gross settlement and defense costs paid (in 000's)	**$ 19,834**	$ 23,215
Average gross settlement and defense costs per claim resolved (in 000's) [(3)]	**$ 19.11**	$ 22.60

(1) Included as "open claims" are approximately 655 and 661 claims in 2022 and 2021, respectively, classified in various jurisdictions as "inactive" or transferred to a state or federal judicial panel on multi-district litigation.

(2) Administrative closures include (i) those claims that were filed six or more years ago; (ii) claims that were previously classified in various jurisdictions as "inactive;" and (iii) claims that were transferred to a state or federal judicial panel on multi-district litigation. Collectively, these claims are unlikely to result in any liability to the Corporation.

(3) Claims resolved do not include claims that were administratively closed.

Asbestos Insurance

The Corporation and Air & Liquid are parties to a series of settlement agreements ("Settlement Agreements") with insurer carriers that have coverage obligations for the Asbestos Liability (the "Settling Insurers"). Under the Settlement Agreements, the Settling Insurers accept financial responsibility, subject to the terms and conditions of the respective agreements, including overall coverage limits, for pending and future claims for the Asbestos Liability. The Settlement Agreements encompass the majority of insurance policies that provide coverage for claims for the Asbestos Liability.

The Settlement Agreements include acknowledgments that Howden North America, Inc. ("Howden") is entitled to coverage under policies covering the Asbestos Liability for claims arising out of the historical products manufactured or distributed by Buffalo Forge, a former subsidiary of the Corporation (the "Products"), which was acquired by Howden. The Settlement Agreements do not provide for any prioritization on access to the applicable policies or any sub-limits of liability as to Howden or the Corporation and Air & Liquid and, accordingly, Howden may access the coverage afforded by the Settling Insurers for any covered claim arising out of the Products. In general, access by Howden to the coverage afforded by the Settling Insurers for the Products will erode coverage under the Settlement Agreements available to the Corporation and Air & Liquid for the Asbestos Liability.

Asbestos Valuations

At December 31, 2006, with the assistance of a nationally recognized expert in the valuation of asbestos liabilities, the Corporation recorded its initial reserve for the Asbestos Liability. Since then, the Corporation and the expert have reviewed the Asbestos Liability and the underlying assumptions on a regular basis to determine whether any adjustment to the Asbestos Liability or the underlying assumptions were necessary. When warranted, the Asbestos Liability was adjusted to consider the current trends and new information that became available and, if reasonably estimable, to extend the valuation of asbestos liabilities further into the future. In 2018, the valuation was extended to include claims projected to be asserted through the estimated final date by which the Corporation expects to have settled all asbestos-related claims.

In conjunction with the regular updates of the estimated Asbestos Liability, the Corporation also develops an estimate of defense costs expected to be incurred with settling the Asbestos Liability and probable insurance recoveries for the Asbestos Liability and defense costs. In developing the estimate of probable defense costs, the Corporation considers several factors including, but not limited to, current and historical defense-to-indemnity cost ratios and expected defense-to-indemnity costs ratios. In developing the estimate of probable insurance recoveries, the Corporation considers the expert's projection of settlement costs for the Asbestos Liability and management's projection of associated defense costs. In addition, the Corporation consults with its outside legal counsel on insurance matters and a nationally recognized insurance consulting firm that it retains to assist with certain policy allocation matters. The Corporation also considers a number of other factors including the Settlement Agreements in effect, policy exclusions, policy limits, policy provisions regarding coverage for defense costs, attachment points, gaps in the coverage, policy exhaustion, the nature of the underlying claims for the Asbestos Liability, estimated erosion of insurance limits on account of claims against Howden arising out of the Products, prior impairment of policies, insolvencies among certain of the insurance carriers, and creditworthiness of the remaining insurer carriers based on publicly available information. Based on these factors, the Corporation estimates the probable insurance recoveries for the Asbestos Liability and defense costs for the corresponding time frame of the Asbestos Liability.

In 2021, primarily as a result of identified changes in claim data and availability of new information, the Corporation engaged Gnarus Advisors LLC ("Gnarus") to update the estimated Asbestos Liability. The methodology used by Gnarus in its updated projection was substantially the same methodology employed previously, which has been accepted by numerous courts, and included the following factors:

- interpretation of a widely accepted forecast of the population likely to have been exposed to asbestos;
- epidemiological studies estimating the number of people likely to develop asbestos-related diseases;
- analysis of the number of people likely to file an asbestos-related injury claim against the subsidiaries and the Corporation based on such epidemiological data and relevant claims history from January 1, 2018 to July 31, 2021;
- an analysis of pending cases, by type of injury claimed and jurisdiction where the claim is filed; and
- an analysis of claims resolution history from January 1, 2018 to July 31, 2021, to determine the average settlement value of claims, by type of injury claimed and jurisdiction of filing.

Based on this analysis, the Corporation recorded an increase to its estimated Asbestos Liability of $23,333 for claims pending or projected to be asserted through the estimated final date by which the Corporation expects to have settled all asbestos-related claims. The increase is primarily attributable to recent claim experience, including a higher expected proportion of mesothelioma claims which typically have a higher settlement value, offset by a lower defense-to-indemnity cost ratio (reduced to 70% from 80% based on experience and future expectations) and elimination of an inflationary factor based on historical experience over the past 10+ years which provided no evidence that inflationary pressures influenced settlement averages. In addition, the Corporation increased its estimated insurance receivable by $16,672 for the estimated insurance recoveries attributable to the claims for which the Asbestos Liability reserve has been established and the portion of defense costs covered by the Settlement Agreements. The difference between the increase to the Asbestos Liability and the increase to the insurance receivable of $6,661 is recorded as a charge for asbestos-related costs in the consolidated statement of operations for 2021.

In 2022, the Corporation revised its defense-to-indemnity cost ratio (reduced from 70% to 65%) based on continuing favorable experience and future expectations, which reduced the Asbestos Liability by $6,905 and insurance receivable by $4,679 with the difference recorded as a credit for asbestos-related costs in the consolidated statement of operations of $2,226 for 2022.

The following table summarizes activity relating to asbestos-related liabilities for the years ended December 31, 2022 and 2021.

	2022	2021
Asbestos liability, beginning of the year	**$ 180,314**	$ 180,196
Settlement and defense costs paid	**(19,834)**	(23,215)
Change in estimated liability	**(6,905)**	23,333
Asbestos liability, end of the year	**$ 153,575**	$ 180,314

The following table summarizes activity relating to insurance recoveries for the years ended December 31, 2022 and 2021.

	2022	2021
Insurance receivable – asbestos, beginning of the year	**$ 121,297**	$ 117,937
Settlement and defense costs paid by insurance carriers	**(10,708)**	(13,312)
Change in estimated coverage	**(4,679)**	16,672
Insurance receivable – asbestos, end of the year	**$ 105,910**	$ 121,297

The balance of the insurance receivable does not assume any recovery from insolvent carriers. A substantial majority of the insurance recoveries deemed probable is from insurance companies rated A – (excellent) or better by A.M. Best Corporation. There can be no assurance, however, that there will not be insolvencies among the relevant insurance carriers, or that the assumed percentage recoveries for certain carriers will prove correct.

The amounts recorded for the Asbestos Liability and insurance receivable rely on assumptions that are based on currently known facts and strategy. The Corporation's actual expenses or insurance recoveries could be significantly higher or lower than those recorded if assumptions used in the Corporation's or the experts' calculations vary significantly from actual results. Key variables in these assumptions are identified above and also include the number and nature of new claims to be filed each year, the average cost of disposing of each new claim, average annual defense costs, compliance by relevant parties with the terms of the Settlement Agreements, and the solvency risk with respect to the relevant insurance carriers. Other factors that may affect the Asbestos Liability and ability to recover under the Corporation's insurance policies include uncertainties surrounding the litigation process from jurisdiction to jurisdiction and from case to case, reforms that may be made by state and federal courts, and the passage of state or federal tort reform legislation.

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The Corporation intends to continue to evaluate the Asbestos Liability and related insurance receivable, as well as the underlying assumptions, on a regular basis to determine whether any adjustments to the estimates are required. Due to the uncertainties surrounding asbestos litigation and insurance, these regular reviews may result in the Corporation adjusting its current reserve; however, the Corporation is currently unable to estimate such future adjustments. Adjustments, if any, to the Corporation's estimate of the Asbestos Liability and/or insurance receivable could be material to the operating results for the periods in which the adjustments to the liability or receivable are recorded and to the Corporation's consolidated financial position and liquidity.

NOTE 21 – INCOME TAXES:

Income (loss) from operations before income taxes for the years ended December 31, 2022 and 2021 is summarized below. Income (loss) from operations before income taxes for certain foreign entities is classified differently for book reporting and income tax reporting purposes.

	2022	2021
Domestic	**$ 1,438**	$ (9,223)
Foreign	**4,118**	8,228
Income (loss) from operations before income taxes	**$ 5,556**	$ (995)

The income tax provision for the years ended December 31, 2022 and 2021 consisted of the following:

	2022	2021
Current:		
Federal	**$ —**	$ —
State	**219**	(16)
Foreign	**889**	1,017
Current income tax provision	**1,108**	1,001
Deferred:		
Federal	**(3)**	(1,122)
State	**2,177**	(937)
Foreign	**52**	1,138
(Decrease) increase in valuation allowance	**(1,758)**	2,225
Deferred income tax provision	**468**	1,304
Total income tax provision	**$ 1,576**	$ 2,305

The difference between statutory U.S. federal income tax and the Corporation's effective income tax for the years ended December 31, 2022 and 2021 was as follows:

	2022	2021
Computed at statutory rate	**$ 1,167**	$ (209)
State income taxes	**(924)**	(949)
Rate change	**2,857**	482
Tax differential on non-U.S. earnings	**—**	(49)
GILTI inclusion	**—**	305
Stock-based compensation	**183**	152
Meals and entertainment	**28**	10
Adjustments to net operating losses	**296**	275
(Decrease) increase in valuation allowance	**(1,758)**	2,225
Other – net	**(273)**	63
Total income tax provision	**$ 1,576**	$ 2,305

Deferred income tax assets and liabilities as of December 31, 2022 and 2021 are summarized in the following table. Unremitted earnings of the Corporation's non-U.S. subsidiaries and affiliates are deemed to be permanently re-invested and, accordingly, no deferred income tax liability has been recorded. If the Corporation were to remit any foreign earnings to the U.S., the estimated tax impact would be insignificant.

	2022	2021
Assets:		
Employment – related liabilities	**$ 4,931**	$ 7,378
Pension liability – domestic	**5,873**	7,984
Capital loss carryforwards	**182**	204
Asbestos-related liability	**12,005**	14,685
Net operating loss – domestic	**12,224**	13,156
Net operating loss – state	**3,172**	5,415
Net operating loss – foreign	**8,504**	9,666
Impairment charge associated with investment in MG	**956**	961
Operating lease right-of-use assets	**855**	980
Interest expense limitation	**814**	2,517
Sale-leaseback	**9,784**	—
Other	**643**	797
Gross deferred income tax assets	**59,943**	63,743
Valuation allowance	**(31,981)**	(37,889)
	27,962	25,854
Liabilities:		
Depreciation	**(24,085)**	(22,015)
Inventory related	**(1,576)**	(1,511)
Pension asset – foreign	**(808)**	(1,482)
Intangible assets – finite life	**(241)**	(565)
Intangible assets – indefinite life	**(453)**	(510)
Operating lease liabilities	**(855)**	(980)
Other	**(321)**	(664)
Gross deferred income tax liabilities	**(28,339)**	(27,727)
Net deferred income tax liabilities	**$ (377)**	$ (1,873)

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At December 31, 2022, the Corporation has U.S. federal net operating loss carryforwards of $58,211, of which $54,870 can be carried forward indefinitely but will be limited to 80% of taxable income in any given year. The balance of $3,341 will begin to expire in 2035 and can be used without taxable income limitation. Additionally, at December 31, 2022, the Corporation had state net operating loss carryforwards of $77,747, which begin to expire in 2023, and foreign net operating loss carryforwards of $39,592 and capital loss carryforwards of $730, which do not expire.

Unrecognized tax benefits and changes in unrecognized tax benefits for the years ended December 31, 2022 and 2021 are insignificant. If the unrecognized tax benefits were recognized, the effect on the Corporation's effective income tax rate would also be insignificant. The amount of penalties and interest recognized in the consolidated balance sheets as of December 31, 2022 and 2021 and in the consolidated statements of operations for 2022 and 2021 is insignificant.

In 2022, new legislation was enacted which will decrease the Pennsylvania state income tax rate from 9.99% to 4.99% in 2031. In 2021, new legislation was enacted which will increase the U.K. corporate income tax rate from 19% to 25% in 2023.

On August 16, 2022, the Inflation Reduction Act ("IRA") was enacted in the United States. Among other provisions, the IRA included a new 15% Corporate Alternative Minimum Tax ("CAMT") for corporations with financial income in excess of $1 billion and a 1% excise tax on corporate share repurchases. The CAMT is effective for tax years beginning on or after January 1, 2023. The excise tax on corporate share repurchases is not expected to impact the Corporation as the Corporation's revolving credit facility prohibits the Corporation from repurchasing its shares.

The Corporation is subject to taxation in the United States, various states and foreign jurisdictions, and remains subject to examination by tax authorities for 2013, due to the carryback of net operating losses enabled by the Coronavirus Aid, Relief, and Economic Security Act signed into law in 2020, and for tax years 2019 – 2022.

NOTE 22 – ENVIRONMENTAL MATTERS:

The Corporation is currently performing certain remedial actions in connection with the sale of real estate previously owned and periodically incurs costs to maintain compliance with environmental laws and regulations. Environmental exposures are difficult to assess and estimate for numerous reasons, including lack of reliable data, the multiplicity of possible solutions, the years of remedial and monitoring activity required, and identification of new sites. The undiscounted potential liability for remedial actions and environmental compliance measures approximated $100 as of December 31, 2022 and 2021.

NOTE 23 – RELATED PARTIES:

In 2022, ATR periodically had loans outstanding with its minority shareholder. Amounts borrowed and repaid approximated $5,776 (RMB 38,471) in 2022. In addition, ATR repaid an existing loan in 2021 of approximately $1,056 (RMB 6,901). No loans are outstanding as of December 31, 2022 or 2021.

Interest on the borrowings equaled the three-to-five-year loan interest rate set by the People's Bank of China in effect at the time of the borrowing, which approximated 4.785% and 5% for 2022 and 2021, respectively. Interest paid in 2022, including interest accumulated on previous loans, approximated $1,766 (RMB 11,063). Interest paid in 2021 approximated $479 (RMB 3,046). Accrued interest as of December 31, 2021 approximated $1,713 (RMB 10,901), and was recorded in other current liabilities on the consolidated balance sheet. No interest was outstanding as of December 31, 2022.

Purchases from ATR's minority shareholder and its affiliates, which were in the ordinary course of business, approximated $6,666 (RMB 44,856) and $11,368 (RMB 73,299) in 2022 and 2021, respectively. At December 31, 2022 and 2021, the amount payable to ATR's minority shareholder and its affiliates for purchases approximated $412 (RMB 2,841) and $1,125 (RMB 7,157), respectively. Additionally, customer deposits from ATR's minority shareholder and its affiliates approximated $368 (RMB 2,542) and $616 (RMB 3,921) at December 31, 2022 and 2021, respectively. Sales to ATR's minority shareholder and its affiliates, which were in the ordinary course of business, approximated $9,934 (RMB 66,849) and $9,842 (RMB 63,460) for 2022 and 2021, respectively. At December 31, 2022, the amount due from ATR's minority shareholder or its affiliates approximated $1,066 (RMB 7,352). No amounts were due from ATR's minority shareholder or its affiliates as of December 31, 2021.

NOTE 24 – BUSINESS SEGMENTS:

The Corporation organizes its business into two operating segments – *Forged and Cast Engineered Products* and *Air and Liquid Processing*. Summarized financial information concerning the Corporation's reportable segments is shown in the following tables. Corporate assets included under Identifiable Assets represent primarily cash and cash equivalents and other items not allocated to reportable segments. Long-lived assets exclude deferred income tax assets. Corporate costs are comprised of operating costs of the corporate office and other costs not allocated to the segments. The accounting policies are the same as those described in Note 1, *Summary of Significant Accounting Policies*.

	Net Sales[1]		Income (Loss) Before Income Taxes	
	2022	2021	**2022**	2021 - as adjusted
Forged and Cast Engineered Products	**$ 299,484**	$ 260,204	**$ 444**	$ 5,073
Air and Liquid Processing[2]	**90,705**	84,716	**13,686**	2,601
Total Reportable Segments	**390,189**	344,920	**14,130**	7,674
Corporate costs, including other income (expense)	**—**	—	**(8,574)**	(8,669)
Consolidated total	**$ 390,189**	$ 344,920	**$ 5,556**	$ (995)

	Capital Expenditures		Depreciation and Amortization Expense		Identifiable Assets[3]	
	2022	2021	**2022**	2021	**2022**	2021
Forged and Cast Engineered Products	**$ 15,312**	$ 14,929	**$ 16,730**	$ 17,051	**$ 327,277**	$ 331,598
Air and Liquid Processing	**1,376**	307	**667**	749	**168,583**	162,010
Corporate	**—**	—	**11**	77	**6,914**	12,352
Consolidated total	**$ 16,688**	$ 15,236	**$ 17,408**	$ 17,877	**$ 502,774**	$ 505,960

	Long-lived Assets[4]		Income (Loss) Before Income Taxes	
Geographic Areas:	**2022**	2021	**2022**	2021 - as adjusted
United States [5]	**$ 202,860**	$ 218,712	**$ 1,424**	$ (9,314)
Foreign	**66,365**	76,447	**4,132**	8,319
Consolidated total	**$ 269,225**	$ 295,159	**$ 5,556**	$ (995)

(1) For the FCEP segment, one customer accounted for 10% of its net sales in 2022.

(2) Income before income taxes for the ALP segment includes a credit of $(2,226) in 2022 representing the reduction in the estimated defense-to-indemnity cost ratio from 70% to 65% and a charge of $6,661 in 2021 representing the estimated increase in the costs of asbestos-related litigation through the estimated final date by which the Corporation expects to have settled all asbestos-related claims, net of estimated insurance recoveries.

(3) Identifiable assets for the FCEP segment include investments in joint ventures of $2,175 at December 31, 2022 and 2021.

(4) Foreign long-lived assets primarily represent assets of the foreign operations. Long-lived assets of the U.S. include noncurrent asbestos-related insurance receivables of $90,910 and $105,297 at December 31, 2022 and 2021, respectively.

(5) Income (loss) before income taxes for the United States includes Corporate costs, a credit of $(2,226) in 2022 representing the reduction in the estimated defense-to-indemnity cost ratio from 70% to 65%, and a charge of $6,661 in 2021 representing the estimated increase in the costs of asbestos-related litigation through the estimated final date by which the Corporation expects to have settled all asbestos-related claims, net of estimated insurance recoveries.

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REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

Shareholders and Board of Directors
Ampco-Pittsburgh Corporation
Carnegie, Pennsylvania

Opinion on the Consolidated Financial Statements

We have audited the accompanying consolidated balance sheets of Ampco-Pittsburgh Corporation (the Corporation) as of December 31, 2022 and 2021, the related consolidated statements of operations, comprehensive income, shareholders' equity, and cash flows for each of the years then ended, and the related notes (collectively referred to as the "consolidated financial statements"). In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Corporation at December 31, 2022 and 2021, and the results of its operations and its cash flows for each of the years then ended, in conformity with accounting principles generally accepted in the United States of America.

Change in Accounting Method Related to Inventory

As discussed in Notes 1 and 2 to the consolidated financial statements, the Corporation has elected to change its method of accounting for inventory cost in the United States from the last-in, first-out (LIFO) to the first-in, first-out (FIFO) method in 2022. The accounting change has been retrospectively applied to all periods presented in the financial statements.

Basis for Opinion

These consolidated financial statements are the responsibility of the Corporation's management. Our responsibility is to express an opinion on the Corporation's consolidated financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Corporation in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the consolidated financial statements are free of material misstatement, whether due to error or fraud. The Corporation is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Corporation's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the consolidated financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements. We believe that our audits provide a reasonable basis for our opinion.

Critical Audit Matter

The critical audit matter communicated below is a matter arising from the current period audit of the consolidated financial statements that was communicated or required to be communicated to the audit committee and that: (1) relates to accounts or disclosures that are material to the consolidated financial statements and (2) involved our especially challenging, subjective, or complex judgments. The communication of critical audit matters does not alter in any way our opinion on the consolidated financial statements, taken as a whole, and we are not, by communicating the critical audit matter below, providing separate opinions on the critical audit matter or on the accounts or disclosures to which it relates.

Asbestos Liabilities and Related Insurance Receivables

As described in Notes 1 and 20 to the Corporation's consolidated financial statements, the Corporation has accrued asbestos liabilities of $153.6 million ($23.0 million current and $130.6 million long term) and recorded asbestos-related insurance receivables of $105.9 million ($15.0 million current and $90.9 million noncurrent) as of December 31, 2022. These liabilities and insurance receivables relate to claims that have been asserted alleging personal injury from exposure to asbestos-containing components historically used in certain products manufactured by predecessors of the Corporation's Air & Liquid Systems Corporation. The Corporation utilizes third-party experts to assist in developing (i) an estimate of the asbestos liability for the probable pending and future claims over the period that the Corporation believes it can reasonably estimate such claims and (ii) an estimate of the insurance receivable for the insurance proceeds expected to be received under existing policies associated with the asbestos liabilities.

We identified the valuation of asbestos liabilities and insurance receivables as a critical audit matter. The principal considerations for our determination are: (i) the subjectivity of estimating projected claims including the period for which the Corporation can reasonably estimate the asbestos liabilities, (ii) the estimation process for projected settlement values of reported and unreported claims including the number of claims expected to be filed and adjudicated, the disease type, and the settlement and defense costs to estimate the asbestos liabilities, and (iii) the complexity of determining the associated insurance receivables including the estimated settlement costs for the asbestos liabilities and the associated defense costs, the continued financial solvency of the insurance carriers, and legal interpretation of rights for recovery under the insurance policies and the related settlement agreements. Auditing these elements involved especially challenging auditor judgment due to the nature and extent of audit effort required to address these matters, including the extent of specialized skill or knowledge needed.

The primary procedures we performed to address this critical audit matter included:

- Assessing the qualifications, experience, and objectivity of the Corporation's third-party experts;
- Testing the underlying historical data that served as a basis for the valuation of the asbestos liabilities for completeness and accuracy through the examination of relevant source documents;
- Testing the insurance policies for existence and coverage amounts including independent confirmation of a selection of policies and the related settlement agreements directly with insurance carriers;
- Evaluating the ongoing financial solvency of a selection of insurance carriers utilizing publicly available financial information; and
- Utilizing personnel with specialized knowledge and skill in actuarial science to assist in: (i) evaluating the valuation methodology utilized by the Corporation to estimate the asbestos liabilities, (ii) testing the computation of the asbestos liability estimate performed by the Corporation's third-party experts, (iii) evaluating the period utilized by the Corporation to project probable pending and future claims for reasonableness, and (iv) evaluating the reasonableness of assumptions utilized to develop the estimates of future indemnification costs for the asbestos liabilities.

/s/ BDO USA, LLP

We have served as the Corporation's auditor since 2020.

Pittsburgh, Pennsylvania
March 21, 2023

ITEM 9. CHANGES IN AND DISAGREEMENTS WITH ACCOUNTANTS ON ACCOUNTING AND FINANCIAL DISCLOSURE

The Corporation did not experience any changes in, or disagreements with its accountants on, accounting and financial disclosure during the period covered.

ITEM 9A. CONTROLS AND PROCEDURES

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Disclosure Controls and Procedures. An evaluation of the effectiveness of the Corporation's disclosure controls and procedures as of the end of the period covered by this report was carried out under the supervision, and with the participation, of management, including the principal executive officer and principal financial officer. Disclosure controls and procedures are defined under Securities and Exchange Commission ("SEC") rules as controls and other procedures that are designed to ensure that information required to be disclosed by a company in the reports that it files under the Exchange Act is recorded, processed, summarized and reported within required time periods. Disclosure controls and procedures include, without limitation, controls and procedures designed to ensure that information required to be disclosed by an issuer in the reports that it files or submits under the Exchange Act is accumulated and communicated to the issuer's management, including its principal executive and principal financial officers, or persons performing similar functions, as appropriate, to allow timely decisions regarding required disclosure. Based on that evaluation, the Corporation's management, including the principal executive officer and principal financial officer, has concluded that, as of December 31, 2022, the Corporation's disclosure controls and procedures were not effective due to material weaknesses (as defined in SEC Rule 12b-2) in its internal control over financial reporting.

Management's Annual Report on Internal Control Over Financial Reporting. The Corporation's management is responsible for establishing and maintaining adequate internal control over financial reporting (as defined in Rule 13a – 15(f) under the Securities Exchange Act). Internal control over financial reporting cannot provide absolute assurance of achieving financial reporting objectives because of its inherent limitations. Effective internal control over financial reporting can only provide reasonable assurance that the objectives of the control process are met. Internal control over financial reporting is a process that involves human diligence and compliance and is subject to lapses in judgment and breakdowns resulting from human failures. Internal control over financial reporting also can be circumvented by collusion or improper management override. Because of such limitations, there is a risk that material misstatements may not be prevented or detected on a timely basis by internal control over financial reporting. However, these inherent limitations are known features of the financial reporting process. Therefore it is possible to design into the process safeguards to reduce, though not eliminate, this risk. Further, the design of internal control over financial reporting includes the consideration of the benefits of each control relative to the cost of the control.

Management assessed the effectiveness of internal control over financial reporting as of December 31, 2022. In making this assessment, management used the criteria set forth in *Internal Control – Integrated Framework (2013)* issued by the Committee of Sponsoring Organizations of the Treadway Commission. Based on those criteria and management's assessment, management, including the principal executive officer and principal financial officer, concluded that the Corporation's internal control over financial reporting was not effective as of December 31, 2022, because of material weaknesses as described below. A material weakness is a deficiency, or a combination of deficiencies, in internal control over financial reporting such that there is a reasonable possibility that a material misstatement of the annual or interim financial statements will not be prevented or detected on a timely basis.

Based upon the aforementioned assessment, management determined that, as of December 31, 2022, there were material weaknesses related to (i) the accounting for the claims asserted alleging personal injury from exposure to asbestos-containing components historically used in some products manufactured by predecessors of Air & Liquid Systems Corporation ("Asbestos Liability") and (ii) management review control activities related to the tax accounting for a non-routine transaction.

Asbestos Liability: The material weakness related to the Asbestos Liability is a result of the aggregation of the following control deficiencies: insufficient design and business process controls surrounding a new asbestos claims management database, insufficient testing of data migration from the previous asbestos claims management database to the new asbestos claims management database, and inadequate information technology ("IT") general controls which ensure the integrity of the data and processes that the new asbestos claims management system supports. To provide reasonable assurance regarding the reliability of the consolidated financial statements of the Corporation as of and for the year ended December 31, 2022, the Corporation engaged its internal auditors, Schneider Downs & Co., Inc. (an audit, tax and advisory firm), to assist management in:

- Reviewing the asbestos claim management process and identifying financial reporting risks associated with the Asbestos Liability and related insurance receivable balances;
- Formalizing relevant key controls which are intended to mitigate the identified financial reporting risks related to the financial reporting of the Corporation's Asbestos Liability and related insurance receivable balances;
- Testing key attributes and documents to validate the design and operating effectiveness of each identified key control;

- Performing an independent assessment over the new third-party asbestos claims management database;
- Performing data migration testing from the previous asbestos claims management database to the new third-party asbestos claims management database;
- Performing testing of the new third-party asbestos claims management database through a random and targeted sample of asbestos claims and agreeing asbestos claim data attributes having a direct impact on the value of the Asbestos Liability and related insurance receivable balances to supporting evidence provided by local counsels; and
- Confirming certain asbestos claim data from the new third-party asbestos claims management database with local counsels and resolving significant differences, if any.

Accordingly, management believes the consolidated financial statements included in this report fairly present, in all material respects, the Corporation's financial condition, results of operations, changes in shareholders' equity, and cash flows for the periods presented.

Management's Remediation Plans and Progress

The Corporation has dedicated a full-time employee to manage the accounting for asbestos claims and costs associated with the Asbestos Liability, with oversight provided by the Corporation's Chief Financial Officer ("CFO"). The asbestos claims and costs associated with the Asbestos Liability will continue to be managed using the new third-party asbestos claims management database. The third-party service provider has committed to provide an appropriate Service Organization Control ("SOC") report, which will give assurance over the functioning of the third-party system and the sufficiency of its internal controls. The SOC report will be obtained and reviewed by the CFO ensuring the SOC report is appropriate, no material deficiencies exist to cause the inability to rely on the third-party system, and any additional management controls are designed and assessed for operating effectiveness. The Corporation has established limits of authority for its employees utilizing the new third-party asbestos claims management database, which provides an appropriate segregation of duties. Annually, user access to, and user rights within, the new third-party asbestos claims management database will be independently reviewed and approved.

Non-routine Transaction: The material weakness related to management review control activities was attributable to the tax accounting for a non-routine transaction. Specifically, management determined that its management review control activities did not operate at a sufficient level of precision to detect errors related to the tax accounting for the non-routine transaction. This material weakness resulted in classification adjustments between the components of deferred income tax assets and liabilities in Note 21, *Income Taxes,* to the Corporation's Consolidated Financial Statements; however, no significant adjustments were required to the Corporation's consolidated balance sheets, statements of operations, comprehensive income, shareholders' equity or cash flows. Since the necessary adjustments were made to Note 21, *Income Taxes*, management believes the consolidated financial statements included in this report fairly present, in all material respects, the Corporation's financial condition, results of operations, changes in shareholders' equity, and cash flows for the periods presented.

Management's Remediation Plans and Progress

The Corporation will enhance its management review control activities when assessing the propriety of the accounting for the income tax consequences of a non-routine transaction. Specifically, the Corporation will continue to engage external consultants, under the Corporation's supervision, to provide support and assist the Corporation in its evaluation of such transactions. In addition, the Corporation will enhance its management review controls over income taxes on an interim basis to include specific activities at a more precise level to assess the impacts of non-routine transactions, including the identification of relevant contractual terms and conditions related to such transactions.

Despite management's remediation plans and progress related to the Asbestos Liability and the non-routine transaction, the material weaknesses will not be considered remediated until the applicable controls operate for a sufficient period of time and management has concluded, through testing, that these controls are operating effectively.

Changes in Internal Control Over Financial Reporting. Except as discussed above, there were no other changes in the Corporation's internal control over financial reporting during the quarter ended December 31, 2022, that have materially affected, or are reasonably likely to materially affect, its internal control over financial reporting.

ITEM 9B. OTHER INFORMATION

None

ITEM 9C. DISCLOSURE REGARDING FOREIGN JURISDICTIONS THAT PREVENT INSPECTIONS

Not applicable.

ITEM 10. DIRECTORS, EXECUTIVE OFFICERS AND CORPORATE GOVERNANCE

The information about the Corporation's directors required by Item 401 of Regulation S-K and not otherwise set forth below is contained under the caption "Proposal 1: Election of Directors" in the Corporation's definitive Proxy Statement for the 2023 Annual Meeting of Shareholders (the "Proxy Statement") which the Corporation anticipates filing with the Securities and Exchange Commission, pursuant to Regulation 14A, not later than 120 days after the end of the Corporation's fiscal year, and is incorporated by reference. The information required by Item 401 of Regulation S-K regarding executive officers is set forth in Part I, Item 1 of this report under "Executive Officers."

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The information required by Item 405 of Regulation S-K is contained under the caption "Security Ownership of Certain Beneficial Owners and Management - Delinquent Section 16(a) Reports" of the Proxy Statement and is incorporated by reference.

The Corporation and its subsidiaries have adopted a Code of Business Conduct and Ethics that applies to all of their officers, directors and employees, as well as an additional Code of Ethics that applies to the Corporation's Chief Executive Officer and Chief Financial Officer, which are available on the Corporation's website at www.ampcopittsburgh.com.

The information required by Items 407(c)(3), (d)(4) and (d)(5) of Regulation S-K is contained under the captions "Corporate Governance – Director Nominating Procedures" and "Board Committees: Director Compensation – Audit Committee" of the Proxy Statement and is incorporated by reference.

ITEM 11. EXECUTIVE COMPENSATION

The information required for Item 11 is contained under the captions "Director Compensation," "Compensation Discussion and Analysis ("CDA")," "Summary Compensation Table," "Outstanding Equity Awards at Fiscal Year-End," "Retirement Benefits," "Potential Payments upon Termination, Resignation or Change in Control," and "Report of The Compensation Committee" of the Proxy Statement and is incorporated by reference.

ITEM 12. SECURITY OWNERSHIP OF CERTAIN BENEFICIAL OWNERS AND MANAGEMENT AND RELATED STOCKHOLDER MATTERS

The information required by Item 201(d) of Regulation S-K is contained under the caption "Equity Compensation Plan Information" of the Proxy Statement and is incorporated by reference.

The information required by Item 403 of Regulation S-K is contained under the caption "Security Ownership of Certain Beneficial Owners and Management" of the Proxy Statement and is incorporated by reference.

ITEM 13. CERTAIN RELATIONSHIPS AND RELATED TRANSACTIONS, AND DIRECTOR INDEPENDENCE

The information required by Item 404 of Regulation S-K is contained under the caption "Certain Relationships and Related Transactions" in the Proxy Statement and is incorporated by reference.

The information required by Item 407(a) of Regulation S-K is contained under the caption "Corporate Governance – Board Independence" of the Proxy Statement and is incorporated by reference.

ITEM 14. PRINCIPAL ACCOUNTANT FEES AND SERVICES

The information required for Item 14 is contained under the caption "Report of the Audit Committee" of the Proxy Statement and is incorporated herein.

– PART IV –

ITEM 15. EXHIBITS AND FINANCIAL STATEMENT SCHEDULES

THE FOLLOWING DOCUMENTS ARE FILED AS PART OF THIS REPORT:

1. Financial Statements

– Consolidated Balance Sheets
– Consolidated Statements of Operations
– Consolidated Statements of Comprehensive Income
– Consolidated Statements of Shareholders' Equity
– Consolidated Statements of Cash Flows
– Notes to Consolidated Financial Statements
– Report of Independent Registered Public Accounting Firm (BDO USA, LLP; Pittsburgh, Pennsylvania, United States; PCAOB ID #243)

2. Financial Statement Schedules

The financial statement schedules are not applicable to the Corporation since the Corporation meets the definition of a Smaller Reporting Company, as defined by the Securities and Exchange Commission per Rule 12b-2 of the Exchange Act.

3. Exhibits

Exhibit No.

	2.1	Purchase Agreement, dated November 1, 2016, by and among Ampco UES Sub, Inc., ASW Steel Inc., CK Pearl Fund, Ltd., CK Pearl Fund LP, and White Oak Strategic Master Fund, L.P., incorporated by reference to Current Report on Form 8-K filed on November 4, 2016.
	2.2	Purchase Agreement, dated September 30, 2019, by and among Ampco UES Sub, Inc., ASW Steel Inc., Valbruna Canada Ltd. and Ampco-Pittsburgh Corporation, incorporated by reference to Current Report on Form 8-K filed on October 3, 2019.
	3.1	Restated Articles of Incorporation, effective as of August 11, 2017, incorporated by reference to Quarterly Report on Form 10-Q filed on November 9, 2017.
	3.2	Amendment of Amended and Restated Articles of Incorporation, effective as of May 9, 2019, incorporated by reference to Quarterly Report on Form 10-Q filed on May 10, 2019.
†	3.3	Amended and Restated By-laws, effective as of December 14, 2022.
	4.1	Form of Common Stock Certificate, incorporated by reference to Registration Statement on Form S-3 filed on January 19, 2018.
	4.2	Form of Series A Warrant Certificate, incorporated by reference to Amendment No. 1 to Registration Statement on Form S-1 filed on July 21, 2020.
	4.3	Warrant Agreement between Ampco-Pittsburgh Corporation and Broadridge Corporate Issuer Solutions, Inc. with respect to Series A Warrants, incorporated by reference to Quarterly Report on Form 10-Q filed on November 16, 2020.
†	4.4	Description of Securities.
*	10.1	Ampco-Pittsburgh Corporation 2016 Omnibus Incentive Plan, as amended and restated, incorporated by reference to the Registration Statement on Form S-8 filed on May 13, 2021.
*	10.2	Change in Control Agreement by and between Ampco-Pittsburgh Corporation and Michael G. McAuley, dated April 25, 2016, incorporated by reference to Current Report on Form 8-K filed on April 25, 2016.
	10.3	First Amended and Restated Security Agreement, dated June 29, 2021, by and among Air & Liquid Systems Corporation, Union Electric Steel Corporation, Alloys Unlimited and Processing, LLC, Akers National Roll Company, Union Electric Steel UK Limited, Åkers AB and Åkers Sweden AB, certain lenders, the guarantors

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		party thereto, including the Corporation, PNC Bank, National Association, as agent for the lenders, and the other lenders party thereto, incorporated by reference to Current Report on Form 8-K filed on July 1, 2021.
	10.4	Amendment No. 1 to First Amended and Restated Revolving Credit and Security Agreement, dated December 17, 2021, by and among Air & Liquid Systems Corporation, Union Electric Steel Corporation, Alloys Unlimited and Processing, LLC, Akers National Roll Company, Union Electric Steel UK Limited, Åkers AB and Åkers Sweden AB, certain lenders, the guarantors party thereto, including the Corporation, PNC Bank, National Association, as agent for the lenders, and the other lenders party thereto, incorporated by reference to Annual Report on Form 10-K filed on March 16, 2022.
*	10.5	Form of Notice of Grant of Restricted Stock Unit Award (Time-Vesting), incorporated by reference to Annual Report on Form 10-K filed on March 16, 2017.
*	10.6	Form of Notice of Grant of Restricted Stock Unit Award (Performance-Vesting), incorporated by reference to Annual Report on Form 10-K filed on March 16, 2017.
*	10.7	Change in Control Agreement by and between Ampco-Pittsburgh Corporation and J. Brett McBrayer, dated July 1, 2018, incorporated by reference to Amendment No. 1 to Quarterly Report on Form 10-Q/A filed on August 17, 2018.
*	10.8	Offer Letter by and between Ampco-Pittsburgh Corporation and J. Brett McBrayer, dated June 16, 2018, incorporated by reference to Amendment No. 1 to Quarterly Report on Form 10-Q/A filed on August 17, 2018.
*	10.9	Amendment No. 1 to Offer Letter, dated August 10, 2021, by and between Ampco-Pittsburgh Corporation and J. Brett McBrayer, incorporated by reference to Current Report on Form 8-K filed on August 13, 2021.
*	10.10	Ampco-Pittsburgh Corporation Executive Severance Plan, effective as of June 21, 2018, incorporated by reference to Current Report on Form 8-K filed on June 27, 2018.
	10.11	Master Lease Agreement by and between Union Electric Steel Corporation and Store Capital Acquisitions, LLC, dated September 28, 2018, incorporated by reference to Quarterly Report on Form 10-Q filed on November 9, 2018.
	10.12	Unconditional Guaranty of Payment and Performance by and between Ampco-Pittsburgh Corporation and Store Capital Acquisitions, LLC, dated September 28, 2018, incorporated by reference to Quarterly Report on Form 10-Q filed on November 9, 2018.
	10.13	Amended and Restated Unconditional Guaranty of Payment and Performance between Ampco-Pittsburgh Corporation and Store Capital Acquisitions, LLC, dated August 30, 2022, incorporated by reference to Current Report on Form 8-K filed on September 2, 2022.
	10.14	Master Loan and Security Agreement between Union Electric Steel Corporation and Clarus Capital Funding I, LLC, dated September 29, 2022, incorporated by reference to Current Report on Form 8-K filed on October 4, 2022.
	10.15	Guaranty made by Ampco-Pittsburgh Corporation to Clarus Capital Funding I, LLC, and dated September 29, 2022, incorporated by reference to Current Report on Form 8-K filed on October 4, 2022.
*	10.16	Change in Control Agreement by and among Ampco-Pittsburgh Corporation, Union Electric Steel Corporation and Samuel C. Lyon, dated March 6, 2019, incorporated by reference to Annual Report on Form 10-K filed on March 18, 2019.
*	10.17	Amendment to Change in Control Agreement by and between Ampco-Pittsburgh Corporation and J. Brett McBrayer, dated December 20, 2019, incorporated by reference to Annual Report on Form 10-K filed on March 16, 2020.
*	10.18	Change in Control Agreement by and among Ampco-Pittsburgh Corporation, Air & Liquid Systems Corporation and David Anderson, dated January 1, 2022, incorporated by reference to Annual Report on Form 10-K filed on March 16, 2022.
	10.19	Amended and Restated Master Lease Agreement between Union Electric Steel Corporation and Store Capital Acquisitions, LLC, dated August 30, 2022, incorporated by reference to Current Report on Form 8-K filed on September 2, 2022.
†	18	Preferability Letter from BDO USA, LLP

†	21	Significant Subsidiaries
†	23.1	Consent of BDO USA, LLP
†	23.2	Consent of GNARUS Advisors LLC
†	31.1	Certification of Principal Executive Officer pursuant to Section 302 of The Sarbanes-Oxley Act of 2002.
†	31.2	Certification of Principal Financial Officer pursuant to Section 302 of The Sarbanes-Oxley Act of 2002.
††	32.1	Certification of Principal Executive Officer pursuant to Section 906 of The Sarbanes-Oxley Act of 2002.
††	32.2	Certification of Principal Financial Officer pursuant to Section 906 of The Sarbanes-Oxley Act of 2002.
**	101.INS	Inline XBRL Instance Document – the instance document does not appear in the Interactive Data File because XBRL tags are embedded within the Inline XBRL document.
**	101.SCH	Inline XBRL Taxonomy Extension Schema Document
**	101.CAL	Inline XBRL Taxonomy Extension Calculation Linkbase Document
**	101.DEF	Inline XBRL Taxonomy Extension Definition Linkbase Document
**	101.LAB	Inline XBRL Taxonomy Extension Label Linkbase Document
**	101.PRE	Inline XBRL Taxonomy Extension Presentation Linkbase Document
**	104	Cover Page Interactive Data File (embedded within the Inline XBRL document)

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† Filed herewith

†† Furnished herewith

* Management contracts, compensatory plans or arrangements required to be filed as an exhibit hereto pursuant to Item 601 of Regulation S-K.

** Attached as Exhibit 101 to this report are the following documents formatted in Inline XBRL (Extensible Business Reporting Language) as of and for the year ended December 31, 2022: (i) the Consolidated Statement of Operations, (ii) the Consolidated Balance Sheet, (iii) the Consolidated Statement of Shareholders' Equity, (iv) the Consolidated Statement of Comprehensive Income, (v) the Consolidated Statement of Cash Flows, and (vi) Notes to Consolidated Financial Statements.

ITEM 16. FORM 10-K SUMMARY

Not applicable.

SIGNATURES

Pursuant to the requirements of Section 13 or 15(d) of the Securities Exchange Act of 1934, the Registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

March 21, 2023

AMPCO-PITTSBURGH CORPORATION

By: */s/ J. Brett McBrayer*

Name: **J. Brett McBrayer**

Title: Chief Executive Officer

Each person whose individual signature follows hereby authorizes and appoints J. Brett McBrayer and Michael G. McAuley, and each of them, with full power of substitution and re-substitution and full power to act without the other, as his or her true and lawful attorney-in-fact and agent to act in his or her name, place and stead and to execute in the name and on behalf of each person, individually and in each capacity stated, and to file any and all amendments to this annual report on Form 10-K and to file the same, with all exhibits thereto, and other documents in connection therewith, with the Securities and Exchange Commission, granting unto said attorneys-in-fact and agents, and each of them, full power and authority to do and perform each and every act and thing, ratifying and confirming all that said attorneys-in-fact and agents or any of them or their or his or her substitute or substitutes may lawfully do or cause to be done by virtue thereof.

Pursuant to the requirements of the Securities Exchange Act of 1934, this report has been signed below by the following persons on behalf of the registrant and in their capacities and on the dates indicated.

SIGNATURE	TITLE	DATE
/s/ J. Brett McBrayer J. Brett McBrayer	Director and Chief Executive Officer (Principal Executive Officer)	March 21, 2023
/s/ Michael G. McAuley Michael G. McAuley	Senior Vice President, Chief Financial Officer and Treasurer (Principal Financial and Accounting Officer)	March 21, 2023
/s/ James J. Abel James J. Abel	Director	March 21, 2023
/s/ Frederick D. DiSanto Frederick D. DiSanto	Director	March 21, 2023
/s/ Robert A. DeMichiei Robert A. DeMichiei	Director	March 21, 2023
/s/ Elizabeth A. Fessenden Elizabeth A. Fessenden	Director	March 21, 2023
/s/ Michael I. German Michael I. German	Director	March 21, 2023
/s/ William K. Lieberman William K. Lieberman	Director	March 21, 2023
/s/ Darrell L. McNair Darrell L. McNair	Director	March 21, 2023
/s/ Laurence E. Paul Laurence E. Paul	Director	March 21, 2023
/s/ Stephen E. Paul Stephen E. Paul	Director	March 21, 2023
/s/ Carl H. Pforzheimer, III Carl H. Pforzheimer, III	Director	March 21, 2023

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