

TOPSOE ANNUAL REPORT 2023

TAKING ACTION TO GET TO NET ZERO

TOPSOE



TAKING ACTION TO GET TO NET ZERO

Climate change is one of the biggest challenges facing humanity, and in 2023, our dedication to helping solve this challenge through science-based technologies has led to ambitious investments and bold leaps forward in technological innovation.

Our annual report presents how we are creating value for our customers, investors and other key stakeholders by enabling faster and more effective pathways to net zero. It shows how we are working toward our ambitious goals for running a sustainable business – financially, environmentally, and socially – and how we manage our risks, supported by governance, and document our financial and sustainable performance.

We are committed to meeting global sustainability requirements. In fact, this year, we have taken the first steps in aligning ourselves with new EU disclosure requirements on sustainability that we must comply with from the beginning of the financial year, 2025. We are committed to maturing our reporting according to the new standards in the years to come.





At Topsoe, we work ceaselessly to help lower emissions in energy-intensive industries, such as cement production.

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TOPSOE AT A GLANCE

H-index

173

Our H-index** is 173 with more than 1,800 scientific publications since 1950

Topsoe is a provider of technology and solutions for the energy transition. We combat climate change by helping our customers and partners achieve their decarbonization and emission reduction goals.

Based on decades of scientific research and innovation, we offer world-leading solutions for transforming renewable resources into fuels and chemicals for a sustainable world, and for efficient and low-carbon fuel production and clean air.

We are the how and now of decarbonization.

* Calculation is based on operating renewable diesel and SAF production units registered in BNEF Global Renewable Fuel Projects Tracker.

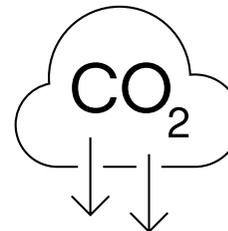
** The h-index measures the author productivity and citation impact of scientific publications. The overall Topsoe h-index of 173 is one of the highest in the corporate world, demonstrating scientific leadership amongst industrial peers.

1/3

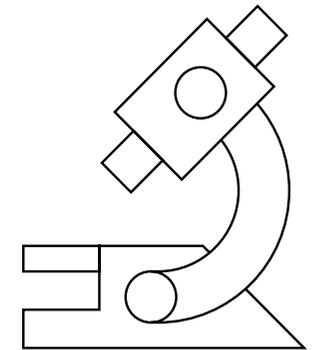


of the current renewable diesel and SAF operating capacity is based on Topsoe technology*

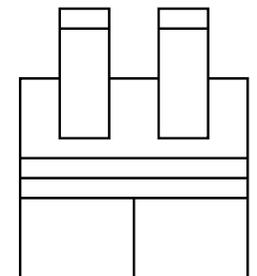
Our target for net zero by 2040 was approved by the Science Based Targets initiative in 2023



Driven by innovation, we invested DKK 700 million in R&D in 2023



Building the first advanced industrial-scale SOEC factory





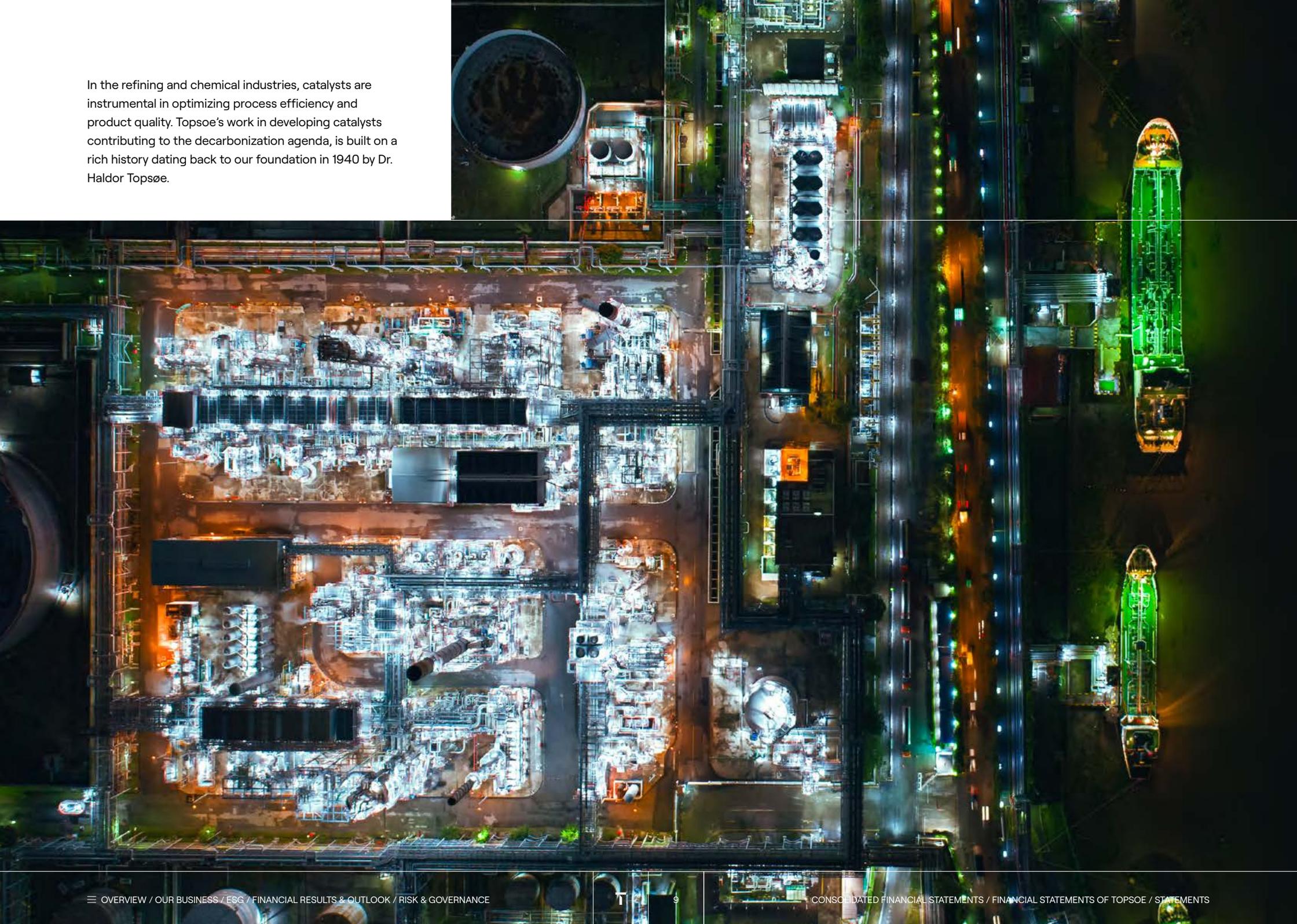
2,800

colleagues working
across the globe

OVERVIEW

Working towards our goal of being recognized as a leader in carbon emission reduction technologies, 2023 has been a year of action for us at Topsoe. We have celebrated important milestones that will enable our customers to reduce even more of their carbon emissions.

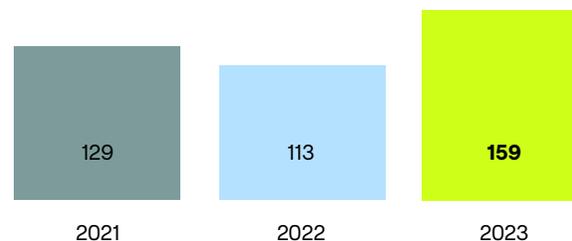
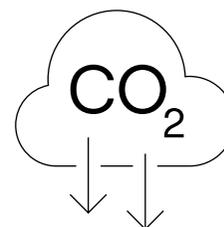
In the refining and chemical industries, catalysts are instrumental in optimizing process efficiency and product quality. Topsoe's work in developing catalysts contributing to the decarbonization agenda, is built on a rich history dating back to our foundation in 1940 by Dr. Haldor Topsøe.



PERFORMANCE HIGHLIGHTS 2023

Carbon footprint 1000 tCO₂e (Scope 1 & 2)

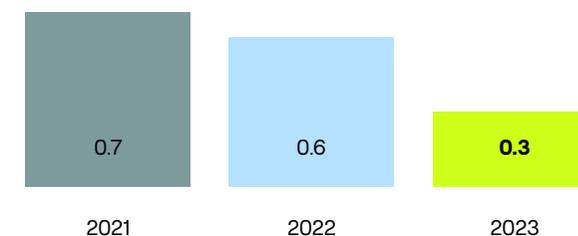
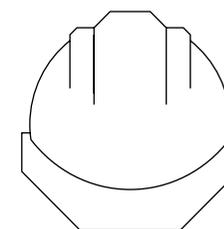
159



In 2023, our total GHG emissions (scope 1 and 2, market-based) amounted to 159,350 tCO₂e, which is an increase of 40% compared to 113,485 in 2022. The increase is mainly because we bought renewable electricity certificates corresponding to 29,043 tCO₂e in 2022. The increase without certificates is 11%. The increase is at the same level as the increase in production volumes (13%), and we have had a similar increase in CO₂e emissions from our energy consumption and process emissions.

Safety (TRIF)

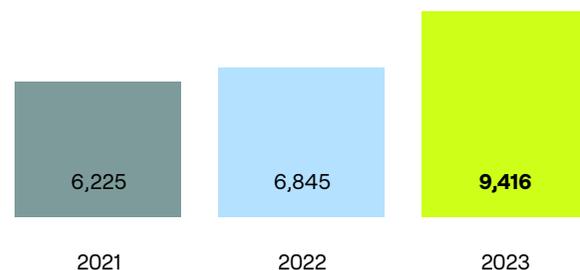
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With SAP EHS being rolled out and more attention on Zero Harm reports as well as a buy-in from employees across the organization, we managed to improve our TRIF. Additionally, we have had a targeted communication campaign on our internal channels and dashboards.

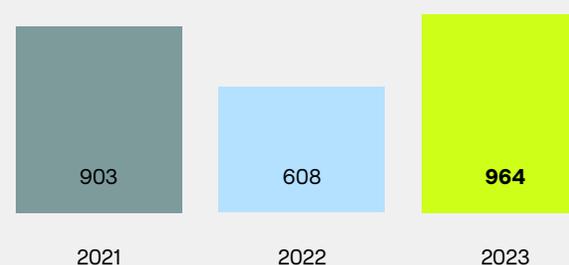
Revenue

DKK million



EBIT before special items

DKK million



Total revenue increased by 38% in 2023 to DKK 9,416 million (2022: DKK 6,845 million). The revenue increase was driven by high demand for Topsoe catalysts, a 40% increase, especially in EMEA and North America and revenue growth of 32% in technology solutions. The increase was a result of higher demand and price increases driven by higher production and raw material costs.

EBIT before special items amounted to DKK 964 million (2022: DKK 608 million), an increase of 59% compared to 2022. This was driven by the strong full year revenue and gross margins combined with an overall good production performance, and further upscaling of our Power-to-X organization. Special items amounted to DKK 0 million in 2023.

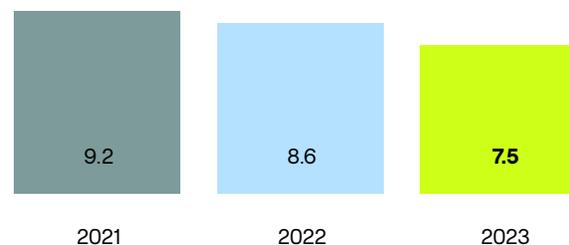
Net profit

DKK million



Innovation

Percent of revenue



Topsoe's net profit increased by 37% to DKK 775 million (2022: DKK 567 million). The increase was mainly driven by the higher EBIT before special items. 2023 included DKK 92 million in dividends from investments, compared to DKK 129 million in 2022.

Innovation decreased to 7.5% of revenue mainly driven by increased revenue. Actual spend increased 20% compared to 2022.

Further, and not included in our Innovation KPI, we have in 2023 made significant investment in our Power-to-X business, mainly driven by the investment in the SOEC factory in Herring, please refer to financial highlights on page 63.

BUSINESS HIGHLIGHTS

It is in our DNA to help find solutions to some of the world's greatest challenges. Guided by our dedication to science and our purpose, 'Perfecting chemistry for a better world', we are determined to help our customers and the world transition to a more sustainable future. This is how.



Canada's largest green hydrogen plant

World Energy GH2 is constructing the green hydrogen project Nujio'qonik, located in the Bay St. George region of Newfoundland and Labrador. The project will use wind energy power for production on the site, which is expected to begin producing hydrogen in 2025. Using our ammonia loop, the site will convert green hydrogen into up to 1,650 tonnes of green ammonia per day to help decarbonize global transportation and heavy industry.

[→ Explore](#)

Feeding a growing population

We are part of a consortium of companies and leading researchers, supported by the Bill & Melinda Gates and Novo Nordisk Foundations, that will provide technologies for producing proteins through fermentation. By using biological and electrochemical processes, we will process CO₂ and turn it into acetate (vinegar), which can then be used to produce proteins for food. By using CO₂ for food production, we can reduce the need for meat, dairy and sugar production. This will help decouple food production from land use and be a major contribution to a more sustainable world.

[→ Explore](#)

Our first SAF co-processing project

TotalEnergies has selected Topsoe's isomerization catalysts for co-processing SAF at its Gonfreville refinery in France. It is the first SAF co-processing project Topsoe is involved in. Based on used cooking oil, it is planned to produce 40,000 tons SAF from 2025. With European SAF mandates of 2% in 2025 increasing to 6% in 2030, refiners in Europe are exploring different routes for SAF production. With a proper selection of technology and catalysts, co-processing is an attractive solution to reach the mandated volumes.

World's largest low-carbon hydrogen facility

ExxonMobil is building the world's largest low-carbon hydrogen facility using Topsoe technology. The facility will be located in Baytown, Texas, and has a targeted production of 1 billion cubic feet of hydrogen per day, making it the largest low-carbon hydrogen project in the world, at planned start-up in 2027-2028. The facility will deliver low-carbon fuel to the Baytown Olefins Plant and other facilities in the Houston area. Replacing natural gas with hydrogen at the Baytown Olefins Plant could reduce the integrated complex's CO₂ emissions by up to 30%.

[→ Explore](#)



50/50 joint venture to produce Sustainable Aviation Fuel

Topsoe and Sasol are joining forces in a 50/50 joint venture to produce the much-needed Sustainable Aviation Fuel (SAF). The company will be operational in Q1 2024 to start work on developing, building, owning, and operating SAF plants to help decarbonize aviation, which currently accounts for 2-3% of global carbon emissions and is considered one of the hardest sectors to decarbonize. With SAF derived from non-fossil feedstock, utilizing green hydrogen, sustainable sources of CO₂ and/or biomass, the new company intends to help meet the growing demand for SAF.

[→ Explore](#)

Our first green ammonia contract in Australia

Allied Green Ammonia Pty Ltd will use Topsoe's dynamic green ammonia technology for their plant in Gove, Northern Territory, Australia. The facility is planned to start producing green ammonia by the beginning of 2029 with a production capacity of 2,500 tonnes per day, and it is the first Australian green ammonia project we are involved in. The green ammonia from Allied's plant is intended to be exported to the expanding Southeast Asian markets, where the demand for e-fuels continues to grow.

[→ Explore](#)

Largest sustainable aviation fuel producer in North America

Using Topsoe's Hydroflex™ technology, Calumet produces sustainable aviation fuel (SAF) and renewable diesel (RD) from its Great Falls refinery in Montana, US. Our technology was used to revamp the existing refinery unit to produce renewable jet and diesel. The production capacity of the plant in Montana is about 15,000 barrels per day, producing a mixture of renewable jet and diesel, based on waste oils and other low-value feedstock. Calumet serves markets in Canada and the US West Coast with low-carbon fuels.

[→ Explore](#)



MOVING TOWARDS NET ZERO

2023 has been a remarkable year for Topsoe. We have reached significant milestones across our business. We have signed groundbreaking agreements for renewable and low-carbon projects, and our solutions and technologies are contributing to e-fuels projects that will help bring down emissions in energy-intensive industries globally. We have celebrated the construction of our SOEC manufacturing facility in Herning, Denmark. We have established a 50/50 joint venture with Sasol to produce Sustainable Aviation Fuels. And we have delivered record financial results.

Our growth in 2023 was mainly driven by a strong demand for Topsoe catalysts especially in EMEA and North America and strong market growth in technology solutions. This was spurred by a demand from both new and current customers, including customers looking to revamp existing refineries to renewable fuel production and new plants based on Topsoe technology.

Today, we have very strong positions within technologies and solutions for renewable and low-carbon fuel production in North America and have built a strong pipeline for the coming years. We are involved in the most innovative projects with our Power-to-X solutions and SOEC technology, and we have built strong

partnerships across the value chain that will contribute to moving the energy transition forward, faster.

Innovative solutions pave the way

The world is in a crucial phase of the battle against climate change. The recent UNEP report shows that with the current emission curve, global temperature rise will not be limited to the 1.5 Celsius increase that countries committed to in the Paris Agreement. Global greenhouse gas emissions must be reduced significantly by 2030 to keep the hope of 1.5 Celsius alive.

With the biggest hurdles to mitigate climate change still ahead of us, industry will be counted on to deliver the solutions needed to bring down emissions from the most energy-intensive industries. At Topsoe, we are proud to lead the way in this effort with our strong scientific backbone and pioneering technologies and solutions.

In December, Topsoe participated in COP28 as part of the official COP-program. We met with top leaders from across public and private sectors to discuss solutions for the energy transition. We also had productive discussions with existing customers who wish to transition their business, and potential customers and business partners ready to engage in energy

“In 2023, we continued to see the effects of climate change in all parts of the world, stressing the significance and urgency of climate action. We see positive strides across policy and industry, but more must be done. We are dedicated to leading the way through our pioneering technologies and solutions – and by forging new strong partnerships across the value chain. The solutions that can take the world to net zero are already available. Now we need to put our efforts into scaling them.”

ROELAND BAAN
CEO



“2023 has been an incredible year for Topsoe. Revenue continues to grow as we transform the business and take leadership within technologies and solutions for the energy transition. This year’s impressive results are a testament to the strong foundation the company is built on through decades of R&D and technological leadership, and the acceleration over the past four years, where we have strengthened the organization, built capabilities and brand, and invested in solutions that will play a key role in the sustainable future, we are trying to create.”

JEPPE CHRISTIANSEN
Chairman

transition projects. With bold and decisive action from governments and industry we are optimistic that we will enable the energy transition needed to fight global warming. To make this possible, the COP commitment to triple renewable energy and transition away from fossil fuels is crucial.

Political and economic developments

Wars in Ukraine and now in Gaza have contributed to geopolitical uncertainty, which, along with high interest rates, have affected the global economy throughout 2023. This, together with lack of clarity in regulatory guidance for carbon emission reduction projects, meant that we witnessed Final Investment Decisions (FID) on energy transition projects slowing down. This has affected our target for reducing carbon emissions for the year, as fewer of our awarded carbon emission reduction projects reached FID than expected. However, our pipeline of carbon emission reduction projects is strong, with landmark projects won throughout 2023. The supporting policy frameworks are in place and are now being matured, which will drive FIDs to pick up again as the world economic outlook brightens.

Multiple political initiatives have been launched to incentivize the transition away from fossil fuels, most notably in the US and EU. This policy trend is critical and urgently needed to de-risk investments in building out low-carbon, renewables and e-fuels production over the next decade. In the US, the Inflation Reduction Act (IRA) has significantly increased the number of customers interested in our solutions and technologies that will enable net zero.

Taking action

At Topsoe, we are determined to act with urgency to provide solutions that help decarbonize the energy-intensive sectors. We are underlining this commitment by making major investments in our solutions and technologies that enable net zero and by forging new partnerships.

This year, we broke ground on our SOEC factory in Herring, Denmark. The factory has an initial capacity of 500 MW with the possibility to scale further. At our factory, we will manufacture electrolyzers that are necessary to produce e-fuels, such as e-SAF, green ammonia and e-methanol, that the world urgently needs to fuel a sustainable future. In acknowledgement of our state-of-the-art SOEC electrolysis technology and the innovation inherent in building this first-of-its-kind SOEC factory, we signed a grant agreement with the EU's Innovation Fund (EIF) for a total of EUR 94 million. We are very proud of EIF's acknowledgement of our technological leadership and our decision to be one of the first movers in scaling highly efficient electrolyzer capacity. We expect our factory in Herring to be operational by 2024. We are already looking at placing our second facility in the US and expect to build many more.

In the beginning of the year, we launched the ambition to embark on a joint venture with our long-time partner, South African fuel producer, Sasol. In June, we signed the agreement to establish a 50/50 joint venture to produce Sustainable Aviation Fuel. The new company has now cleared regulatory approvals and is set to be operational in Q1 2024. Producing fuels ourselves is brand new territory for us. But these fuels are urgently needed, and we believe this will be a game changer in lowering emissions in aviation.

The purpose of the JV is to develop, build, own, and operate Sustainable Aviation Fuel plants and market the fuels derived from non-fossil feedstock, using renewable hydrogen, sustainable sources of CO₂ and biomass.

We are not only ambitious on behalf of our customers. We also push forward with bringing down our own emissions. Our ambitious target of reaching net zero in our full value chain by 2040 has been approved by the Science Based Targets initiative.

Strengthening our organization

Beyond doing our part for the energy transition, we are undergoing a transformation of our own, integrating sustainability at the core of our business.

The past year, we have continued to build out our organization to meet the growth forecasted in key markets and regions, and we welcomed many new team members as well as new members of the leadership team to help guide us on that journey.

We welcomed two new members of our Board of Directors, Ines Kolmsee and Susana Quintana-Plaza, and two new members to our Senior Leadership Team – Chief Financial Officer Allan Bødskov Andersen and Chief Sustainability & External Affairs Officer Amy Chiang.

They join a global organization committed to creating a safe and healthy workplace, physically and mentally, where our people can thrive and grow. We celebrate our culture and distinct spirit with the Topsoe Spirit Award, putting a spotlight on employees who act as role models, embodying our company's values every

day. These values form the foundation of who we are, where we come from and most importantly – where we are going. This year, we revitalized our values with a new look and feel to reflect the company we are today and the world we operate in.

Our global employee engagement survey, Topsoe Voices, showed improvement across all groups and is now at the highest level ever. Our transformation over the last few years is no small endeavour, and it is inspiring to see the support and drive of our teams across the organization.

It is with utmost faith and optimism that we enter the last year of our 2024-vision period. It will be a year of delivery for our organization, where we get to leverage the strong capabilities, we have built.

Thank you

We would like to thank everyone who has been part of this year's strong results – owners, colleagues, partners and customers. Because without you we would not be on our way to be widely recognized as a leader in the energy transition. There are many exciting milestones within our reach in 2024, and we cannot wait to make it happen with all of you.

JEPPE CHRISTIANSEN
Chairman

ROELAND BAAN
CEO



We are building one of the world's largest SOEC manufacturing facilities in Herning, Denmark. It is expected to start production of next-generation electrolyzer cells in 2024.



Co-funded by the European Union

Emissions Trading System
Innovation Fund

Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or CINEA. Neither the European Union nor the granting authority can be held responsible for them.

OUR BUSINESS

The world is at a crucial stage in the fight against climate change, where words must be turned into action. Action is exactly what we are driving at Topsoe. With our strategy and our vision to be recognized as the global leader in carbon emission reduction technologies by 2024, we are committed to helping the world tackle this challenge by providing technologies and solutions that can transform the energy system quickly and at scale.



At Topsoe, we are dedicated to solving society's toughest challenges. In the fight against climate change, we are driving the energy transition forward through technologies such as our Solid Oxide Electrolysis Cells (SOEC)

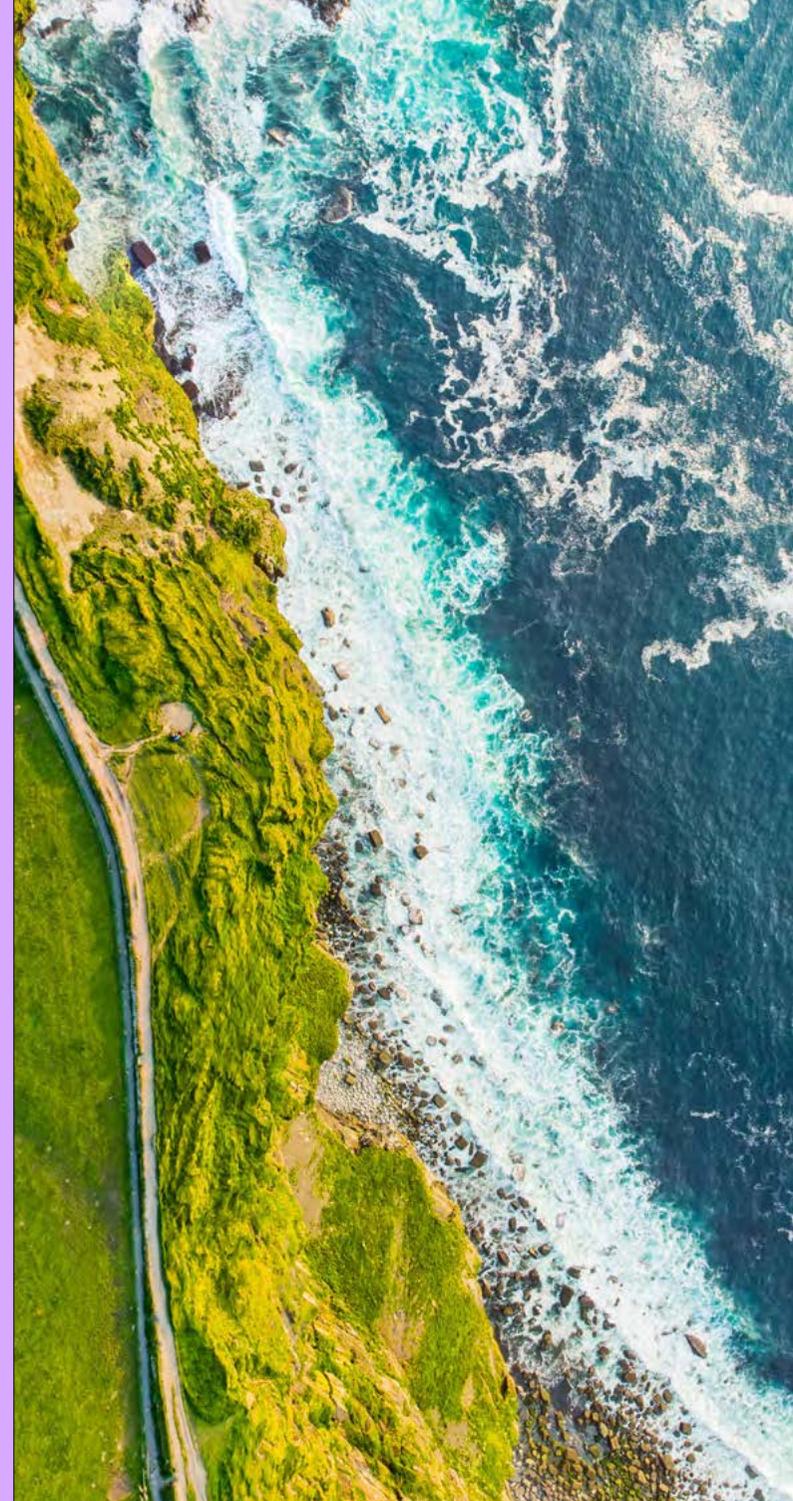
OUR VALUE CREATION

Topsoe is founded on a passion for science and a determination to change the world for the better. Through our technologies and solutions, we are able to support the world's transition to a more sustainable future. We measure the value we create on our ability to deliver positive impact for society, our company and our people.

Our technologies and solutions transform energy feedstocks into fuels, chemicals and clean air in optimized processes with limited carbon impact. We enable the decarbonization of the energy-intensive industries and long-distance transportation, and limit the global need for conventional energy, contributing directly to realizing 10 of the United Nations' Sustainable Development Goals.

Our value proposition rests on decades of relentless pursuit for perfect technology and chemical processes, based on science and research. As a company we are committed to reaching net zero in 2040, and to help enable the global ambition for net zero in 2050.

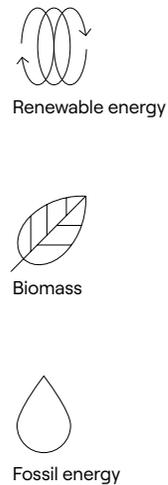
We realize that no company can achieve this alone. Success depends on resources, strategic partnerships and stakeholder dialogues to move the decarbonization agenda forward.



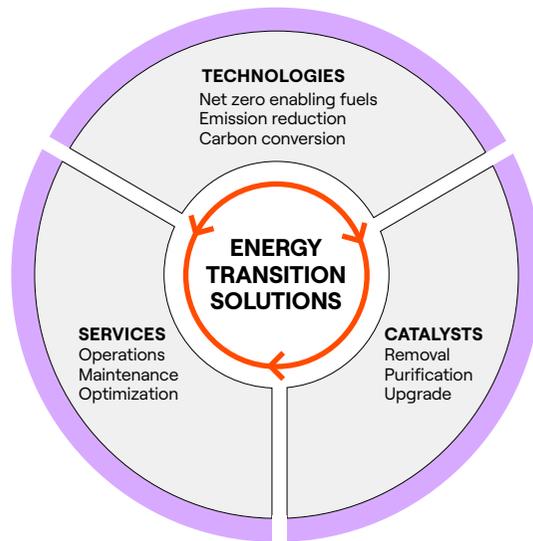
VALUE CREATION MODEL

VALUE CREATED FOR
Society Our Company Our People

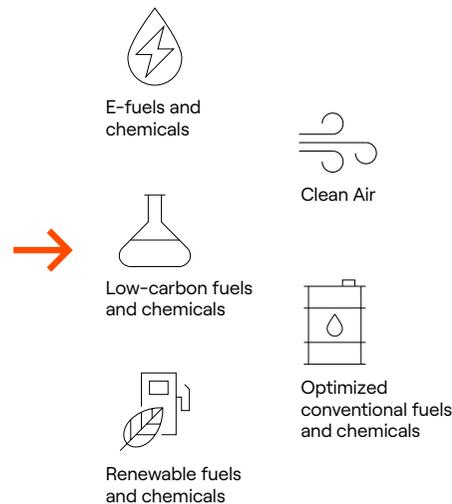
CUSTOMER FEEDSTOCKS



TOPSOE OFFERING



OUTPUT FOR OUR CUSTOMERS



WE DEPEND ON

Resources Relationships

Resources

- **Intellectual capital:** Our operations and innovation are made possible by 2,800 diverse and engaged employees and more than 600 patent families
- **Financial capital:** Our growth and investments are reliant on access to financial capital from our owners and external partners
- **Natural resources:** Our business depends on access to raw materials and energy

Relationships

- **Partnerships:** We are engaged in scientific and commercial partnerships to help us innovate new solutions
- **Communities:** We are a part of and depend on local communities where we operate

Society

We enable a sustainable future fueled by science by helping our customers realize their emission reduction targets.

- 11 million calculated avoided tonnes CO₂e emissions by customers, enabled by Topsoe designed technology for projects in operation in 2023



Our company

We drive a healthy operation with high integrity which allows us to invest in solutions for enabling net zero.

- DKK 775 million in profit
- A 275% increase in investment in technologies and solutions enabling net zero



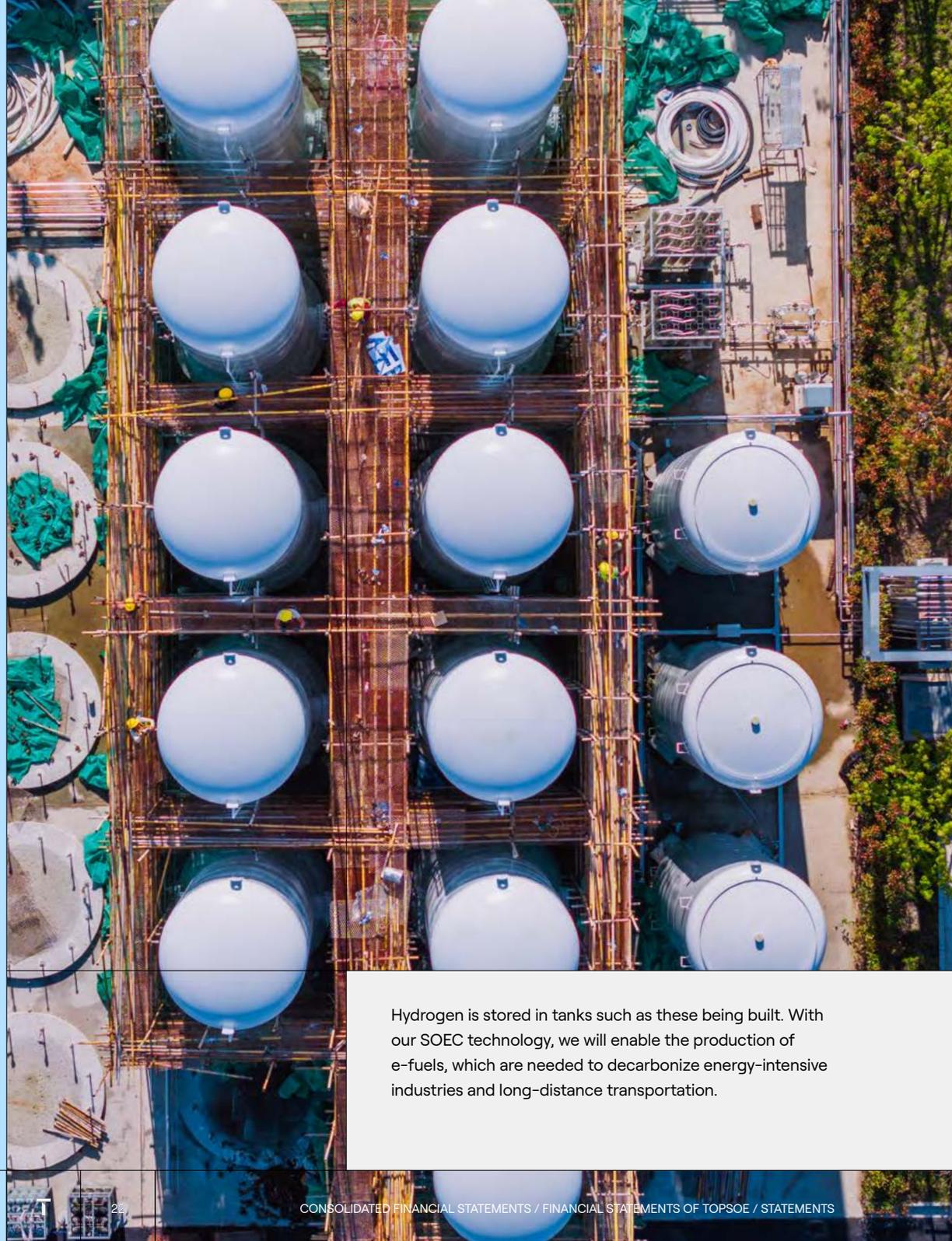
Our people

We strive for Topsoe to be a great place to work with highly engaged and safe people.

- Score 80 in our people engagement survey
- 0.3 Total Recordable Injury Frequency (TRIF)



STRATEGY AND COMMITMENTS



Hydrogen is stored in tanks such as these being built. With our SOEC technology, we will enable the production of e-fuels, which are needed to decarbonize energy-intensive industries and long-distance transportation.

The world continues to be affected by geopolitical tensions resulting in an unsettled global economy. Despite these challenges, the market demand for energy transition technologies continues to grow, and the business case for investing in these solutions is strong. We need to continue to drive forward the transition of the global energy system to be based on renewable energy and low-carbon solutions – and solve the current challenges that some renewable energy supply chains are experiencing.

Our strategy addresses climate change and supports the decarbonization journey of the energy-intensive industries and long-distance transportation, while maintaining sustainable growth in our business.

Building on our experience in technologies to produce chemicals and fuels with more energy efficiency, we are able to connect our proven technologies with the solutions needed to transform the global energy system to reach net zero by 2050.

Our core business offerings, consisting of catalysts, technology and licensing continue to play a key role in the global energy transition going forward and enable us to contribute to limiting the global need for conventional energy.

¹ Source: World Economic Forum, How the First Movers Coalition is decarbonizing hard-to-abate industries

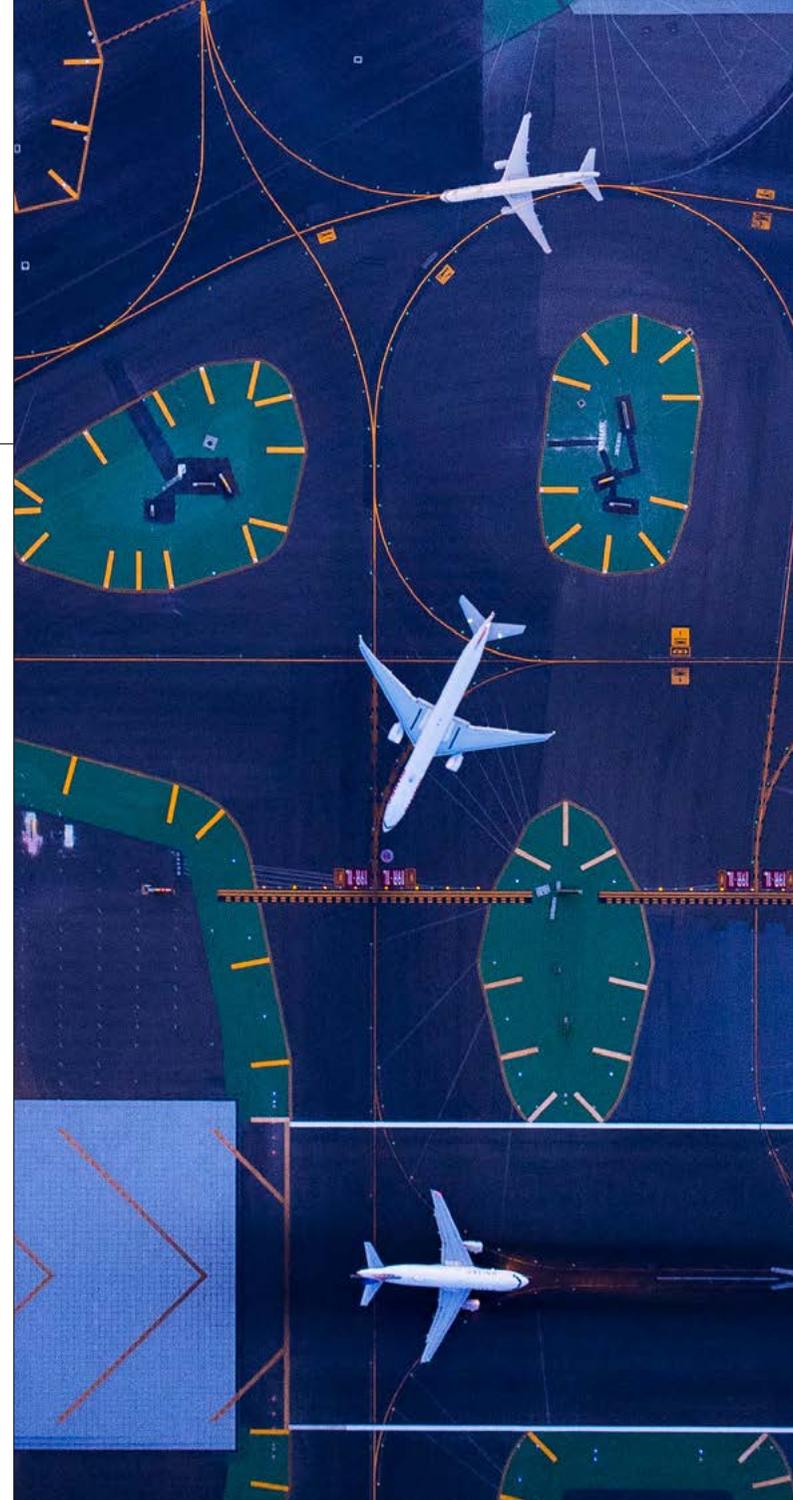
Strong growth across key solutions

Energy-intensive industries and long-distance transportation account for about 30% of global emissions today¹. The need to scale up solutions and drive down cost to reduce emissions in these sectors is evident. At Topsoe, we have the solutions needed to decarbonize these industries, and we continue to see a growing interest in our offerings.

In 2023, we experienced growth across all our business segments, especially in the US and EMEA. We are strongly positioned in the global technology market for renewable fuels, where a third of the current renewable diesel and SAF operating capacity is based on Topsoe licensed technology. In the market for low-carbon hydrogen, we have a leading position in North America. Our Power-to-X business is growing steadily with new projects.

Strengthening the foundation for the future

To meet the increased global demand for energy transition solutions, we are investing heavily in research and production facilities to scale new technology, and welcoming new talent to the organization who can help us unlock additional growth opportunities. We are confident we can meet our ambitions and begin a new strategy period from a well-established position in the field of technologies and solutions enabling net zero.



Committed to being a sustainable business

We are committed to putting sustainability at the core of our business. We have built a solid foundation throughout our organization to embed sustainability in how we manage our impact on people and the environment, as well as how we conduct our business. This year, we have taken the first steps towards aligning to new disclosure requirements on sustainability. We have conducted a double materiality assessment to define the scope of our Corporate Sustainability Reporting Directive (CSRD) reporting from 2025. We have also obtained limited assurance on the majority of our ESG data. The review was performed by PwC and is also a step towards compliance with CSRD. In 2024, we will progress further toward full alignment with these new disclosure requirements to be compliant in the financial year 2025.

MOVING TOWARDS NET ZERO BY 2040

We are determined to take a leading role in the green energy transition and have set ambitious targets for our own sustainability commitments.

In 2023, the Science Based Targets initiative (SBTi) approved our commitment to net zero greenhouse gas emissions for our entire value chain by 2040. Our near-term target is to reduce absolute greenhouse gas emissions by at least 95% in our own operations by 2030 from a 2020 base year.

With our ambitious net zero roadmap, we want to inspire and lead the way for decarbonizing our industry.

OUR CUSTOMERS REDUCE THEIR GREENHOUSE GAS EMISSIONS

In 2023, we made an ambitious commitment to enable our customers to reduce their emissions by 20 million tonnes CO₂e through Topsoe designed technology. We see a strong and growing pipeline of projects that will bring the world closer to net zero in 2050, and we have been awarded landmark projects throughout 2023. However, external factors such as a lack of clarity in regulatory guidance for CO₂e reduction projects and high interest rates have delayed Final Investment Decisions (FIDs) for several significant projects, which has affected our results for the year.

Based on the FIDs taken in 2023, we expect to have enabled our customers to reduce their emissions by 7 million tonnes CO₂e in 2023. However, with the political attention dedicated to improved regulatory guidance in the US and EU, and early signs of macroeconomic recovery, we expect that more projects with CO₂e reductions will be awarded, constructed and put into operation in 2024.

Going forward, we are introducing a more accurate and transparent measurement of how we expect to enable our customers' reduction of greenhouse gas emissions.

We will report on three stages in the project funnel:

1. **Awarded:** Expected annual avoided CO₂e emissions by customers, enabled by Topsoe designed technology for projects awarded at year-end. In 2023, this amounted to 23 million tonnes CO₂e.
2. **Under construction:** Expected annual avoided CO₂e emissions by customers, enabled by Topsoe designed technology for projects under construction at year-end. In 2023, this amounted to 7 million tonnes CO₂e.

MEETING CURRENT AND FUTURE MARKET NEEDS

We have three strategic commercial priorities to meet current and future market needs:

- Building a leadership position in Power-to-X
- Driving our customers' transition to carbon emission reduction technologies
- Optimizing our traditional business

3. In operation: Calculated annual avoided CO₂e emissions by customers, enabled by Topsoe designed technology for projects in operation at year-end. In 2023, this amounted to 11 million tonnes CO₂e.

With this three-tier model, we can measure our impact in a transparent way and document progress for our mission to enable our customers to lower carbon emissions globally. From the first two stages, we can see the market developments, and the third stage measures the direct impact our technologies have had on lowering global GHG emissions.

For more detailed insights, please see our ESG data on → [page 46](#)

BUILDING A LEADERSHIP POSITION IN POWER-TO-X

Sectors that cannot significantly lower their carbon footprint through direct electrification are faced with a real challenge in the energy transition. Power-to-X is the solution. From renewable electricity one can – with electrolysis – make green hydrogen. This can in turn be transformed into green ammonia and other e-fuels, so we can travel by air and sea as well as produce steel, chemicals, and cement without using fossil fuels.

However, electrolyzer production capacity is needed at scale, and the demand for that will only grow as the world closes in on the global net zero deadline in 2050, where the International Energy Agency (IEA) estimates the world will need 3670 GW of electrolysis.

We are acting on this demand by investing significantly in R&D and in constructing an industrial scale solid oxide electrolyzer cell (SOEC) manufacturing facility in Herring, Denmark, with an expected initial capacity of 500MW. We are also considering building our next SOEC factory in the US.

We are working with several ambitious partners to make a difference with our Power-to-X solutions and SOEC technology. US-based First Ammonia is developing plants to produce up to 5 million tonnes of ammonia per year, set to open by 2025, with SOEC technology at the heart of it. Another example is our partnership with Ørsted for Europe's largest green e-methanol facility receiving Final Investment Decision, FlagshipOne.

We are also exploring the possibility of establishing low-carbon ammonia production in Indonesia based on nuclear power together with Copenhagen Atomics and other partners → [Explore](#).

We are leading the Frontfuel project, pioneering highly efficient sustainable aviation fuel (SAF) production from CO₂, water, and renewable electricity. The project, which is a first of its kind, has received funding from the Energy Technology Development and Demonstration Programme (EUDP) → [Explore](#).

DRIVING OUR CUSTOMERS' TRANSITION TO CARBON EMISSION REDUCTION TECHNOLOGIES

To combat climate change, all available pathways are needed to lower greenhouse gas emissions. At Topsoe, we have the solutions and technologies needed to help our customers move towards net zero. Through partnerships, we have expanded our solutions for producing low-carbon fuels – also known as blue hydrogen, ammonia, and methanol – using fossil energy sources and carbon capture and storage to make the smallest possible climate impact. These solutions are attractive low-carbon options that are available today, allowing for sectors such as transport and heavy industry to decarbonize rapidly.

As we expected, the interest in, and use of, these technologies is growing vastly, particularly for transport and industry. The same goes for our technologies to produce renewable fuels, e.g. sustainable aviation fuels (SAF), based on biological feedstock and municipality waste. To meet future market needs in renewable diesel and SAF, we have invested in new catalyst production capacity in Bayport, US.

We see significant interest in these solutions, especially in the US and South-East Asia. Today, our HydroFlex™ technology is at the heart of North America's largest SAF production facility, Calumet's Great Falls refinery in Montana, US. → [Explore](#).

The expected annual production of SAF required for the world to reach net zero in 2050 is 449 billion liters, according to the International Air Transport Association (IATA). To help meet the growing global demand, we have established a 50/50 joint venture to produce SAF together with global chemical and energy company Sasol. → [Explore](#).

OPTIMIZING OUR TRADITIONAL BUSINESS

We play a key role in making the traditional fuels and chemicals the world still relies on as energy efficient as possible, so they make the minimum impact on the climate. Our technology and catalysts help keep our air cleaner while the energy system transforms. This is essential to enable a just transition, making clean and affordable energy available to all and leaving no one behind.

We continue to strengthen our position in low-sulfur fuels, hydrogen, ammonia and methanol using our technologies and catalysts. We also work to maintain our leading position in technology and catalysts that reduce and eliminate sulfur emissions and air pollution from industry.

This area of our strategy also includes our efforts to optimize how we run our own business. For example, refining processes and reducing waste; improving hardware design; removing non-value-adding tasks; and rolling out digitization projects, such as our next-generation ClearView™ solution. With this solution, we can remotely assist clients at their sites.

This year, we have completed an exciting project with our partner, the international technology group Andritz. Together, we have enabled the Brazilian pulp and paper producer, Klabin, to enhance their economic and environmental performance by converting the sulfur containing by-products to sulfuric acid used in its own pulp mill. We have also supported Anglo American Platinum with our ClearView™ technology in a platinum smelter in South Africa.

Setting sail for Europe's largest e-methanol facility

In 2025, Danish energy producer Ørsted will commission its first-ever commercial scale Power-to-X facility, FlagshipONE, with Topsoe as a technological partner. This is set to be the largest green e-methanol facility in Europe.

Solutions for decarbonization - and the technologies that enable them - are context-specific and unique to individual industries. For the global maritime shipping industry, which currently accounts for roughly 3% of global emissions, decarbonization will involve redesign of engines and fast adoption of e-fuel. That means a mass adoption of e-methanol.

Versatile and easy to transport

Green e-methanol is a versatile, low-carbon, liquid fuel that is easy to store, transport and use. While it has potential across numerous industries, Claus Bøjle Møller, Vice President Execution and Operations P2X at Ørsted believes the global shipping industry will be one of the earliest adopters of e-methanol's power.

"Currently, there are more than 200 ships in operation or on order that are dual-fuel vessels. 41% of the vessels on order are from contracts made in the first half of 2023. So clearly, the demand is rapidly increasing."

Delivering a modular and scalable solution

The FlagshipONE project, situated in Örnsköldsvik in Northern Sweden, is estimated to produce around 50,000 tonnes of e-methanol per year. As one of Ørsted's key technological partners, we will be supplying the FlagshipONE project with our e-methanol ModuLite™ technology, which enables the synthesis of e-methanol from green hydrogen and biogenic carbon dioxide.

Intended for use in Power-to-X applications and more, Topsoe's ModuLite™ systems are complete plants built from prefabricated, truckable modules that allow for rapid deployment and less onsite construction - which is particularly important on remote sites such as FlagshipONE.

"For us, it is clear that Topsoe is a well-established technology provider with deep domain expertise and a professional approach to delivering the scope for FlagshipONE," says Claus Bøjle Møller. "We share the commitment to making this more than a stand-alone e-methanol plant. We want it to be the steppingstone towards scaling up and proving that the technology works in a baseload set-up. We look forward to continuing our productive collaboration with Topsoe."



"Topsoe has been part of the FlagshipONE journey for a long time. The combination of world-class products and deep knowledge of the project made the company an easy choice as the supplier of methanol synthesis technology".

CLAUS BØJLE MØLLER, VICE PRESIDENT
EXECUTION AND OPERATIONS P2X, ØRSTED

Joint venture will take SAF further, faster in the race to decarbonize aviation

In 2023, Topsoe signed a landmark agreement to establish a 50/50 joint venture with global energy leader Sasol. The new company will be operational in Q1 2024 and will produce Sustainable Aviation Fuel (SAF) that will help accelerate the decarbonization of global aviation.

With an increasing number of international policies, commitments and mandates supporting SAF, the aviation industry will be responding to the sustainability challenge. However, air travel still contributes to 2-3% of global CO₂ emissions and, with a strong expectation that demand will keep rising, steps need to be taken to cut climate impact.

The adoption of SAF will be a big contributor to lowering emissions in aviation. The International Air Transport Association (IATA) are expecting it to provide about 65% of the carbon mitigation needed by 2050.

Combining strengths to scale up SAF

SAF production needs to ramp up significantly and quickly. In 2022, SAF production tripled but was still less than 0.1% of what is needed for 2050 net zero targets, according to IATA. It is important to note that airlines used every drop of SAF produced in 2022, highlighting the supply-side challenge.

The Topsoe and Sasol joint venture will combine the two companies' unique and complementary technologies, expertise and end-to-end capabilities to scale and accelerate SAF production. It will develop, build, own and operate SAF plants, as well as market SAF derived from non-fossil feedstock, using renewable energy, sustainable sources of CO₂ and/or biomass.

A joint venture built on decades of partnership

Topsoe and Sasol have been strategic partners for more than 25 years, providing the perfect foundation for a successful joint venture, with Roeland Baan, Topsoe CEO, commenting: "We believe no one is better positioned than the company formed by Sasol and Topsoe to deliver the means to scale SAF production. This partnership is an important moment of progress at a critical time."



The future of catalysts in the energy transition

As the world shifts toward a more decarbonized future, catalysts play a crucial role in enabling the energy transition. Catalysis is a cornerstone of modern society, with approximately 90% of all commercially produced chemical products relying on this transformative process.

From the production of fertilizers and chemicals to the creation of renewable fuels, catalysts enable the conversion of raw materials into valuable commodities, lower the cost of expensive processes and improve air quality by reducing harmful emissions. They also lie at the core of our business, connecting Topsoe's history to our present and future in decarbonization and industrial emission reduction.

Pioneers in catalyst development

We have a rich history in catalyst development, dating back to our foundation in 1940 by Dr. Haldor Topsøe. He was a visionary pioneer in the field of heterogeneous catalysis, recognizing the potential of catalysts to revolutionize industrial processes. Since then, Topsoe has been at the forefront of catalyst innovation, developing groundbreaking technologies for the production of ammonia, methanol and other chemicals.

Driving the energy transition

Today, we offer over 100 in-house catalyst types, making us a leading producer of catalysts for the chemical, refining and energy industries. We have

developed a range of catalysts specifically for the production of renewable and low-carbon fuels. Including for instance, biodiesel, SAF, low-carbon hydrogen, e-methanol and green ammonia. These catalysts enable more efficient and faster production processes, helping to lower the emissions of the energy industry.

"We are committed to supporting our customers' decarbonization journey by developing catalyst solutions that optimize plant performance and lower CO₂ emissions. By focusing on catalyst innovation, we empower our customers to reduce their carbon footprint and embrace more future-proof industrial practices," says Elena Scaltritti, CCO of Topsoe.

Gearing up for the future

In 2023, we have built our largest and most efficient catalyst production site in Bayport, Texas. The new unit has a nameplate capacity of 15,000 MT and is designed to be tight and closed, significantly reducing dust exposure for employees.

This design, coupled with the high level of automation, allows the plant to operate at a larger scale with the same number of people, leading to increased efficiency.

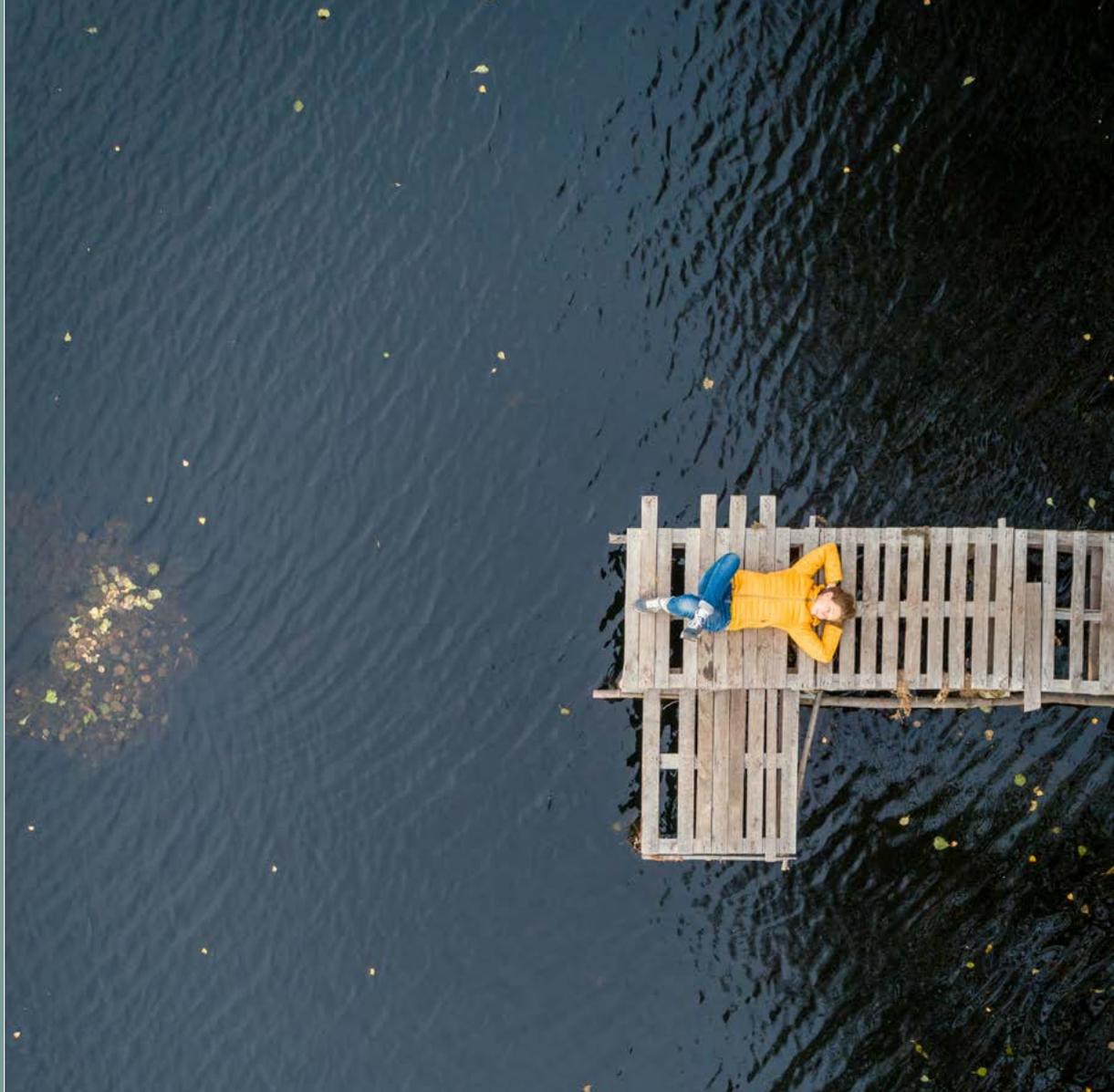
The first official sellable product from the new plant in Bayport was made quickly after hot tests in Q4 2023, making the facility ready to deliver state-of-the-art catalysts to customers in 2024.



"We have invested heavily in a state-of-the-art catalyst production facility, enabling us to meet current and future demand. Our new TK3 production plant stands out not just for its size, but also for its pioneering features. It is a testament to Topsoe's innovative mindset and represents a significant stride in our ambition to support our customers in both their traditional and new businesses"

ANDREAS BRUUN JØRGENSEN,
COO OF TOPSOE

SUSTAINABILITY



We are committed to put sustainability at the core of our business. Through materiality assessments, we are identifying areas of significant impact, enabling effective prioritization, risk management and the seizing of new opportunities in our journey towards a more sustainable future.

Working towards a more sustainable future

We are dedicated to balancing the economic, social, environmental, and ethical aspects of our own operations and value chain. This includes working strategically with sustainability and ESG objectives to mitigate and reduce the negative impacts of our solutions and operations, while enabling and increasing our positive impact on people and society.

Guided by double materiality

Materiality is the foundation for how we prioritize our work on sustainability. Our material topics enable us to define, act and report on the areas where we have significant impact on our surrounding environment and people – and where these impacts pose risks to our business or create new opportunities.

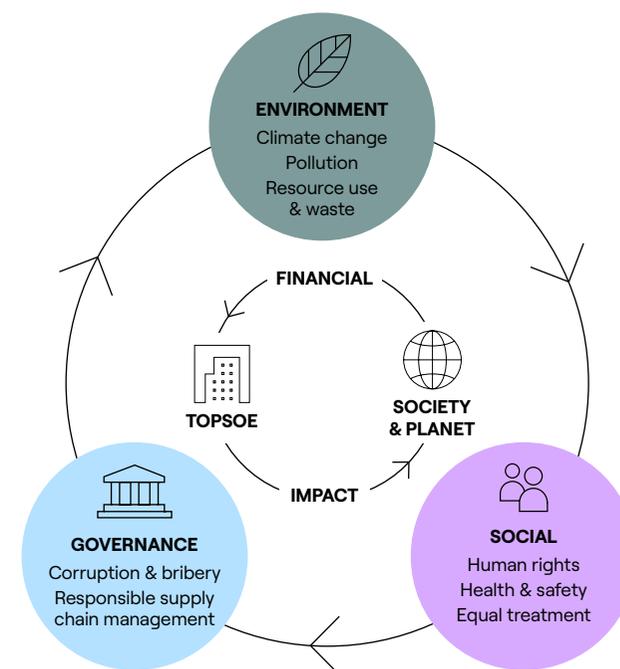
In 2023, we did an initial assessment of our material topics through an extensive process using the principles from the draft European Sustainability Reporting Standards (ESRS) on double materiality. This included

identifying all relevant sustainability matters from a full value chain mapping to understand where impacts occur and how Topsoe could be involved. We used input from a broad cross-section of internal and external stakeholders. Regulatory tracking and assessment of ESG and sustainability standards and frameworks such as EcoVadis and Carbon Disclosure Project (CDP) were also used to identify relevant topics. We then determined materiality based on specific criteria, such as sector materiality, stakeholder expectations, leverage to influence, and values and strategies. Our own experts and management then validated the assessment using a defined scoring methodology based on severity, remediability and likelihood for impact materiality, while aligning scoring of financial materiality to our Enterprise Risk Management methodology.

The double materiality assessment is a key step in preparing compliance with the EU Corporate Sustainability Reporting Directive (CSRD), which will apply to us from financial year 2025. It defines the scope of our reporting and guides us in assessing our reporting set-up, particularly around ESG data quality. In 2023, we also obtained limited assurance of the majority of our ESG data.

We will assess our double materiality assessment on a regular basis based on our due diligence processes and will report on it in line with future requirements.

OUR MATERIAL SUSTAINABILITY TOPICS



MAKING A POSITIVE IMPACT ON OUR ENVIRONMENT

We work in an environmentally responsible way, making sure we handle chemicals safely and continuously reduce emissions, waste, and resource consumption. We monitor emerging regulatory obligations and stakeholder requirements, as well as physical climate risks, so we can spot developments that might affect our operations and trigger changes to internal processes.

In 2023, we made major progress to improve environmental processes by implementing SAP EHS at all our sites to manage the majority of our environmental and energy data. This gives us better quality, more reliable data and improved transparency, so we can be more agile in how we achieve our targets and evaluate our ambitions.

We have our Power-to-X Pilot Production at our headquarters in Lyngby, Denmark. It is one of our 16 locations around the world, where we continuously work to improve our environmental processes.

Lowering emissions

Our operations are resource intensive, both for raw materials and energy consumption, from fossil fuels and electricity which drive the material impact on our scope 1 and 2 emissions profile. We are committed to reducing emissions in our value chain, so we work to continuously reduce negative impact on the environment and human health. This includes all relevant greenhouse gases contributing to climate change.

In 2023, we developed a roadmap with over 20 workstreams, embedding net zero in all we do to achieve our 2040 target. Key activities included the engagement of over 270 suppliers, requesting their disclosure of decarbonization performance to CDP, and achieving a 60% response rate.

This supports progress toward our near-term scope 3 target of 74% of our suppliers having science-based targets in 2027. Our ambition for 2024 is to accelerate and further mature our decarbonization activities across our value chain to reduce our footprint in support of our net zero targets.

Supporting our performance management, we are developing management systems for capturing the data to support these improvement activities, which

help us report our progress in a transparent and verifiable way.

In 2023, we continued work on our internal infrastructure to support energy security at our Danish production site. By establishing Liquid Natural Gas (LNG) and Liquefied Petroleum Gas (LPG) plants, we secured our energy supply. We did this to ensure business continuity in the light of geopolitical instability in the European region. We progressed with civil works on our TertiNOx™ catalyst solution that will remove nitrous oxide (N₂O) from our production sites in Denmark and the US.

Using our resources efficiently

Reducing energy use from our operations and contributing to climate change solutions are critical business priorities. We work continuously to manage resources better by optimizing production processes, ensuring we have as little environmental impact as possible.

Our Danish operations and R&D consume energy from the Danish grid at a constant rate from year to year. We use surplus heat from our production sites where we can in other processes at our sites. Our Danish production site has also delivered surplus heat to the local heating grid since 2013.

TARGETS

- Net zero GHG emissions by 2040 for scope 1, 2 and 3:
 - Scope 1 and 2: 95% GHG emission reduction in our own operations by 2030 from a 2020 baseline.
 - Scope 3: 74% of our suppliers need to have GHG emission reduction targets aligned with science-based targets in 2027.
- Develop and mature circularity and biodiversity assessment in Topsoe

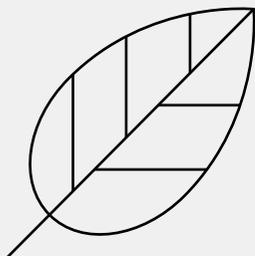
OUR ENVIRONMENTAL STRATEGY IMPACTS SDGs:



Sustainability Disclosures

We have improved our Carbon Disclosure Project (CDP) score, obtaining a B. CDP is a not-for-profit charity that runs the global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts.

We achieved a Gold rating in EcoVadis, maintaining the same numerical score as in 2022. EcoVadis' ratings evaluate how well a company has integrated the principles of Sustainability/CSR into their business management system.



Circularity

We are embedding circularity more into our process optimization and reintroducing resource flows. This includes exploring new opportunities outside of our normal operations and waste management, such as partnerships with vendors to process off spec/waste materials on site and partnering with existing and new vendors to increase the amount of recycled materials in our raw materials – as well as opportunities to process spent catalysts with other partners.

We manage our waste responsibly by evaluating all material fractions for possible internal or external use, or, where we cannot recycle, for authorized disposal. In all cases, authorized contractors transport and process the material to make sure it is handled in an efficient, safe, and compliant way. We see large economic and environmental opportunities for reuse and recycling to avoid landfilling. This is something we continuously strive to optimize in our production, sending most of our waste to recovery rather than landfill.

In 2023, we have focused on developing a robust process to collect and report the majority of data on waste in SAP. In addition to an overview of the waste generated, we can now also gain insights on

how much waste we are recirculating and how much CO₂ is emitted when treating the waste. We have also included R&D in our waste data, dating back to 2020. We are committed to developing and maturing circularity as part of our transformation, and we are introducing various initiatives to find out what works best for us.

Protecting our environment

We manage emissions to continuously reduce our negative impact on the environment and human health. Pollution control is our license to operate, and our policies and processes are certified against ISO14001 and RC14001. This means we must continually reduce and minimize our emissions and make sure we always operate within local legislation. Most significant sources of emissions are NO_x, SO_x, NH₃, VOC, CO₂e, dust as well as noise.

Our environmental approvals define the threshold limits and testing requirements for our emissions to air. Our production plant in Denmark is located adjacent to residential areas, which is why we are subject to strict noise level requirements from the Danish Environmental Protection Agency. We stay in close contact with stakeholders near our production sites and cooperate with local authorities to make sure we always meet their expectations.

At our site in Denmark, we have established a HEPA filter in one of our productions to reduce nickel emission to air. Another initiative has been to replace a dry cooler with a water-based cooling tower, which reduces both noise and energy.

The 2024 Pollution Prevention goal at our site in Bayport, US is reduction of process scrap, meaning striving for "Right First Time". In 2024, we will establish a TertiNOx™ plant for purification of NOx from air while also removing N₂O by up to 95%. This technology will be used at both production sites. In Frederikssund, a big part of traditional truck transport will be replaced with new electrically powered trucks for transportation of products to and from the site, which will reduce noise and CO₂e emission.

Managing hazardous materials

Hazardous substances are part of our products and help them to function. They are often impossible to replace with less hazardous substances. This is why we are committed to handling hazardous materials in a safe and compliant way, and why we strive to minimize the use of hazardous chemicals where we can.

We manage risks holistically to protect the environment and people. Our system for managing

product stewardship covers regulatory management, substance management, and product management from raw material to final product. We identify and communicate potential hazards and risks in line with international standards and regulations, like the UN Global Harmonized System and national regulations. We manage risks related to our products at every stage and engage with legislators, peers, and industry associations to advocate for a sound regulatory environment for developing new solutions and technologies.

In 2023, we have stopped producing our high temperature shift (HTS) catalysts, which contain chromium, and we have accelerated the transition to our new chromium-free alternative, which will now be our only HTS catalyst. We have also maintained and matured product stewardship, building an even stronger foundation in IT systems and documented processes for internal and external stakeholders.

To further strengthen the foundation of our product stewardship, we will build awareness across the business through training in 2024.



Kim Nicole Dalby is a geochemist and works as a manager at our Power-to-X Pilot Production.

Our net zero roadmap

All businesses have a responsibility to mitigate climate change by lowering their emissions. As a company with pioneering technologies at the forefront of the global energy transition, we are even more committed to achieving ambitious emission reduction goals ourselves.

Our starting point

In 2020, Topsoe's total greenhouse gas emissions were 585,440 tonnes CO₂e across scope 1, 2 & 3.

Main sources of emissions

- 70% Supply chain (scope 3, upstream)
- 12% Chemical processes (scope 1)
- 9% Fossil fuel combustion (scope 1)
- 6% Electricity (scope 2)
- 4% Investments & products (scope 3, downstream)

Operations



Address operations to reduce emissions by 30% in 2024 and at least 95% in 2030



Invest in renewable energy solutions



Transition to 80% renewable electricity by 2025



Implement digital performance monitoring and analytics

Supply chain



Supplier engagement strategy launched in 2022



Decarbonization becomes a mandatory requirement in supplier selection, starting in 2023



2/3 of supply chain emissions to be covered by science-based reduction targets by 2027

Value chain

- Engage with suppliers on emission reduction progress
- Collaborate with customers and other business partners to reduce emissions
- Reduce emissions to at least 90% by 2040
- Neutralize residual emissions which cannot yet be eliminated by 2040 (off sets)

Near-term target commitment:

Reduce absolute scope 1 GHG emissions by >95% and scope 2 by 100%

Long-term target commitment:

Net zero emissions across our value chain

2020

2022

2024

2030

2040

— Path to net zero
 --- Business as usual

* Committed to the Net Zero Standard

Mapping our path to net zero

As Topsoe’s Chief Sustainability & External Affairs Officer, Amy Chiang explains, “Topsoe aspires to continuously reduce the negative impact of global carbon emissions on the environment and human health. We play a pivotal role in developing breakthrough solutions that enable our customers to meet their own emissions targets, so it should be no surprise that we are leading by example in our own operations.”

We have set an ambitious goal to achieve net zero emissions across our value chain by 2040. That is a challenging target. Our net zero roadmap lays out plans to bring down emissions in our direct operations, which include our plants, offices, and transport worldwide (Scope 1), the energy we buy and use (Scope 2), and our wider value chain, which includes our suppliers, customers and joint ventures (Scope 3). Our roadmap includes comprehensive plans to reduce our most material Scope 1 process emissions in 2024, on the path to reach 95% reduction by 2030. We are mobilizing the entire company to support those plans.

Each part of the roadmap has its own challenges. Our Scope 1 emissions are hard to abate, primarily because of the chemical processes behind the catalysts we produce. We are developing alternative

processes to reduce N2O emissions, which will contribute significantly to our Scope 1 reduction. We originally set a target of 30% reduction by 2024. However, these alternative processes will be implemented in 2024, which means we will start reducing emissions through this technology in

“Topsoe aspires to continuously reduce the negative impact of global carbon emissions on the environment and human health. We play a pivotal role in developing breakthrough solutions that enable our customers to meet their own emissions targets, so it should be no surprise that we are leading by example in our own operations.”

AMY CHIANG
CHIEF SUSTAINABILITY
& EXTERNAL AFFAIRS OFFICER

2025. The delay has been driven by energy security measurements in Frederikssund.

Reducing Scope 1 and 2 emissions has become a short-term challenge because we have had to invest in infrastructure to support switching to liquefied natural gas and petroleum gas to mitigate energy-supply challenges arisen from Russia’s invasion of Ukraine. But we are committed to 80% renewable power by 2025 and 100% by 2030 as well as exploring biogas for plants.

Over 70% of our emissions are in Scope 3. Reaching our target here depends on suppliers’ own net zero plans. We have engaged with 80% of suppliers, based on spend, urging them to register with the Carbon Disclosure Project (CDP) to report on progress towards net zero. Our aim is that suppliers covering 74% of Scope 3 emissions will have science-based GHG reduction targets by 2027.

As reporting on net zero commitments becomes the industry standard, there will be new suppliers who will be ready to support these efforts, especially in growing areas like Power-to-X. Our procurement process plays a huge role in driving a net zero value chain and growing the market by supporting transparency through disclosures.

STRENGTHENING OUR COMMUNITY

We are proud of our culture, where we provide a safe and healthy working environment for our employees, contractors and business partners. We are also creating a culture of belonging through an inclusive and diverse workplace, free of harassment, where everyone thrives. Our health, safety and environmental (HSE) management system follows international standards, including ISO 45001 (Denmark) and RC 14001 (USA).



People are our greatest asset, and we want everyone at Topsoe to thrive and grow in a safe, inclusive and respectful community.

Ensuring a safe work environment

Creating a healthy and safe working environment where our people can flourish and grow is fundamental to us. We call this Zero Harm. Zero Harm means that everyone at Topsoe returns home each day physically and mentally well, able to lead full lives outside of work. Anything less than this is unacceptable. Zero Harm is everyone's responsibility, regardless of who we are or where we work. We continuously run company-wide initiatives to keep everyone informed, interested and engaged in creating the best possible workplace.

As a company undergoing a major transformation, employees' engagement and well-being remain high priorities. In 2023, we introduced several initiatives to promote well-being. We are pleased to see from our global employee engagement survey, Topsoe Voices, that our employees' engagement improved across all groups in 2023 and is now at the highest level ever.

How we feel at work, and outside of work, is a big part of Zero Harm, which is why we have held our first global mental well-being week in 2023 to create awareness and help us address issues related to our people's well-being. We have run Zero Harm training with modules training leaders who then train employees to cascade key information and advice through the organization. We will build on this in 2024 by creating standardized e-learning modules and broadening the general focus to foster a Zero Harm mindset.

Giving employees ample opportunity to continuously develop and build new skills is key to maintaining an engaging working environment and makes sure we always have the right capabilities to carry out our tasks. Leadership training and LinkedIn learning are some of the initiatives we have launched in 2023.

Creating a diverse and inclusive workplace

We want to empower all our employees, enabling everyone at Topsoe to feel a sense of belonging and be comfortable expressing themselves. We want everyone to respect and appreciate what makes us all different, in terms of age, gender, ethnicity, religion, disability, sexual orientation, education, and national origin. We recognize that not everyone has the same starting point and that we must adjust imbalances.

In 2023, we took action to build the foundation for a structured approach to diversity, equity and inclusion (DE&I) and embed it in all we do. Through our DE&I Committee, which we established in 2022 and which consists of diverse employee voices from throughout the organization, we receive great input to create a pragmatic approach to the issues that matter most.

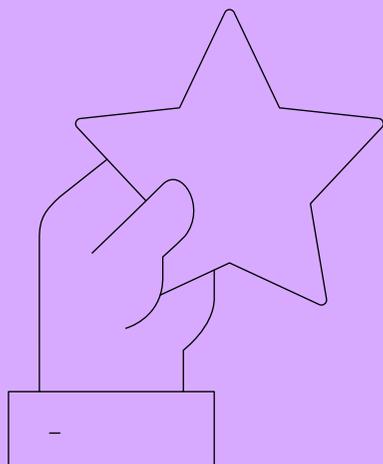
We also updated our Diversity & Inclusion Policy to better reflect how we work with DE&I and how we aim to achieve a better gender balance in management. We work actively to debias our people processes, including recruitment and performance

TARGETS

- TRIF of 0.32 for employees and 0.45 for employees and contractors combined by 2024
- Women in 30% of management roles by 2024
- Top 25% in the annual employee engagement survey compared to the industry benchmark by 2024

OUR SOCIAL STRATEGY IMPACTS SDGs:





Employee engagement score

80

The employee engagement result is based on the annual survey conducted in November 2023

reviews, and we strive to improve our data management to give us a better understanding of our progress. We are also confident that our efforts to create a psychologically safe and supportive working environment will contribute toward a better gender balance across our organization. At Topsoe, we want 30% women in management roles by 2024 and 40% women in other management by 2030. In 2023, we achieved 26%. We feel confident that we will achieve this target through our current and planned actions. In 2023, the Board of Directors achieved equal gender representation.

We have zero tolerance towards harassment and discrimination. Our Anti-Harassment Policy, which was updated in 2023, incorporate this message and encourage us to speak up with any concerns that we may have. The policy specifies what unacceptable behavior is and provides clarity on potential consequences as well as remedies. During 2023, we have initiated training and awareness with a focus on psychological safety and well-being.

In 2023, we improved our data collection on DE&I indicators to help us understand gaps in our approach, and how we can improve. We have done this through our Topsoe Voices survey, input from our DE&I Committee, recruiting data and engagement

with leaders to understand our aspirations for a diverse Topsoe.

We are focused on working to remove unconscious bias through cultural curiosity training and bias training, focusing particularly on recruitment processes. In 2024, we will continue to build cultural curiosity, respecting our differences across the organization. We are a global company and must be aware of bias founded in nationality. We also want to continue strengthening our employees' sense of belonging at Topsoe and further embed a culture where everyone feels they can raise any concerns.

Safeguarding human rights

We respect all human and labor rights, as defined in the Universal Declaration of Human Rights, the International Covenant on Civil and Political Rights, the International Covenant on Economic, Social and Cultural Rights, and the International Labor Organization's Declaration on Fundamental Principles and Rights at Work. As a participant of the UN Global Compact, respect for human and labor rights is embedded in our commitment to act as a responsible business.

Our policies and procedures are the foundation for mitigating actual and potential negative impact on human rights, in our own operations and beyond. Our Supplier Code of Conduct clearly sets out what we expect from our suppliers.

Our human rights due diligence is in line with the United Nations Guiding Principles on Business and Human Rights. We have processes to identify and assess any actual and potential negative impact, address and mitigate these risks, and remedy any negative impact we cause. For Topsoe, the most salient human rights impacts through the value chain include fair and safe working conditions, right to non-discrimination, and corruption. Anyone can access our grievance mechanism through the Topsoe Compliance Hotline.

In 2023, we worked on creating internal awareness and understanding on human rights to better embed ownership across the organization. We also participated in the UN Global Compact Human Rights and Business Accelerator Program, which has provided us with an even stronger foundation for continuing to improve our due diligence. In 2024, we plan to adopt and publish our first stand-alone Human Rights Policy.

See an overview of our salient human rights impacts on → [Topsoe.com](https://www.topsoe.com)

Donations and community development

Making a positive difference in the world is a fundamental part of Topsoe. Every year, we allocate 0.1% of our annual revenue to global and local donations and community engagement activities. We support activities that help families and children lead a dignified life even when facing poverty, climate change, and conflict. We also engage locally in the communities where we work.

In 2023, we widened the scope of our partnership with the World Wide Fund for Nature (WWF). We also provided humanitarian relief in the wake of several natural disasters through trusted partners Save the Children and UNICEF. In Denmark, we hosted several events for Ukrainian refugees who are staying near our headquarters to provide positive experiences during a difficult time. At our headquarters, we are also engaged in a partnership with Lyngby-Taarbæk municipality with the purpose of providing internships for citizens with little connection to the labor market. We have donated kits for science, technology, engineering and mathematics (STEM) to local schools in the community where we are present in Houston, US. Moving forward, we want to take a larger role in ensuring access to STEM education in the communities where we operate as a key element of our corporate citizenship.

→ [Read our Donation and Sponsorship Policy here](#)

Building a sense of belonging for everyone

The better we champion diversity, equity and inclusion and build on what makes Topsoe special, the better we are at attracting and retaining the people we need, whether they are scientists or marketers.



To become a leader in the global energy transition, we need the best people – a team that is diverse in every way, from social background and gender to ethnicity and education. That means nurturing an inclusive environment, where everyone feels valued and part of the team, and where they are treated equally.

To do this, we are building on our culture by creating an even more structured approach to diversity, equity and inclusion (DE&I), with the personal backing of our CEO and the Senior Leadership Team. Having our leaders aligned on the value of diversity, equity and inclusion will enable it to flow throughout the organization and create value.

Highlights in the last year include our new Global Onboarding Program, focused on managers and teams building a sense of belonging in new teammates, even before they join us. We also celebrated diversity week internally for the first time as part of Pride week in Denmark, and we launched inclusivity messages promoting how we value diversity, embrace difference and foster inclusion.

Underpinning such initiatives is our DE&I Committee, made up of volunteers from all our markets and teams and representing a mix of genders, ages,

race and cultures. They act as a sounding board for the Senior Leadership Team on DE&I issues and contribute directly to projects like our Global Onboarding Program, Anti-Harassment Policy and recruitment toolkit tackling unconscious bias. The DE&I Committee is also committed to supporting and promoting the plans to introduce Employee Resource Groups in Topsoe during 2024.

Another foundation for our work is data. We already monitor the proportion of women in management roles, currently 26% with a 2024 target of 30%. This year, we added questions to our Topsoe Voices employee engagement survey, such as whether people feel valued and able to share their opinions and have equal opportunities. Tracking this will help us see progress and give us an informed basis for deciding where we need to improve.

“Already, we can see change, even in the language people use, mirroring our DE&I messages. That shows our culture is evolving. I’m proud to be part of the DE&I Committee and advise the Senior Leadership Team on how we can make Topsoe an even better place to work and attract and retain diverse people who will help us lead the world towards a greener future.”

HADISE BAGHOEE
SENIOR TECHNICAL SALES AND SERVICE ENGINEER

DRIVING INTEGRITY IN OUR BUSINESS

How we do business matters. While we grow and transform our business, we continuously improve how we operate. We are committed to being compliant, transparent, and responsible in everything we do. Our actions are based on good governance practices with solid structures and business processes. This ensures we maintain the trust of our customers, owners, business partners, local communities, and other stakeholders. We achieve consistently responsible behavior through policies, procedures, regular monitoring, and training. Our quality management system (ISO9001) provides a solid foundation to ensure efficient processes across the organization. To guide this, we use our IT platform, Topsoe HUB, as a governance tool to enable transparent business processes.



At Topsoe, we base our actions on good governance practices, ensuring efficient processes and responsible behavior across the organization.

Bribery and corruption

We never tolerate any form of corruption, bribery, fraud, or anti-competitive behavior. Our anti-corruption compliance program and third-party due diligence processes govern how we interact with our customers, agents, suppliers, and other third parties to mitigate the risk of inadvertently contributing to potential or actual corrupt or anti-competitive practices.

In 2023, we implemented several initiatives to enhance the program's effectiveness in accordance with a review in 2022 where we identified areas for further improvement. One of the initiatives we introduced was a redesign of our counterparty due diligence to ensure that it better incorporates corruption risk indicators in the counterparties and business activities that require compliance due diligence. We continue to monitor the effectiveness of our anti-corruption compliance program with a continuous improvement approach to address relevant risks. In 2024, we will review the updated anti-corruption compliance program to identify any areas that can be further improved.

Responsible supply chain management

We take a responsible and balanced approach to our supplier base and look to choose suppliers based on commercial risk, compliance, and quality, as well as social, environmental, and ethical responsibility. We want to work with suppliers that respect human rights, protect data, while guarding business continuity.

We want close and long-term engagement with our key suppliers. In 2023, we have updated our Supplier Code of Conduct with a broader scope and rolled it out among 84% of our suppliers based on spend. We have developed and implemented a supplier segmentation program that will give suppliers certain benefits when they commit to meeting our high expectations of conduct as well as a new source-to-contract system. We will continue to implement this in 2024. We also initiated cooperation with EcoVadis to assess the robustness of suppliers' sustainability management systems. This also presents an opportunity for us to support our most strategic suppliers in meeting our sustainability expectations.

Resilience in minerals sourcing

Minerals and metals are essential to many of today's fast growing energy technologies, including ours.

Demand for these materials will grow quickly as the energy transition gathers pace – and we will be part of that.

We import and consume tungsten and cobalt. We follow global standards and comply with legislation, including EU and US Conflict Minerals Regulations. We have established a due diligence system based on the OECD Due Diligence Guidance for Responsible Supply Chains of Minerals from Conflict-Affected and High-Risk Areas, which is guided by our Responsible Minerals Sourcing Policy. All our tungsten and cobalt suppliers conform with the Responsible Minerals Initiative Assurance Program.

Sourcing minerals calls for constant improvements. We have broadened our scope for assessing resilience and risk in relation to code regarding metals and minerals as well as broadened our scope beyond compliance. New raw materials require updated processes, which is why we have built upon our existing processes. Following our 2022 assessment of our circular model, we are assessing the possibilities for using a larger fraction of recycled metals in our raw materials, such as scrap copper, molybdenum, tungsten and cobalt.

OUR GOVERNANCE STRATEGY IMPACTS SDGs:



STATEMENT OF ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) PERFORMANCE

We continuously strive to enter a higher level in the data hierarchy to be able to make decisions based on complete and accurate data.



1 Notes to the consolidated ESG statement

1.1 Accounting policies

The consolidated ESG statement covers material environmental, social and governance performance data for the 2023 calendar year for Topsoe A/S. It constitutes our statutory disclosure on corporate social responsibility, sections 99a, 99b and 99d of the Danish Financial Statements Act (DFSA). Unless otherwise stated, the ESG data include consolidated data from Topsoe A/S and subsidiaries controlled by Topsoe.

We continuously strive to enter a higher level in the data hierarchy to be able to make decisions based on complete and accurate data. In 2023, we therefore transferred our environmental and health and safety data into SAP. This has led to restatement of data from previous years. Please find more details in the tables below.

Visit → topsoe.com for previous reports.

For feedback to this report, contact us at sustainability@topsoe.com

Reader's guide

Non-financial disclosure requirements as per the Danish Financial Statements Act.

Topic	Page reference
Section 99a	
Value creation model	p. 21
Content of policies for sustainability, relevant procedures and due diligence processes, results, key risks and KPIs	Climate and environment pp. 32-37 Social matters pp. 38-43 Respect for human rights p. 40-41 Anti-corruption and bribery pp. 44-45
Section 99b	
Target figure for underrepresented gender in the Board of Directors	p. 57
Policy to improve the underrepresented gender balance at management level	p. 39-40
Section 99d	
Data ethics	p. 85

1.2 Environmental performance

Expected avoided CO₂e emissions enabled by our technologies

1000 Tonnes CO ₂ e	2023	2022	2021	2020	2019
Expected annual avoided CO ₂ e emissions by customers, enabled by Topsoe designed technologies for contracts "awarded" at year end	22,504*	8,103	16,541	8,017	2,363
Expected annual avoided CO ₂ e emissions by customers, enabled by Topsoe designed technology for projects "under construction" at year end	6,816	7,198	9,972	2,160	726
Calculated annual avoided CO ₂ e emissions by customers, enabled by Topsoe designed technology for projects "in operation" at year end	10,673	8,937	3,265	867	867

* This metric is not under PwC assurance scope.

Accounting policy

The expected annual avoided CO₂e emissions by customers, enabled by Topsoe designed technology are calculated compared to the solution running on conventional fossil-based feedstock.

The expected annual avoided CO₂e emissions are split into three categories: "awarded", "under construction" or "in operation", and a project is only included in one of the three categories.

Expected annual avoided CO₂e emissions by customers, enabled by Topsoe designed technology for projects "awarded" at year-end

The technologies in scope are renewable fuels and low carbon (syngas-technologies) using CO₂ capture and sequestration. A project is reported as "awarded" when Topsoe has received payment for engineering work.

Expected avoided CO₂e emissions for renewable fuels are calculated by calculating the

estimated energy amount from the specific feedstocks used in Topsoe's technology and multiplying the amount by the EU Red 2 GHG emission (94 g CO₂e/MJ) and by the life-cycle-assessment calculation of the respective feedstock.

Expected avoided CO₂e emissions for low carbon, syngas technologies, i.e. the amount of CO₂ captured and sequestered, are estimated based on the design agreed with the client.

The expected annual avoided CO₂e emissions by customers are recognized for the full year regardless of when it is "awarded". The project status is at year-end.

Expected annual avoided CO₂e emissions by customers, enabled by Topsoe designed technology for projects "under construction" at year-end

The technologies in scope are renewable fuels and low carbon (syngas-technologies) using

CO₂ capture and sequestration. A project is reported as "under construction" when the customer has made the Final Investment Decision (FID) and signed a contract with Topsoe, and both parties are therefore under obligation for the project to become "in operation".

Expected avoided CO₂e emissions for renewable fuels are measured by calculating the estimated energy amount from the specific feedstocks used in Topsoe's technology and multiplying the amount by the EU Red 2 GHG emission (94 g CO₂e/MJ) and by the life-cycle-assessment calculation of the respective feedstock.

Expected avoided CO₂e emissions for low carbon, syngas technologies, i.e. the amount of CO₂ captured and sequestered, are estimated based on the design agreed with the client.

The expected annual avoided CO₂e emissions are recognized for the full year regardless of when it is "under construction". The contract status is at year-end.

Calculated annual avoided CO₂e emissions by customers, enabled by Topsoe designed technology for projects "in operation" at year-end

The technologies in scope are renewable fuels, co-processing of renewable fuels mixed in fossil fuels and low carbon (syngas-technologies) using CO₂ capture and sequestration. A project is reported as "in operation" when there has been a successful performance guarantee test run.

Expected avoided CO₂e emissions for renewable fuels are measured by the estimated energy amount from the specific feedstocks used in Topsoe's technology and multiplying

the amount by the EU Red 2 GHG emission (94 g CO₂e/MJ) and by the life-cycle-assessment calculation of the respective feedstock.

Expected avoided CO₂e emissions for co-processing of renewable fuels mixed in fossil fuels are measured by calculating the estimated energy amount from the specific feedstocks used in Topsoe's technology and multiplying the amount by the EU Red 2 GHG emission (94 g CO₂e/MJ) and by the minimum life-cycle-assessment calculation in US (50%) and EU (65%), respectively.

Expected avoided CO₂e emissions for low carbon, syngas technologies, i.e. the amount of CO₂ captured and sequestered, are estimated based on the design agreed with the client.

The expected annual avoided CO₂e emissions are recognized for the full year regardless of when it is "in operation". The contract status is at year-end. Topsoe verifies annually that all projects "in operation" are still up and running.

Notes for the development in data

In 2023, we have developed the wording and accuracy of the metric 'Customer carbon emission reduction'. This has resulted in the metric being divided into 'awarded projects', 'projects under construction' and 'projects in operation'. We see an increase in the number of awarded projects over the years, which is due to higher demand for renewable fuels. There is a decrease in projects under construction, which is partly due to our customers finding it increasingly difficult to reach financing and FID. We see an increase in projects in operation, which partly due to our installed capacity from earlier years is still running at our customers' sites and partly due to new capacity going into operation.

1.2 Environmental performance (continued)

Energy consumption

MWh	Target	2023	2022	2021	2020
	Transition to 80% renewable electricity by 2025				
Energy consumption		359,172	326,900	290,234	338,127

Accounting policy

Direct energy consumption leads to scope 1 GHG emissions and includes natural gas, and gas oil consumed by Topsoe. Indirect energy consumption leads to scope 2 GHG emissions and includes electricity and district heating purchased and consumed by Topsoe. Energy consumption is reported for production sites, warehouse, R&D and headquarter. Data is obtained from invoices and through meter readings internally and downloaded from the supplier's website.

Notes for the development in data

In 2023, the reporting unit has changed from TJ to MWh to be in line with the new ESRS reporting requirements. Total energy consumption was 359,172 MWh in 2023, compared to 326,900 MWh in 2022 (10% increase). The increase in energy consumption is due to an increase in production of 13%.

GHG emissions – Scope 1 and 2

Tonnes CO ₂ e	Target	2023	2022	2021	2020
Scope 1		117,134	104,391	96,925	124,439
Scope 2 – market-based		42,216	9,094	31,733	33,822
Scope 2 – location-based		11,751	11,825	11,969	13,248
Scope 1 and 2 market based	Reduction of 100% by 2030	159,350	113,485	128,658	158,261

Accounting policy

The reporting of scope 1 and 2 GHG emissions is based on the Greenhouse Gas Protocol. Scope 1 GHG emissions includes emissions from natural gas, gas oil, and process emissions. Scope 2 GHG emissions includes emissions from electricity and district heating purchased and consumed by Topsoe. Carbon dioxide equivalent, i.e., CO₂e, is used as the metric to compare the emissions from greenhouse gas emissions based on their global warming potential. Scope 1 GHG emissions are calculated as: the consumption volumes multiplied by CO₂e emission factors from Department for Environment, Food and Rural Affairs' (DEFRA), and chemical-specific CO₂e emission factors. Country- and supplier-specific location- and market-based emission factors are provided for calculating Scope 2 GHG emissions.

Notes for the development in data

In 2023, our total GHG emissions (scope 1 and 2, market-based) amounted to 159,350 tCO₂e, which is an increase of 40% compared to 113,485 in 2022. The increase is mainly because we bought renewable electricity certificates corresponding to 29,043 tCO₂e in 2022. The increase without certificates is 11%. The increase is at the same level as the increase in produc-

tion volumes (13%), and we have had a similar increase in CO₂e emissions from our energy consumption and process emissions.

In 2023, our scope 1 emissions increased by 12% compared to 2022 and decreased by 6% compared to our baseline year 2020. Our scope 2 emissions (location-based) have been reduced by 6% between 2023 and 2020. This is primarily due to lower emission factor for electricity in Denmark, which is caused by higher proportion of renewable energy.

1.2 Environmental performance (continued)

GHG emissions – Scope 3

Tonnes CO ₂ e	2023	2022	2021	2020
Cat. 1 – Purchased goods and services	395,911	472,046	386,552	375,156
Cat. 3 – Fuel and energy-related activities	9,515	8,799	7,840	7,670
Cat. 4 – Upstream transportation and distribution	4,689	14,379	3,264	8,517
Cat. 5 – Waste generated in operations	1,040	880	988	574
Cat. 6 – Business travel	14,565	8,947	2,456	3,525
Cat. 7 – Employee commuting	2,149	1,868	1,882	1,789
Cat. 9 – Downstream transportation and distribution	12,826	14,331	11,224	8,063
Cat. 11 – Use of sold products	2,969	2,607	2,307	2,620
Cat. 12 – End-of-life treatment of sold products	3,621	2,125	3,213	1,869
Cat. 15 – Investments	32,220	26,725	11,494	12,505

Accounting policy

The reporting of indirect scope 3 emissions is based on the Greenhouse Gas Protocol, which divides the scope 3 inventory into 15 categories.

The categories 2, 8, 10, 13 and 14 have been left out, as we have assessed the emissions from these activities to be immaterial.

Category 1 – Purchased goods and services

This category includes raw material procurement, indirect procurement, and project procurement. Raw material procurement is categorized and CO₂e emissions are calculated based on quantity data multiplied by relevant material-specific emission factors from the Ecolnvent database. The emissions are accounted for at the time of delivery of the raw materials. Indirect and project procurement are categorized and CO₂e emissions are calculated based on spend data multiplied by emission factors from DEFRA, Table 13, Indirect emissions from the supply chain.

Category 3 – Fuel- and energy-related activities

This category is calculated based on actual fuel and energy data collected under energy consumption, multiplied by upstream emission factors from DEFRA WTT (Well-to-Tank).

Category 4 – Upstream transportation and distribution

This category covers the transportation of purchased products from suppliers to a Topsoe facility and transportation between Topsoe facilities. The transportation of sold products is covered by category 9. Transportation is categorized in different transportation types and CO₂e emissions are calculated based on spend data multiplied by emission factors from DEFRA, Table 13, Indirect emissions from the supply chain.

Category 5 – Waste generated in operations

This category is calculated based on actual waste data multiplied by relevant emission

factors from DEFRA Waste disposal and water treatment. The treatment of water sent to the municipal sewage treatment plant is also included.

Category 6 – Business travels

Business travel data includes airfare, hotel stays, business trips in private cars, taxis, and rental cars, and CO₂e emissions are calculated based on spend data multiplied by relevant emission factors from DEFRA, Table 13, Indirect emissions from the supply chain.

Category 7 – Employee commuting

Employee commuting covers the transportation of employees between home and work. The calculation of emissions is based on country-specific average data from an independent third-party provider. The employees in scope are based on headcount excluding student assistants and externals.

Category 9 – Downstream transportation and distribution

This category includes emissions from out-bound transportation of products after the point of sale. Transportation is categorized in different transportation types and CO₂e emissions are calculated based on spend data multiplied by emission factors from DEFRA, Table 13, Indirect emissions from the supply chain.

Category 11 – Use of sold products

This category is calculated based on actual sales of products from the chemical processing data. The use-phase emissions come from products that contain or form CO₂ that is emitted during use. Some of our finished products contain carbon in the form of carbonate, carbon, or graphite. The carbon is not emitted as

CO₂ during the production phase but is emitted during the use-phase.

Category 12 – End-of-life treatment of sold products

This category includes emissions from the waste disposal and treatment of sold catalysts and packaging products at the end of their life treatment. The calculation is based on total volume of produced catalysts and packaging products multiplied by relevant emission factors from DEFRA Waste disposal.

Category 15 – Investments

This category includes CO₂e emissions from all joint ventures, other securities, and investments. The emissions are calculated based on the investment-specific approach. If the emission data is not available from the investee, the average data method is used with emission factors from DEFRA.

Notes for the development in data

Category 1 – Purchased goods and services:

In 2023, we have changed method for calculating the CO₂e emissions from raw material procurement as we move from a spend-based to a quantity-based method. This method makes it possible to use material-specific emission factors, which results in more accurate data. For this reason, it is not possible to directly compare data from 2023 to previous published reports.

Category 3 – Fuel- and energy-related activities

CO₂e emissions for all the years (2020–2023) in this category have been recalculated. In 2023, GHG emissions for this category increased by

1.2 Environmental performance (continued)

8%, which corresponds to the increase in energy consumption.

Category 4 –

Upstream transportation and distribution

CO₂e emissions for upstream transportation and distribution has decreased by 67%. This is mainly due to negotiation of terms with suppliers and to the price of the freight, as we use a spend-based method.

Category 5 – Waste generated in operations

In 2023, we have updated the calculation method to be more accurate. Therefore, the numbers from previous years are restated. GHG emissions from the treatment of generated waste increased by 18% between 2022 and 2023. However, the increase is not as high as the increase of total generated waste, which was 29%, which means that there has been an improvement in the way our suppliers treat the waste that emits less CO₂e emissions.

Category 6 – Business travels

In 2023, we have updated the calculation method to be more accurate. Therefore, the numbers from previous years are restated. GHG emissions from business travels increased by 63% between 2022 and 2023. Some of the increase is linked to the increase in number of employees. However, the increase is mainly because we are back to normal travel activity as before Covid-19.

Category 7 – Employee commuting

In 2023, we have updated the calculation method to be more accurate. Therefore, the numbers from previous years are restated. An increase in emissions from employee commuting is expected, as it is directly linked to the increase in the number of employees.

Category 9 –

Downstream transportation and distribution

There has been a small reduction in GHG emissions between 2023 and 2022, but overall, the emissions have been quite stable the previous years. This is mainly due to the price of the freight, as we use a spend-based method and negotiation of terms with customers.

Category 11 – Use of sold products

In 2023, the GHG emissions from this category have increased by 14% compared to 2022. The increase corresponds to the increase in production volumes and therefore to the increase in products sold.

Category 12 –

End-of-life treatment of sold products

In 2023, we have updated the calculation method to be more accurate. The scope is now catalyst, and packaging. Therefore, the numbers from previous years are restated. Between 2023 and 2022, the increase of GHG emissions from waste treatment of our sold products is 11%. The increase is in line with the increase in produced volume (13%) in the same period.

Category 15 – Investments

The numbers from 2022 on investments are restated in 2023 due to a manual error in data entering. The increase in emissions from investments is due to a change in the calculation method. We prefer to use the investment-specific approach from the Greenhouse Gas Protocol whenever the emission data from the companies are available, which has led to an increase in emissions.

Waste generation

Tonnes	2023	2022	2021	2020
Waste total	12,764	9,887	7,365	6,950
Waste total hazardous	10,514	7,799	5,865	5,108
Waste total non-hazardous	2,250	2,088	1,500	1,848
Waste recycled (%)	13	14	20	16

Accounting policy

Waste is reported as either hazardous or non-hazardous waste according to local regulations. Additionally, waste is reported by waste type and by disposal method. The waste data for the US site is collected from the waste manifests for two month and extrapolated for the rest of the year. The waste data for Danish sites is collected from the environmental authority's portal for waste reporting. Hazardous wastewater sent to a third-party company is included as waste. The percentage of waste recycled is calculated by the amount of recycled waste in tonnes divided by the total amount of waste total in tonnes. Waste is reported for production sites, warehouse, R&D and headquarter.

larger quantities of hazardous waste to external treatment. In 2024, the Frederikssund plant will focus on reducing waste, and making sure that the spray dryer is working.

Some of the increase is due to the 13% increase in production volumes from 2022 to 2023

Notes for the development in data

In 2023, we have updated the calculation method to be more accurate. Therefore, the numbers from previous years are restated. In addition, we added hazardous wastewater to the data set. During 2023, we generated 12,764 tonnes of waste compared to 9,887 tonnes in 2022, which is an increase of 29%. The increase is mainly caused by an increase of hazardous waste at our production site in Frederikssund. The increase is partly due to introducing a new production process that provides an additional contribution of hazardous wastewater. Another reason for the increase is challenges with a spray dryer, which has resulted in sending

1.2 Environmental performance (continued)

Major spills and releases

Number	2023	2022	2021	2020
Major spills	3	0	0	1
Releases	0	1	1	2

Accounting policy

Spills of hazardous substances are reported in systems according to local procedures. If the material does not have an impact on the environment (water, soil, or air), it remains categorised as a spill. A spill of more than 100 kg of a hazardous material is reported as a major spill. Air emissions from stacks are not included.

If a spill of a hazardous substance reaches the environment (water, soil, or air), it is categorised as a release and will be reported and handled according to local procedures and environmental approvals. Spills and releases are reported for production sites, warehouse, and R&D.

Notes for the development in data

In 2023, we have had three major spills. One of the spills occurred at our production site in Frederikssund in Denmark where 7,000 litres of diesel oil was spilled. The other two spills occurred at our production site in Bayport in the US where respectively 1,495, and 1,893 litres of sulfuric acid were spilled. The spilled materials were all cleaned up with no harm to the environment.

Other air emissions

Tonnes	2023	2022	2021	2020
Nitrogen oxides (NOx)	39.14	37.66	32.74	35.52
Sulphur oxides (SOx)	0.11	0.08	0.08	0.15
Volatile organic compounds (VOC)	2.63	2.45	2.46	2.84
Particular matter (PM10)	17.23	16.22	7.80	18.97
Ammonia (NH ₃)	16.02	13.72	11.53	12.48

Accounting policy

Other air emissions than greenhouse gases are measured as the concentration in ppm (parts per million) and calculated into tonnes using the measured air flow. Other air emissions than greenhouse gases are reported for production sites. NOx and VOC are only reported for our production site in Bayport.

Notes for the development in data

The amount of other air emissions is following the development in production volumes and natural gas combustion. Production volumes and natural gas consumption have both increased by 13% from 2022 to 2023.



1.3 Social performance

Headcount by year-end

Number	2023	2022	2021	2020
Headcount	2,810	2,316	2,194	2,300

Accounting policy

Headcount measures all heads as part of the Topsoe group of companies excluding external.

Notes for the development in data

As Topsoe is a company with high growth, the level of headcount is within the expected level.

Gender diversity

	2023	2022	2021	2020
Gender - all employees male/female (number)	2090/720	1761/555	1638/556	1702/598
Gender - all employees male/female (%)	74/26	76/24	75/25	74/26

Accounting policy

Gender diversity for all employees is the number and percentage of the genders 'female' and 'male'. Gender diversity is calculated based on headcount numbers. Headcount includes active employees on the Topsoe group, excluding external.

Notes for the development in data

In 2023, we included the number of males and females in addition to the gender diversity rate to move towards compliance with ESRS.

The gender diversity level is within the expected level. In Topsoe we continuously have focus on gender diversity and strive to create and inclusive and diverse workplace on many diversity parameters.

Employee Engagement Score

	2023		2022		2021	
	Annual	Half-year	Annual	Half-year	Annual	Half-year
Employee engagement score	80	78	76	71	69	64
Participation (%)	92	90	90	87	86	87

Accounting policy

Topsoe Voices is the engagement survey that is conducted twice a year to measure employee engagement. The following employee groups are excluded from participating: employees with less than two months' seniority from survey start date, student assistants, employees on garden leave, interns, known resignations, and external consultants who currently work for Topsoe. The survey is conducted in the Ennova system in four different languages. Shared PCs are made available for employees with no/limited access to a Topsoe system via a PC. The participation rate is calculated by taking the number of participants divided by the number of invited participants multiplied by 100.

Notes for the development in data

We have in 2023 seen a continued progression in employee engagement, as the score in the annual survey increased to 80% compared to 76% in 2022. The participation rate in 2023 has also been higher than in previous years. The progression is seen across tenure, functions, and geographies.

1.3 Social performance (continued)

Employee turnover

Number	2023	2022	2021	2020
Average headcount 12 months	2,519	2,190	-	-
Employees who have left	199	233	-	-
Employee turnover (%)	7.9	10.6	-	-

Accounting policy

Average headcount 12 months excludes students, trainees, employees with a fixed-term position and Externals. Employee turnover is the total number of employees who have voluntarily left Topsoe during the reporting period. The number excludes students, trainees, employees with a fixed-term position and Externals. The employee turnover rate is calculated using this formula: Voluntary leavers/total headcount (ex. students, trainees, employees with a fixed-term position and Externals)*100.

Notes for the development in data

Employee turnover has decreased from 10.6% to 7.9% rolling 12 months during 2023. Decreasing turnover has been a key objective for Global HR during the year, and we have initiated and worked with several activities targeted at specific functions and global locations. We are pleased with the positive development, but we will continue to work with further improving employee engagement in order to reduce voluntary turnover.

Employee safety

	Target	2023	2022	2021	2020
Number of fatalities	-	0	0	0	0
Number of work-related accidents Topsoe employees	-	9	12	10	16
Rate of work-related accidents OSHA (200.000 working hours) Topsoe employees	0.32	0.34	0.58	0.69	0.90
Rate of work-related accidents (1 million working hours) Topsoe employees	-	1.70	2.90	3.45	4.50
Number of work-related accidents contractors	-	5	6	14	-
Rate of work-related accidents OSHA (200.000 working hours) contractors	1.0	1.17	3.20	-	-
Rate of work-related accidents (1 million working hours) contractors	-	5.87	16	-	-

Accounting policy

The number of fatalities include all fatalities as a result of work-related accidents. The number includes Topsoe employees, contractors and workers working on Topsoe sites.

The number of accidents (fatalities, lost time accidents, restricted work cases, medical cases, and occupational illness) is referring to all accidents for Topsoe employees. The rate of work-related accidents is calculated as the total number of accidents divided by total number of hours worked by all Topsoe employees and multiplied by 200,000 (OSHA) and 1 million). The same rate is calculated for Topsoe contract workers. Contract workers are defined as people hired on terms where Topsoe takes on responsibility for occupational health and safety meaning that Topsoe has instruction and supervision responsibility. The number of working hours for contractors is subject to a medium level of measurement uncertainty.

Notes for the development in data

With SAP EHS being rolled out and more attention on Zero Harm reports as well as a buy-in from employees across the organization, we managed to improve our rate of work-related accidents. Additionally, we have had a targeted communication campaign on our internal channels and dashboards.

We have focused more on onboarding contractors and intensifying our collaboration with them. For example, we had no incident in the Herning site in Denmark or in the TK3 project in Bayport (US). Both projects also added a significant amount of worked hours in 2023.

In 2023, the metrics 'number of work-related accidents' and the rate of work-related accidents divided by 1 million working hours was added to the data table. This is to prepare for alignment with the European Sustainability Reporting Standards.

1.3 Social performance (continued)

Donations spend

DKK million	Target	2023	2022	2021	2020
Donations spend	0,1% of total revenue of previous year	7.0	8.6	5.2	5.0

Accounting policy

Annual realized spend related to global and local philanthropic purposes. Donations and community engagement activities are defined as: Financial, or in-kind, support given to an entity with a philanthropic purpose and with no direct return benefit to Topsoe. Support related to any past, present, or potential purchase of Topsoe products, or made upon direct request from a customer, is defined internally as a "commercial sponsorship" and not a donation.

Notes for the development in data

In 2023, we reached our target spend for donations. In addition to our ongoing global and local donations activities with partners such as WWF, we made two extraordinary donations to UNICEF and Save the Children and their humanitarian disaster funds in relation to the devastating natural disasters that occurred in Syria, Turkey and Libya. We also invested in STEM kits for local schools in the area surrounding our US operations in Houston.

1.4 Governance performance

Gender diversity in management

	Target	2023	2022	2021	2020
Gender diversity - Board of Directors male/female (number)	Obtained equality	5/3	7/1	7/1	7/1
Gender diversity - Board of Directors male/female (%)	Obtained equality	62/38	87/13	87/13	87/13
Gender diversity - Other management male/female (number)	-	42/25	-	-	-
Gender diversity - Other management male/female (%)	40% in 2030	63/37	-	-	-
Gender diversity - Topsoe managers male/female (number)	-	220/77	-	-	-
Gender diversity - Topsoe managers male/female (%)	30% in 2024	74/26	75/25	75/25	78/22

Accounting policy

Gender diversity in top management is the number and percentage of the genders; 'female' and 'male'. Top management is defined as the following two layers: 1) The highest level of management is defined as our Board of Directors (not including employee representatives). 2) Other management is defined as the Senior Leadership Team and any direct reports to the CEO, and the people reporting directly to them and also holds personnel responsibility. Other management is defined in accordance with the Danish Financial Statements Act section 99b and only covers Topsoe A/S. We also have our own Topsoe specific metric on gender diversity amongst all managers. It includes Topsoe specific management levels between managers to CEO.

Notes for the development in data

We have made a restatement on the gender diversity for the Board of Directors, as the number in the 2022 Annual report included employee elected members. In 2023, we had a change

of composition in the Board of Directors which has led to an equal representation of the two genders measured.

In accordance with the Danish Financial Statements Act section 99b, we have included a target and performance for 'Other management' in 2023 for the first time. The metric has replaced the reporting on gender diversity in Senior Leadership Team which we are no longer disclosing.

For Topsoe managers we are steadily working towards our target of 30% female managers in 2024 and have in 2023 increased the percentage as expected.

1.4 Governance performance (continued)

Code of Conduct training

%	Target	2023	2022	2021	2020
Code of Conduct training – completion rate	98	95	98	88	77

Accounting policy

Refers to the completion rate for Board of Directors and own employees in scope for the training by the end of the reporting year, as a percentage of all persons in scope. Employees in scope for the training includes active Topsoe employees with the exception of employees who have joined Topsoe after November 30 in the reporting year. The completion rate is based on registrations in Topsoe's learning platforms as of December 31, and completion data up until this date for in-scope persons. Employees with limited access to Topsoe systems via a PC may be trained face-to-face and in such cases, completion is retroactively documented. If a person has completed training in more than

one way, this does not add to the completion rate

Notes for the development in data

The 2023 completion rate is within the expected level. As in previous years, new employees have been required to complete relevant e-learning upon joining Topsoe. From 2024, this requirement will extend to existing employees who will be required to complete refresher e-learning annually.

Reported concerns

Number	2023	2022	2021	2020
Reported concerns	14	-	-	-

Accounting policy

The number of reported concerns through Topsoe Compliance Hotline and other intake channels excluding communications via Topsoe Compliance Hotline which were found to be frivolous. Frivolous should be understood as communications that are clearly misdirected or outlandish, such as inquiries about products unrelated to Topsoe or comments that have no relevance to Topsoe.

Notes for the development in data

In 2023, we updated the accounting policy for reported concerns. Consequently, the reported figure is not directly comparable to that of previous years and comparative figures for preceding years are therefore not included. This accounting policy will remain unchanged in the coming years, therefore comparative figures will become increasingly available over time.

1.4 Governance performance (continued)

Supplier Code of Conduct acceptance

%	2023	2022	2021	2020
Supplier Code of Conduct acceptance	84	-	-	-

Accounting policy

Supplier Code of Conduct acceptance measures the percentage of spend covered by suppliers who have accepted the Topsoe Supplier Code of Conduct or equivalent standard based on Compliance review. A supplier is in scope if Topsoe has purchased a good or service within the last 12 months from it and where Procurement has been able to influence the choice of supplier.

Notes for the development in data

For 2023, the scope of suppliers whom we asked to accept our Code of Conduct was significantly increased. It is not possible to compare data from previous years and therefore the reporting starts from 2023.

FINANCIAL RESULTS & OUTLOOK

With our technology it is possible to turn biomass and non-fossil feedstock, such as tree pulp, into fuels and chemicals that can help lower carbon emissions and drive the energy transition forward.





Our approach to sustainability involves turning waste into value. Such as utilizing waste tires in the production of biofuels.

GROUP FINANCIAL REVIEW

FINANCIAL HIGHLIGHTS

Financial highlights 2023

Topsoe delivered record financial revenue and earnings, combined with an all-time high investments in technologies and solutions that support the energy transition. We grew our business across segments, while delivering on our own transformation.

- Revenue increased by 38% to DKK 9,416 million (2022: DKK 6,845 million) driven mainly by a strong demand for Topsoe catalysts especially in EMEA and North America and strong market growth in technology solutions.
- 20% of revenue, around DKK 1,900 million, came from business related to technologies and solutions that enable the production of e-fuels, low carbon fuels and renewable fuels.
- EBIT before special items increased by 59% to DKK 964 million (2022: DKK 608 million) due to double-digit growth in both catalyst and technology business, with an EBIT margin of 10.2% (2022: 9.0%).
- The results are higher than communicated at the half year-results, which guided towards a full-year revenue in the range of DKK 8,800–9,200 million and an EBIT margin of 9–10%.
- Investments in Power-to-X and other technologies and solutions that enable net zero increased by 275% compared to 2022, reaching a new historical high level. R&D spend increased to approximately DKK 700 million, an increase of 20% compared to 2022.

Revenue

Total revenue increased by 38% in 2023 to DKK 9,416 million (2022: DKK 6,845 million).

The revenue increase was driven by high demand for Topsoe catalysts, a 40% increase, especially in EMEA and North America and revenue growth of 32% in technology solutions. The increase was a result of strong demand from both new and current customers, including customers looking to revamp existing refineries to renewable fuel production and new plants based on Topsoe technology. The increase was further impacted by price increases driven by higher production and raw material costs.

Revenue from business related to technologies and solutions that enable production of e-fuels, low carbon fuels and renewable fuels, that are needed for society to reach global target of net zero CO₂e emissions by 2050 increased by 74% compared to 2022, totaling 20% of revenue.

EBIT before special items

EBIT before special items amounted to DKK 964 million (2022: DKK 608 million), an increase of 59% compared to 2022. EBIT margin before special items increased by 1.2 percentage points to 10.2% (2022: 9.0%). This was driven by the strong full year revenue and gross margins combined with an overall good production performance, and further upscaling of our Power-to-X organization.

Special items amounted to DKK 0 million in 2023. In 2022, special items amounted to DKK -43 million, driven by closing down business in Russia.

Net profit

Topsoe's net profit increased by 37% to DKK 775 million (2022: DKK 567 million). The increase was mainly driven by the higher EBIT before special items. 2023 included DKK 92 million in dividends from investments, compared to DKK 129 million in 2022.

Cash flow

Cash flows from operating activities amounted to DKK 1,184 million (2022: DKK 943 million). The improvement since a year ago is mainly explained by the increase in EBIT. 2023 cash flows were negatively impacted by working capital as opposed to 2022, where we have seen a small positive impact. The change in working capital was due to lower work in progress and contract liabilities compared to 2022, which was offset by increased inventories and higher trade receivables resulting from sales growth. Cash flow from investment activities amounted to DKK -1,797 million (2022: DKK -743 million), mainly driven by significant property plant and equipment investments in 2023.

Return on invested capital (ROIC)

ROIC amounted to 16.0% (2022: 15.7%) driven by the increase in net operating profit after tax, related to the high performance in 2023, and an increase in invested capital, primarily related to fixed asset investments.

Financial covenants

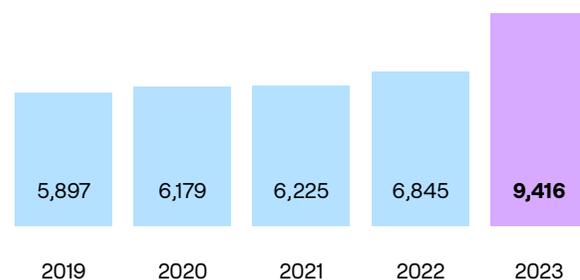
Financial covenants as of December 31, 2023, were all met.

Order backlog

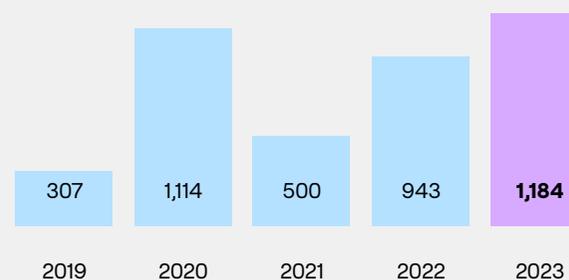
The order backlog amounted to DKK 4,900 million at the end of 2023, a decrease of DKK 1,115 million, or 19%, compared to 2022.

FINANCIAL PERFORMANCE

Revenue
DKK million



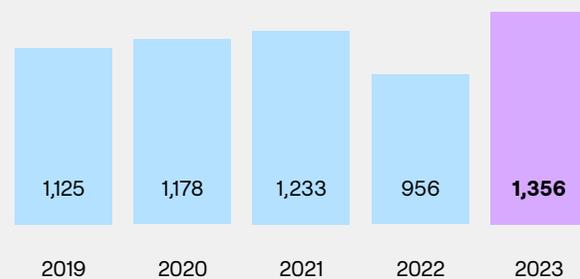
Cash flow from operating activities
DKK million



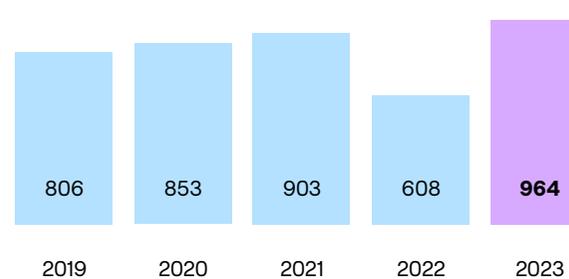
Revenue
DKK million

9,416

EBITDA
DKK million



EBIT before special items
DKK million



EBIT before special items
DKK million

964

KEY FINANCIAL FIGURES

	2023	2022	2021	2020	2019
Income statement					
DKK million					
Revenue	9,416	6,845	6,225	6,179	5,897
Gross profit	3,564	2,765	2,884	2,789	2,782
EBITDA	1,356	956	1,233	1,178	1,125
Depreciation and amortization	-392	-348	-330	-325	-319
EBIT before special items	964	608	903	853	806
Special items	0	-43	-26	-275	136
EBIT after special items	964	565	877	578	942
Net financial expenses, etc.	28	128	167	-29	-4
Profit from continuing operations	775	567	880	435	714
Profit/loss from discontinuing operations	0	0	10	45	0
Net profit	775	567	890	480	714
Balance sheet					
DKK million					
Balance sheet total	9,758	8,386	7,162	6,688	6,694
Equity	3,704	3,204	2,929	2,139	1,730
Net working capital	1,189	1,159	1,132	427	602
Net interest-bearing debt	1,477	578	136	203	871

	2023	2022	2021	2020	2019
Cash flow					
DKK million					
Cash flows from operating activities	1,184	943	500	1,114	307
- of which continuing operations	1,184	943	500	1,149	307
Cash flows from investing activities	-1,797	-743	-391	-368	-88
- of which investment in Property, plant and equipment	-1,726	-777	-330	-325	-213
Cash flows from financing activities	411	-619	-435	-339	-197
Employees					
Numbers					
Average number of employees	2,668	2,242	2,133	2,268	2,238
Ratios					
%					
Gross margin	37.9	40.4	46.3	45.1	47.2
EBITDA margin	14.4	14.0	19.8	19.1	19.1
EBIT before special items margin	10.2	8.9	14.5	13.8	13.7
EBIT after special items margin	10.2	8.3	14.1	9.4	16.0
Return on invested capital (ROIC)	16.0	15.7	28.5	29.8	30.6
Equity ratio	38.0	38.2	40.9	32.0	25.8
Return on equity	23.0	18.5	35.1	24.8	51.4
Leverage ratio	1.1	0.6	0.2	0.2	0.8

The ratios have been prepared in accordance with the Recommendations & Financial Ratios produced by the Danish Finance Society and CFA Society Denmark.

OUTLOOK 2024

Topsoe expects 2024 revenue to be in the range of DKK 8,300–8,800 million and an EBIT margin in the range of 8.0–10.0%.

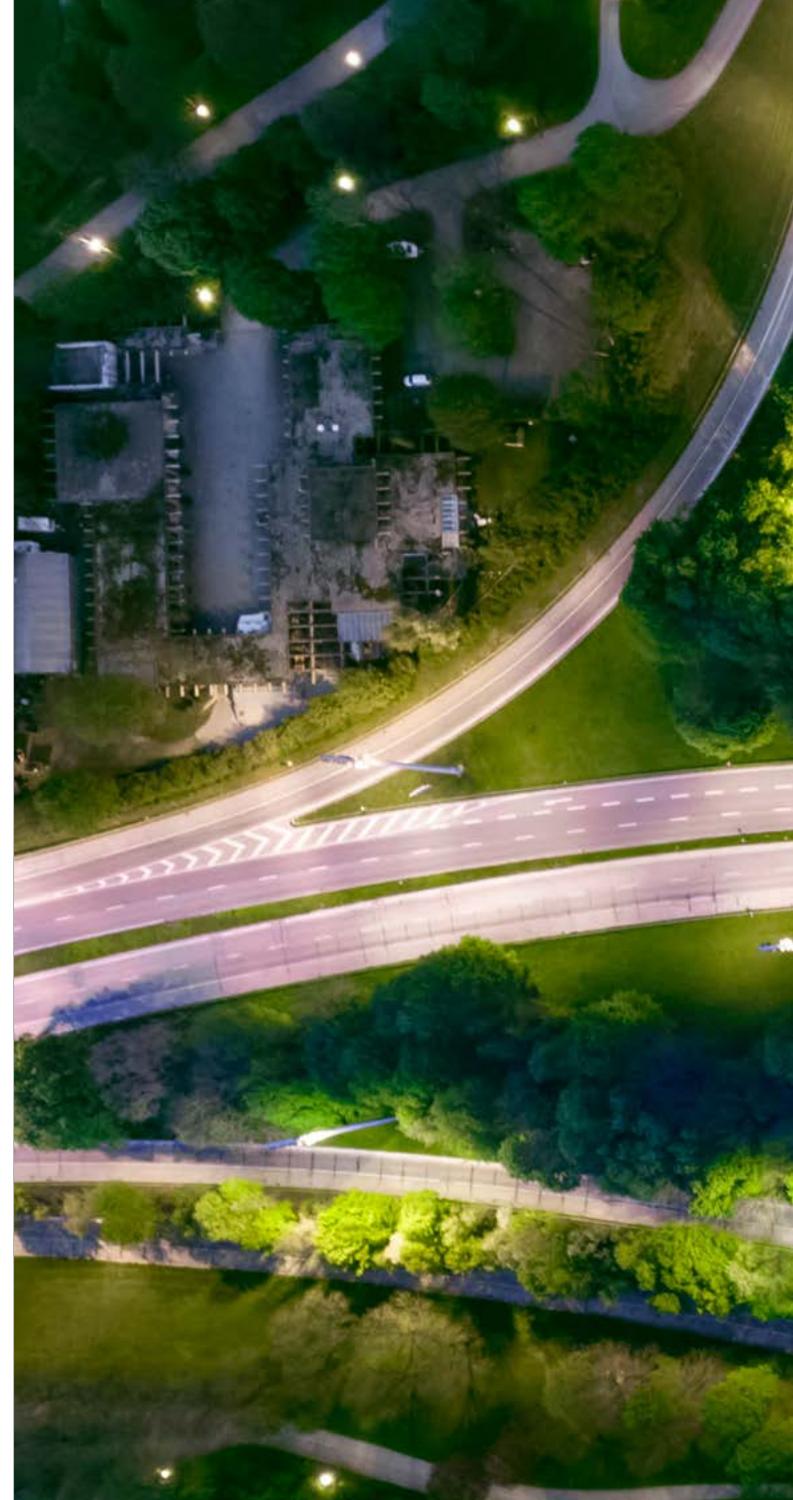
We expect double-digit growth in our technology businesses, while our catalyst business is expected to be affected by the cyclic nature of customer demand, resulting in negative growth. We continue the high level of investment in SOEC technology and Power-to-X business, as well as other investments that will ensure a continued sustainable long-term growth for our company. It is expected that these key investments will contribute to revenue growth after 2024.

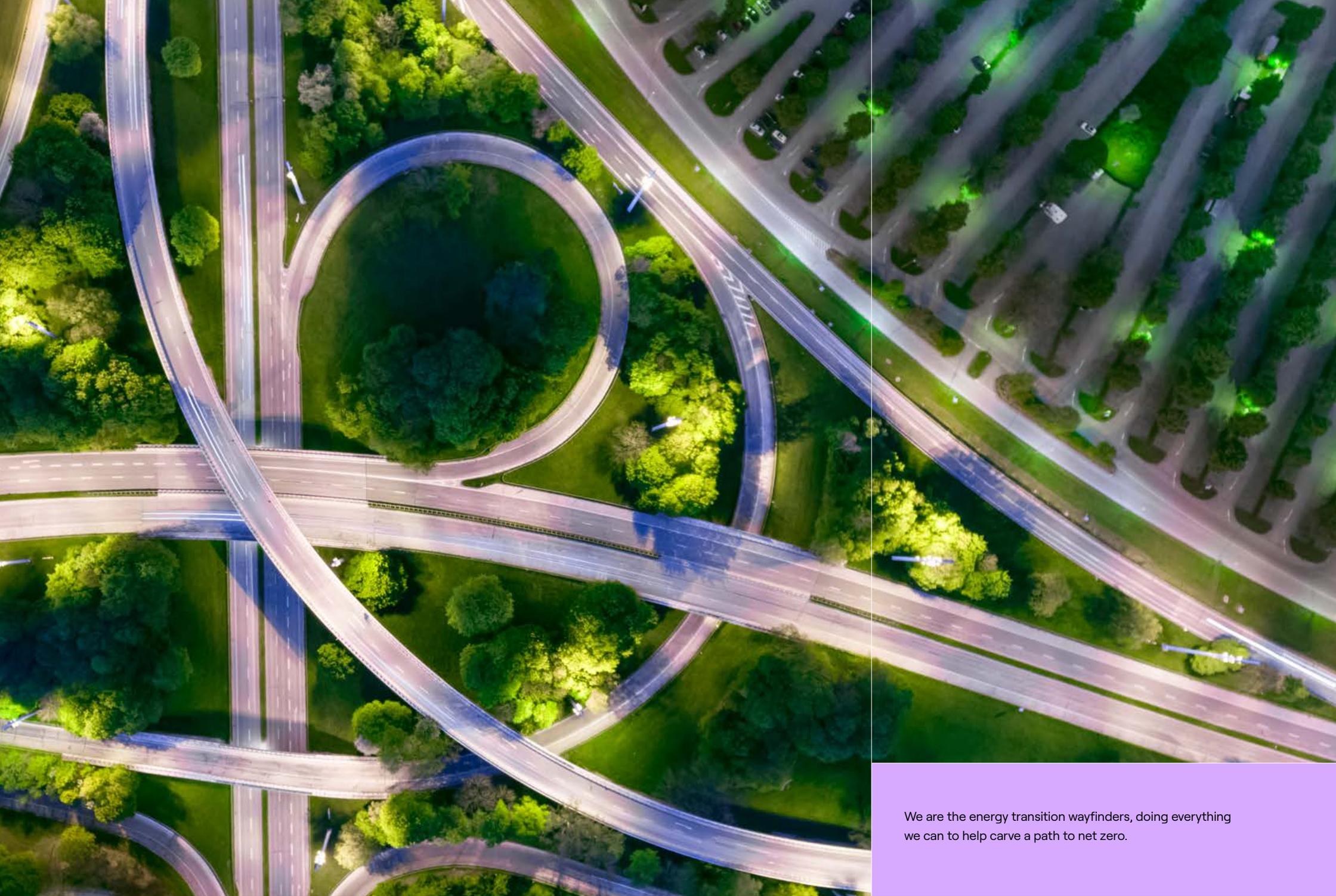
Forward-looking statements

Topsoe A/S' financial reports, whether in the form of annual reports or interim reports, as well as any presentations based on such financial reports, and any other written information released, or oral statements made, to the public based on this annual report or in the future on behalf of Topsoe A/S, may contain forward-looking statements.

These forward-looking statements are based on current plans, estimates and projections. By their very nature, forward-looking statements involve inherent risks and uncertainties, both general and specific, which may be outside Topsoe A/S' influence, and which could materially affect such forward-looking statements.

Topsoe A/S cautions that a number of factors, including those described in the risk management part of this report, could cause actual results to differ materially from those contemplated in any forward-looking statements.





We are the energy transition wayfinders, doing everything we can to help carve a path to net zero.

RISK & GOVERNANCE

Our corporate governance structures provide the overall framework for the way we manage our business. They define how we run a responsible and efficient operation; they ensure compliance with rules and regulations; they provide guidance in living up to the ethical standards we set for ourselves. Last but not least, they help us navigate the ever-changing risks that come with operating in a global environment.

In 2023, we have started to build the foundation for managing risks as an integral part of the way we manage our business. The motivation behind all our initiatives this year has been to ensure that risk management is embedded in decision making and activities across the entire organization.

With robust corporate governance structures and an Enterprise Risk Management Policy in place, we have created a solid foundation for the sustainable growth of our business. One that honors our values, supports our strategy, and helps to build trust among all our stakeholders.



At our headquarters in Ravnholm, we have an SOEC test center, where we test our SOEC stacks.



RISK MANAGEMENT

As a global company, we also operate in regions that are exposed to geopolitical and macroeconomic instability, such as Ukraine. We monitor and manage the related risks closely.

A changing risk landscape

Decades with positive results demonstrate that we have a well-tested way of managing risks in our current core business. With our vision of being recognized as the global leader in carbon emission reduction technologies by 2024, we are moving into new business areas and working with new business models to support our strategy, which means exposure to new types of risks.

Our risk landscape will continue to evolve as we develop technologies to commercialize in new markets and expand offerings in our core businesses.

To maintain our status as a trusted company and to ensure the future success of our business, it is imperative that we are set up to manage both existing and new risks.

Laying down the cornerstones for a solid risk structure

Starting at the executive level, we have increased the focus on risks under the mandate of our

Audit, ESG and Risk Committee. As of 2023, the committee is responsible for keeping a company-wide view of the most significant risks affecting our company, including sustainability impacts, risks and opportunities.

At company level, we updated our Enterprise Risk Management Policy and clarified roles and governance frameworks to strengthen the focus on risk and ensure collaboration across business areas and teams.

At a practical level, this means that all departments are now responsible for managing their own risks. To support them in their work, we have set up a specific Risk Management team, which helps to facilitate risk management activities and ensure alignment throughout the company.

This translates into an enterprise risk management process where senior managers in every part of the organization work closely with the Risk Management team to identify and assess the risks specific to their area that might have an adverse impact across the whole of our business. They also evaluate and agree on actions to address the risks.

The risks identified as most critical are then assigned to a member of the Senior Leadership Team who becomes owner of the risk and responsible for initiating identified mitigations. Finally, the Senior Leadership Team, the Audit, ESG and Risk Committee, and the Board of Directors are responsible for overseeing progress in mitigating the identified risks. This process was initiated in 2023 and will continue in 2024.

In 2023, we matured our assessment of sustainability impacts from a financial risk perspective via the double materiality assessment. This has provided us with better understanding of how sustainability impacts can affect our business financially. Assessment of financial materiality of sustainability impacts will be embedded in the enterprise risk management process moving forward.

Mapping our risks

In the 'risk area' chart, we describe the risks that are most critical to our business as well as the actions we take to protect company assets and opportunities by mitigating these risks.

The risk picture covers our entire value chain. The top risks not only reflect uncertainties inherent to our business but also worldwide uncertainties affecting global companies.

	GEOPOLITICAL AND ECONOMIC INSTABILITY	TECHNICAL AND COMMERCIAL DEVELOPMENT OF THE POWER-TO-X BUSINESS AREA
Risk description	<p>As a global business, we operate in regions that are exposed to geopolitical and macroeconomic instability. This exposes us to risks that could adversely affect the demand for our technologies as well as our ability to deliver our solutions to market.</p> <p>Geopolitical instability may also impact our ability to source raw materials, energy and other components used in our supply chain. Russia's invasion of Ukraine is an example of this risk materializing.</p>	<p>Our decision, in 2022, to develop our Power-to-X (PtX) business and build a first-of-a-kind SOEC manufacturing plant comes with several risks. There are the risks inherent in constructing the facility itself. Building a SOEC plant requires managing engineering, procurement and construction activities, performed internally or by sub-contractors. Developing state-of-the-art technology like SOEC inherently includes risks. And with commercialization comes the risks related to contractual obligations and developing a market that is still relatively new.</p> <p>The construction of the factory in Herring, Denmark, is progressing according to both budget and timeline. With respect to technology risk, the testing of the SOEC technology during 2023 has progressed in line with the milestones of the technology roadmap</p>
Impact	<p>A geopolitical conflict or major macroeconomic disruption could limit our ability to produce and/or sell our solutions in one or more markets. It could also result in unfavorable market conditions for new projects, which, in turn, could significantly affect our short and long-term financial results.</p>	<p>Should the risks related to the construction of the SOEC factory materialize, we could face increased costs and delays in terms of when the production can start. This could have an impact on commercialization of our electrolyzers and result in liabilities towards our customers. In addition, if the PtX market does not take off as expected, we could win fewer contracts than we have projected.</p> <p>Finally, if we do not manage to onboard and retain the right talent, we might see delays in maturing the technology, in executing the construction of the SOEC factory, and in developing a commercial pipeline in this area.</p>
Mitigating actions	<p>To mitigate these risks, we will:</p> <ul style="list-style-type: none"> → monitor and manage geopolitical tension and political risks in key markets, which might have a negative effect on our business. <ul style="list-style-type: none"> · liaise with governments, regional/ international organizations and other external stakeholders to assess the likelihood of disruptive events. · define different risk scenarios to assess the need for mitigating actions and implementation of contingency plans → secure proper contractual frameworks to reduce exposure to potential and emerging risks → consider alternative production scenarios and closely monitor raw material prices → secure proper payment security 	<p>To mitigate these risks, we will:</p> <ul style="list-style-type: none"> → run continuous risk management procedures during engineering, procurement, and construction of the SOEC factory (for instance, by testing the designed solutions at our suppliers or in our R&D facilities) → mature the SOEC technology to ensure robustness and stability by running dedicated tests → actively position and promote Topsoe as a leading supplier of PtX solutions, generating awareness of our ability to deliver within this emerging sector. These activities will support lead generation in pursuit of commercial targets → launch ongoing initiatives to support employee acquisition and retention
Links to sustainability	<p>Changes in countries' political leadership can impact climate policy.</p>	<p>PtX is an effective way to decarbonize human activities. Any failure to develop our PtX area would result in us not being able to deliver on our ambitious commitments towards climate change and sustainability.</p>

	OPERATION DISRUPTION	CYBER RISKS
Risk description	<p>Global instability following the COVID-19 pandemic, the Russian invasion of Ukraine and war in the Middle East can affect the supply of energy and raw materials. In addition, our catalyst production processes rely heavily on the use of complex equipment, the supply of which may also be affected by global instabilities. Despite these challenges, we have not experienced major disruptions, and we have been able to continue production more or less as usual.</p> <p>We have built a new production unit in Bayport, US and will increase production capacity there from 2024.</p>	<p>In recent years, major cyber-attacks have been launched against companies all over the world and across all industries. Unfortunately, we have seen an increase in serious operations conducting cyber-attacks closer to our business. As a knowledge-based and increasingly digitized company, we are exposed to information security risks, and we are continuously monitoring the area.</p>
Impact	<p>Disruption in raw material supply, limitations in access to energy, or breakdown of equipment could mean that production would not happen as planned, with delays to projects or deliveries.</p>	<p>Should our company be exposed to a major cyber-attack, it could lead to severe business disruption and/or loss of confidential information.</p>
Mitigating actions	<p>To mitigate these risks, we will:</p> <ul style="list-style-type: none"> → consolidate emergency preparedness plans → secure delivery agreements → keep inventory levels → perform preventive and predictive maintenance of equipment → establish LNG and LPG plants in Frederikssund 	<p>To mitigate these risks, we will:</p> <ul style="list-style-type: none"> → implement our Security Improvement Program, which will significantly improve our resilience towards cyber-attacks → engage in Cyber Communities via the Danish Cyber Defense Alliance group as well as Istari-Global (part of Temasek) → address information security as an integral part of all future IT projects
Links to sustainability	<p>None</p>	<p>A successful cyber-attack could compromise our objectives regarding sustainability.</p>

	ATTRACTING AND RETAINING THE RIGHT WORKFORCE TO MATCH BUSINESS DEMAND	INCREASING COMPLEXITY IN REGULATORY CHEMICALS LEGISLATION
Risk description	Our vision is to become recognized as a global leader in carbon emission reduction technologies. To deliver on this vision, we must be able to attract and retain highly qualified people, who are committed to our company values and our commercial ambitions. We strive to be an employer of choice, able to attract, develop, and retain highly qualified talents with high engagement and commitment to the company values and business ambitions.	As a global business, we need to comply with chemicals legislation in various regions. Although UN based guidelines set the standards for chemicals legislation, regional/national implementation increases the complexity. Updates to legislation related to chemicals may result in restrictions on the use of some critical substances in our products, stricter requirements for exposure and emissions from our operating plants, or on materials in production equipment. An example of this risk is the EU proposal to restrict PFAS, published in the beginning of 2023. The proposal covers, among other things, substances that are components in a wide range of equipment in our production facility. If this proposal is realized, it may be a challenge to find replacement materials and fulfil the technical requirements regarding resistance to harsh production conditions, ensuring tightness and avoiding emissions to the workplace and the environment. Hence, we have provided input to the Public Consultation on this proposal that ended 26 September 2023.
Impact	If we cannot attract and retain people with the skills we need, this can be an impediment to our growth.	Should the risk materialize, it could have an impact on the manufacturing or the use of some of our products. However, updates to the legislation can also give a competitive advantage to some of our products.
Mitigating actions	To mitigate these risks, we have: <ul style="list-style-type: none"> → acquired new and diverse capabilities and grown the workforce significantly → revitalized our values (Topsoe Spirit) and launched campaigns to communicate a strong employee value proposition and become attractive as a future employer → strengthened internal talent pipeline through development programs for leaders and specialists → initiated the upgrade of workplace facilities → offered attractive compensation packages, including global employee bonus and share program → offered employee health insurance and health activities → focused on mental well-being awareness, education and support programs → surveyed employees bi-annually to monitor engagement and satisfaction, and implemented improvement initiatives → given access to an extensive global education program for all employees through LinkedIn Learning → tailored individual development plans for all employees 	To mitigate these risks, we will: <ul style="list-style-type: none"> → closely monitor the legislative process → strengthen relations to and increase participation in global fora focusing on development of chemical regulations → engage in relevant industry activities related to legislative processes, e.g., public consultations, development of position papers etc.
Links to sustainability	Ensuring that we attract and retain the right workforce supports us in reaching our goals related to social performance.	Compliance with chemical regulation and safe handling of chemicals is essential, as catalysts play a key role in our decarbonization technologies and our commitments towards climate change and sustainability.

	TRADE CONTROLS AND BUSINESS ETHICS	INFRINGEMENT OF INTELLECTUAL PROPERTY
Risk description	<p>As our supply chain and customer base are global, we are exposed to the risk of conducting business with sanctioned or otherwise restricted counterparties, or in countries subject to trade prohibitions. The global nature of our business also involves the risk of us, directly or via intermediaries, winning or retaining business and/or other commercial advantages through corrupt practices.</p> <p>In 2023, EU trade and economic sanctions against Russia persisted, with the expiry of certain wind-down periods and imposition of new sanctions. Topsoe business operations were not impacted in any significant way by these sanctions reinforcements, having already been adjusted robustly in 2022.</p>	<p>We invest a significant portion of our revenue in research and development (R&D). For this reason, patents – or, more broadly, intellectual property – are critical to our business. Our IP risk is two-fold: the risk of someone infringing Topsoe IP (patents, trademarks, trade secrets) or the risk of someone accusing Topsoe of infringing their IP.</p>
Impact	<p>Actual or suspected non-compliance with sanctions, export controls and anti-corruption laws and regulations could lead to significant reputational damage for our company. And actual breaches could also result in monetary penalties, contract termination and liability for breach of contract, loss of trade privileges and access to major markets, and imprisonment of individual company directors.</p>	<p>If our IP is lost or infringed, we could lose business and revenue opportunities. This would, in turn, mean we would have to spend significant resources defending our IP. If Topsoe is accused of infringing third party IP, we could be forced to stop producing and selling products and technologies. This could even lead to contractual indemnities, economic penalties, or reputational damage.</p>
Mitigating actions	<p>To mitigate these risks, we will:</p> <ul style="list-style-type: none"> → continue our compliance due diligence on agents and other intermediaries, business partners located in high-risk jurisdictions, and other high-risk counterparts, in line with our global Third Party Assurance Policy → keep running regular training among internal stakeholders to make sure they are aware of their roles and responsibility when it comes to ensuring compliance → maintain updated trade controls and anti-corruption risk assessments, based on our operational activities, changes in applicable laws and enforcement activity → continue promoting the use of the Topsoe Compliance Hotline to proactively address any practices that could lead to breach of laws and regulations 	<p>To mitigate these risks, we will:</p> <ul style="list-style-type: none"> → maintain a dedicated and highly qualified IP department → review our IP strategy regularly and make the necessary updates → ensure that Freedom to Operate analysis is integrated in the product development process and evaluated before launch of new products and technologies → ensure proper contractual regulation of IP in relevant agreements
Links to sustainability	<p>Business ethics including anti-corruption and access to well-functioning grievance mechanisms are fundamental to sustainable corporate governance. In that way, Topsoe’s anti-corruption compliance program and the Topsoe Compliance Hotline are essential elements of Topsoe’s sustainability efforts.</p>	<p>None</p>

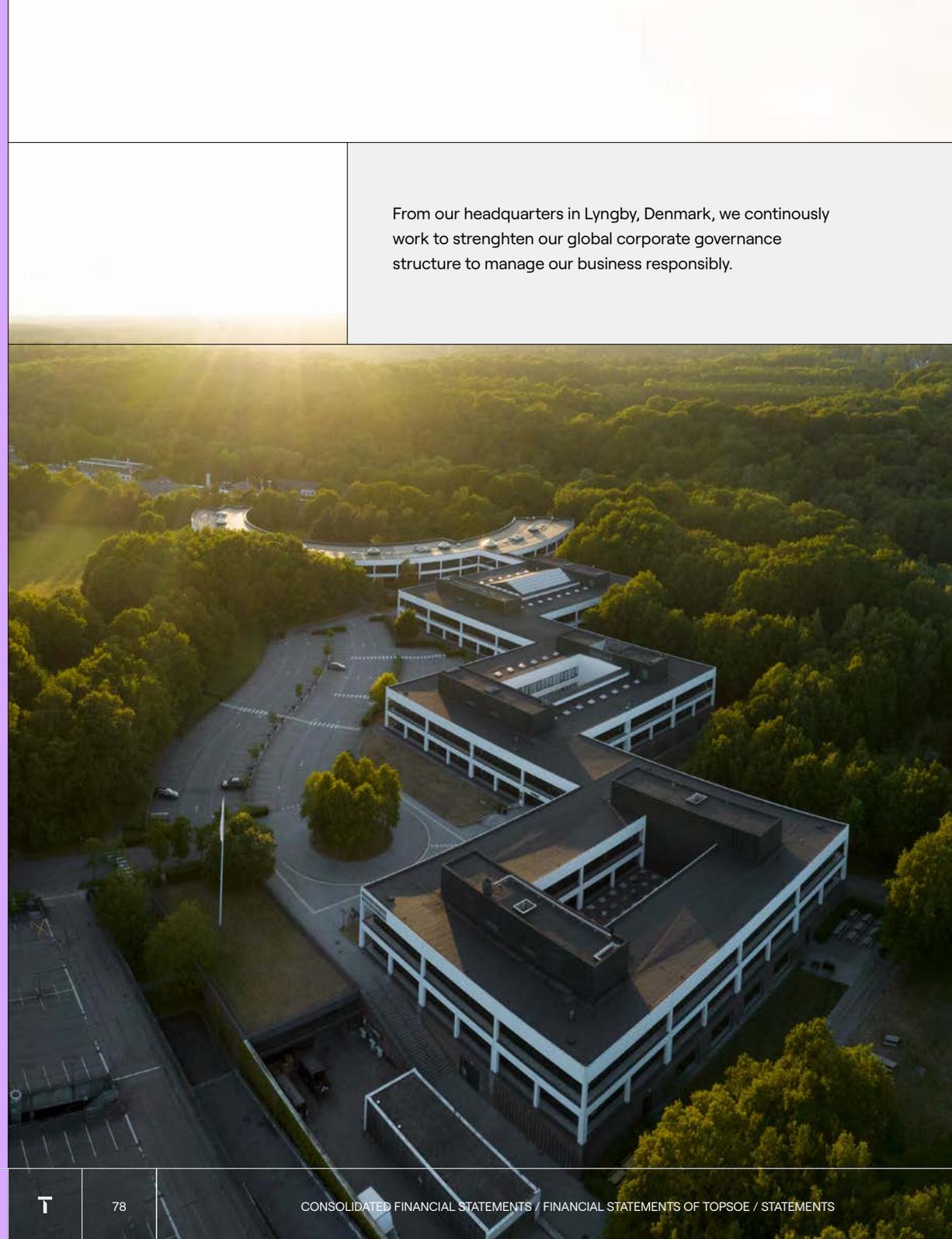
	HEALTH AND SAFETY	SECURITY
Risk description	<p>The manufacturing of catalysts involves the use of hazardous substances and materials. Management of these substances and materials is a continuous focal point for Topsoe both in relation to the safety of our colleagues in the operation dealing with the hazardous substances and materials but also hazards in relation to Process Safety where mitigation of and recovery from unintentional hazardous materials releases are in focus. The focus on Process Safety is both in relation to ongoing projects at our production sites, but also in EPCM projects where our involvement continuously increases and therefore will equally be more important. During the year, we did not experience events directly related to the management of hazardous substances and materials in the catalyst production.</p>	<p>As is the case for most companies, we are exposed to an ever-evolving landscape of security threats. So, to ensure a safe and secure environment, we need to apply relevant security measures that are aimed at reducing risk and enabling all business operations.</p> <p>We work together with employees, clients, and contractors to achieve a stable, secure, and safe environment in which the business, its individuals and teams may pursue their legitimate objectives without disruption or harm, and without fear of loss or injury. The Security function strives to ensure that the company can continue its business activities without interruption.</p>
Impact	<p>Should Topsoe make errors in the design related to Process Safety measures, it will have a significant impact both financially and reputation-wise amongst clients and potential clients. If we fail to operate safely Topsoe could potentially injure our people and breach applicable law.</p>	<p>Security threats can potentially disrupt operations, which may result in financial losses, impact our brand reputation, and damage customer trust.</p>
Mitigating actions	<p>To mitigate these risks, we will:</p> <ul style="list-style-type: none"> → continue our “Zero Harm” program to ingrain a culture of safety awareness across the organization and enhance a continuous risk awareness when working at or visiting a Topsoe site → focus on barriers and controls in relation to assessing risks both at our production sites when working with hazardous substances and materials and at our research facilities as well as for our travelling colleagues → increase focus on Process Safety and ensure dedicated resources are in place to increase the organizational knowledge in the various Process Safety disciplines → conduct specific training for our process engineers to create awareness and knowledge within safety design and functional safety 	<p>To mitigate these risks, we will:</p> <ul style="list-style-type: none"> → promote a good corporate culture that contributes to the sustainable development and protection of people, assets, the environment, our reputation, stakeholders, and information → uphold a duty of care – i.e. our moral and legal responsibility to safeguard the well-being of our employees and to secure our assets globally → protect our employees, assets, and production facilities, so that we, to the greatest extent possible, prevent crisis situations from happening, and are prepared to handle them if they occur → maintain an emergency and crisis management response system that is scalable according to severity and applicable to any kind of crisis with a view to limiting the impact on people, the environment and other assets, and to ensure business continuity of the company → maintain our three-tiered response that ensures alignment across all levels of the organization. → develop a comprehensive and consistent global approach to physical security → strengthen awareness around the threat from insiders and industrial espionage → improve and integrate our current resilience capabilities by ensuring that significant operational risks for supply chain, physical security and people as well as the risks associated with the availability of raw materials are addressed
Links to sustainability	<p>Health and safety is a key social impact topic under ESG and one of the salient human rights impacts for Topsoe.</p>	<p>Our zero harm targets could be impacted by a security-related incident – for example acts of crime and violence or breach in security.</p>
		<p>FINANCIAL RISKS</p> <p>Financial risks are described in the section on financial assets and liabilities</p>



Risk management plays a key role in our operations, such as in relation to the storage of liquid chemicals and petrochemical products.

CORPORATE GOVERNANCE

From our headquarters in Lyngby, Denmark, we continuously work to strengthen our global corporate governance structure to manage our business responsibly.



Managing our business responsibly

We are committed to being compliant, transparent, and responsible in everything we do. Our corporate governance structures help us live up to that commitment. They lay down the framework for how we manage our business, apply controls to our operations and give us a clear view of performance. In this way, they help to demonstrate our accountability and integrity. The structures also reflect who we are as a company – our culture – and the priority we give to ensuring that our people and shareholders can voice their opinion. Finally, our corporate governance structures allow us to absorb outside influences and learn from others. In this sense, they become an effective instrument for spotting opportunities as well as identifying risks and challenges – so we can respond efficiently and decisively to both.

Corporate governance structures

Legislation provides the overall framework for governance in Topsoe, and our corporate governance structures are defined within this framework. For this purpose, we take inspiration from the Danish Recommendations on Corporate Governance, which apply to listed companies, and we are committed to continue to keep strengthening our practices accordingly.

Other key corporate governance structures in Topsoe include the Articles of Association of Topsoe A/S, the Rules of Procedure for the Board of Directors; and charters for each of its committees, as well as Topsoe's Code of Conduct, Data Ethics & IT Security Policy and a comprehensive set of internal policies and procedures.

In the following, we provide a description of our ownership, the main structures governing the management of our company, and the codes we have in place for ensuring responsible, respectful and ethical business conduct. For all other governance policies and procedures, please visit → [Topsoe.com](https://www.topsoe.com)

Shareholder and ownership structure

Topsoe A/S is an unlisted, privately-owned company and the parent company of the Topsoe Group.

Topsoe A/S is owned by Topsøe Holding A/S (~68%), Dahlia Investment Pte. Ltd. (~29%), and company employees through the Employee Share Program (~2%). The remaining ~1% is made up of treasury shares. Topsøe Holding A/S is wholly owned by the Topsøe family.

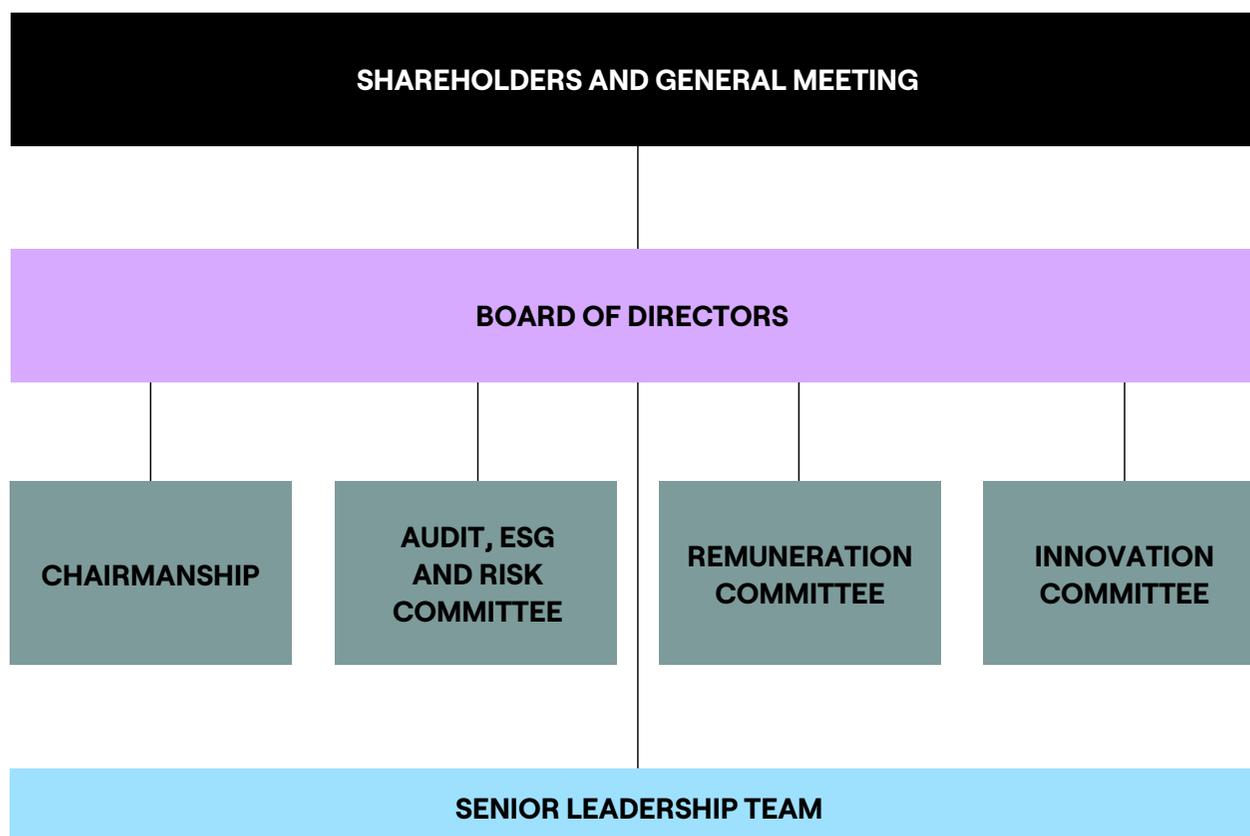
The family's strong commitment to our long-term growth strategy and continued development is fundamental to maintaining an innovative and sustainable company culture in line with the spirit of our founder. Dahlia Investment Pte. Ltd., of Singapore, is wholly owned by Temasek, an active investor committed to long-term investments and sustainable growth.

The two main shareholders of Topsoe A/S have entered into a shareholders' agreement.

General meeting

The general meeting is the supreme governing body of Topsoe A/S. At the general meetings, shareholders exercise their rights, for example by electing board members and the external auditor, approving annual reports and dividends, and deciding on amendments to the Articles of Association and on any proposals from shareholders or the Board.

GOVERNANCE STRUCTURE



Generally, resolutions can be passed by a simple majority, unless legislation or the company's Articles of Association stipulate otherwise. But resolutions to amend the Articles of Association need two-thirds of the votes cast and capital represented.

Board of Directors

Topsoe A/S has a two-tier management structure consisting of the Board of Directors and the Senior Leadership Team. The Board of Directors is responsible for the overall management and strategic direction of Topsoe A/S. It also supervises the execution of the strategy, as well as the performance of the company and the Senior Leadership Team and must ensure proper organization of the company's business. The Senior Leadership Team, in turn, is responsible for the day-to-day management of the company. The two bodies are independent, and no one serves as a member of both. The Board of Directors' duties and responsibilities are set out in more detail in its Rules of Procedure.

Board composition

According to the Articles of Association of Topsoe A/S, the Board of Directors must consist of six to nine members elected by shareholders at the Annual General Meeting. Shareholder-elected board members serve for a one-year term and can be re-elected. Under Danish law, the company's employees are also entitled to elect a number of board members,

equal to half the number of shareholder-elected board members. Employee-elected board members serve for a statutory four-year term and can be re-elected. The employee-elected board members have the same rights, duties, and responsibilities as shareholder-elected board members.

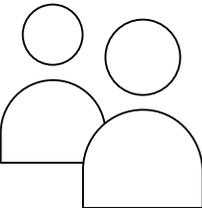
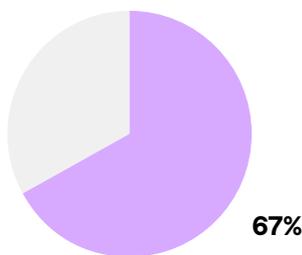
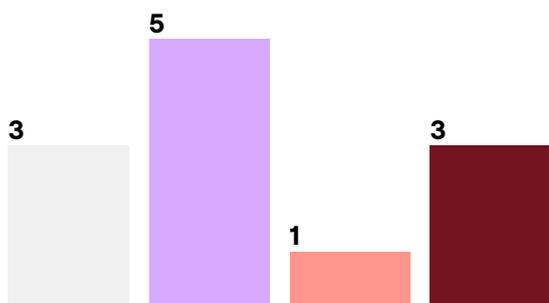
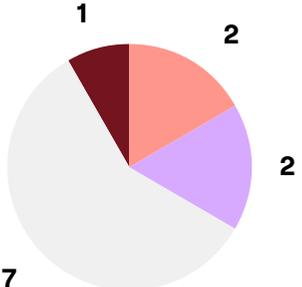
As of December 31, 2023, the Board of Directors of Topsoe A/S had 12 members – eight elected by shareholders and four elected by employees. At an Extraordinary General Meeting held in August 2023, Jørgen Huno Rasmussen and Jan Kreibaum stepped down from the Board of Directors after serving on the Board since 2013 and 2020, respectively. They were replaced by Susana Quintana-Plaza and Ines Kolmsee, both bringing strong capabilities within management, strategy and energy-related business → [Explore](#).

Board competencies and diversity

The Board of Directors strives to be diverse in gender, nationality, age, international experience, qualifications, and competencies. The board comprises five different nationalities, and board members bring a variety of backgrounds in business, engineering, physics, economy and law, coupled with extensive experience and expertise across a wide range of sectors, businesses and institutions.

As of December 31, 2023, the Board had three female board members out of the eight elected by shareholders. For this reason, the Board of Directors

BOARD DIVERSITY

Gender	Nationality
 <p>50% Female 50% Male</p>	 <p>33% 67%</p> <ul style="list-style-type: none"> Danish Non-Danish
Tenure	Age
 <p>3 5 1 3</p> <p>0-2 yrs 3-6 yrs 7-10 yrs 10+ yrs</p>	 <p>1 2 2 7</p> <ul style="list-style-type: none"> 35-44 years 45-54 years 55-64 years 65+ years

MEETING ATTENDANCE IN 2023

	BOARD OF DIRECTORS	AUDIT, ESG & RISK COMMITTEE	REMUNERATION COMMITTEE	INNOVATION COMMITTEE
Elected by shareholders:				
Jeppe Christiansen	7 / 7	4 / 4	5 / 5	-
Jakob Haldor Topsøe	7 / 7	4 / 4	5 / 5	-
Benoit Valentin	7 / 7	-	5 / 5	-
Christina Teng Topsøe	6 / 7	-	-	4 / 4
Rohit Sobti	7 / 7	4 / 4	-	4 / 4
Jens Kehlet Nørskov	7 / 7	-	-	3 / 4
Susana Quintana-Plaza ²	2 / 2	-	-	1 / 1
Ines Kolmsee ²	2 / 2	1 / 1	-	-
Elected by employees:				
Anders Broe Bendtsen	7 / 7	-	-	4 / 4
Christina Borch	7 / 7	-	-	-
Lis Ibsen	7 / 7	-	-	-
Line Holten Kollin ³	7 / 7	1 / 1	-	-
Board members who stepped down in 2023:				
Jørgen Huno Rasmussen ⁴	5 / 5	-	3 / 3	-
Jan Kreibaum ⁴	2 / 3	-	-	1 / 2

¹ Number of meetings attended by each board member out of the total number of meetings. In cases where a board member was appointed or stepped down during the year, only meetings in that member's active board period are shown.

² Elected at the Extraordinary General Meeting on August 25, 2023.

³ Joined the Audit, ESG & Risk Committee in November 2023

⁴ Stepped down at the Extraordinary General Meeting on August 25, 2023.

is regarded as having equal gender representation and is therefore not required to set a gender target for the Board under the Danish Companies Act section 139c(1)(1). When including the employee-elected members, the overall composition of the Board is now six female and six male board members.

For more details about the individual board members, including independence and their other positions and directorships, see → [pages 86-88](#) and → [topsoe.com](#)

Board evaluation

The Board conducts self-evaluations of its composition, competencies and performance on a regular basis. The most recent evaluation was in 2021, performed by an external consultant working exclusively with board effectiveness reviews. The next evaluation will be conducted in the first half of 2024.

Board meetings and attendance

In 2023, the Board of Directors held five ordinary board meetings, one extraordinary board meeting and a two-day strategy session. Board members' meeting attendance during 2023 is shown in the table.

The Senior Leadership Team normally attends all Board Meetings, unless the Board is reviewing matters that relate to the leadership team itself. The Board can also invite employees from various parts

of the organization, as well as external experts, to attend parts of a board meeting if they find that they need their perspective to inform the Board's discussion on a relevant topic.

To organize and conduct board meetings in the most relevant and efficient way, the Board of Directors has established an annual wheel, outlining the main themes and areas for reporting to the Board at each ordinary board meeting. This helps to ensure that the Board covers all relevant topics during the year – from strategy, people and succession planning, to compliance, risk management and sustainability impacts, risks and opportunities.

Apart from the topics in the annual wheel, the key matters handled by the Board of Directors in 2023 included:

- Decision to establish a 50/50 joint venture between Topsoe and Sasol to produce Sustainable Aviation Fuels (SAF)
- Tight follow-up on major CAPEX projects, e.g., construction of Topsoe's SOEC factory in Herning, Denmark, and the TK3 plant in Bayport, USA.
- Review and strengthening of Topsoe's risk framework in response to the changing risk landscape and the new risks arising from moving into new

business areas and working with new business models

- In-depth discussions about Topsoe's future capital structure and funding needs
- Discussions on grant and funding opportunities provided under e.g., the US Inflation Reduction Act (IRA) and the EU Innovation Fund
- High focus on improving diversity and employee engagement across the organization
- Strengthening of Topsoe's sustainability, communications, branding and public affairs capabilities through the establishment of a new position, Chief Sustainability & External Affairs Officer. To fill that position, Topsoe welcomed Amy Chiang, who with her very strong profile and extensive experience, joined Topsoe to lead the newly formed function combining Sustainability, Public Affairs, Product Stewardship, Communications & Branding as well as the creation of the Public Private Partnership Funding Center of Excellence. Led by Amy, the company had its most impactful COP participation to date with extensive engagements with government officials, organizations and industry peers.



Board chairmanship and committees

In line with the Articles of Association for Topsoe A/S and the Rules of Procedure for the Board of Directors, the Board has established a chairmanship consisting of three members – the Chairman and two Vice-Chairmen – who are elected by the Board from among its members. The chairmanship performs preparatory and advisory tasks relevant to the business of the Board, with meetings held monthly or as needed.

The Board of Directors has also established an Audit, ESG & Risk Committee, a Remuneration Committee, and an Innovation Committee. The purpose of these board committees is to report and make recommendations to the Board.

BOARD COMMITTEES

	AUDIT, ESG & RISK COMMITTEE	REMUNERATION COMMITTEE	INNOVATION COMMITTEE
MEMBERS	<ul style="list-style-type: none"> → Jakob Haldor Topsøe (Chairman) → Jeppe Christiansen → Rohit Sobti → Ines Kolmsee → Line Holten Kollin 	<ul style="list-style-type: none"> → Jeppe Christiansen (Chairman)¹ → Jakob Haldor Topsøe → Benoit Valentin 	<ul style="list-style-type: none"> → Jens Kehlet Nørskov (Chairman) → Christina Teng Topsøe → Rohit Sobti → Susana Quintana-Plaza → Anders Broe Bendtsen
KEY RESPONSIBILITIES Assists the Board of Directors with:	<ul style="list-style-type: none"> → Financial and ESG reporting, including internal controls → External auditors → Financial risk management and financial counterpart exposure → IT/cyber security → Tax and insurance coverage → Funding plan 	<ul style="list-style-type: none"> → Salary reviews → Remuneration of the Board, board committees and the Senior Leadership Team → Employee bonus scheme and short- & long-term incentive programs → Employee Share Program (ESP) 	<ul style="list-style-type: none"> → Innovation strategy → Innovation portfolio → Innovation performance & culture
KEY MATTERS HANDLED IN 2023	<ul style="list-style-type: none"> → Review long term financial planning → Cyber security improvement plan → ESG reporting requirements → Update of Audit Committee Charter → Review of financial and sustainability reporting, risk management, tax matters and insurance coverage 	<ul style="list-style-type: none"> → Retention programs → Review of SLT, Board and board committee remuneration → Design of ESP 2025 and beyond → Design of LTI programs 2022 and beyond 	<ul style="list-style-type: none"> → Review of key innovation projects → Review of new business opportunities and key innovation developments → Review of innovation strategy → Review of innovation portfolio and portfolio management system → Review of updated Innovation Committee Charter

¹ Jeppe Christiansen replaced Jørgen Huno Rasmussen as Chairman as from August 25, 2023

Each committee is governed by its own charter, which describes, among other things, the composition of the committee, how often it meets, and its tasks, duties and responsibilities.

All committee members are elected by the Board from among its members, with due consideration being given to make sure that the members elected have the relevant and necessary qualifications for the committee in question. If appropriate, the board can also appoint external specialists to committees.

Our Topsoe Code of Conduct and Topsoe Compliance Hotline

Acting in line with applicable laws and requirements is fundamental to our long-term success as a business and integral to our values. It is our license to operate in an increasingly demanding global business environment.

Across teams and divisions, we always strive to act responsibly and professionally, as well as with integrity and respect, when we navigate the complexities of our business environment. We actively seek out and follow our policies, procedures, business processes, instructions, and other internally available tools. We conduct business in line with regulations and our high ethical standards, and we always interact with business partners and public

officials with integrity. We stand against corruption because it is illegal and unfair.

Our Topsoe Code of Conduct gives us clear guidance on what constitutes responsible, ethical behavior. It sets standards for our behavior by defining the principles we must follow when representing Topsoe. Further, it outlines how we expect our employees to approach their daily work, so we consistently operate with integrity.

We encourage dialogue with our stakeholders, including reporting of any concerns to the relevant Topsoe leader or contact person, to our Legal, Compliance, or HR functions, or if preferred, via the Topsoe Compliance Hotline. The Topsoe Compliance Hotline, a confidential, third-party administered, online access channel, gives Topsoe's people, partners and affected members of the public a way to speak up, anonymously if desired, about any issue that they believe could pose a serious threat to life, health, or the environment, and/or any material threat to Topsoe as a company. The Topsoe Compliance Hotline is accessible at [→ www.topsoe.com/Compliance-Hotline](https://www.topsoe.com/Compliance-Hotline).

Each year, our Compliance function assesses the functioning and suitability of the structures in place at Topsoe that help us meet our commitments as

described in the Code of Conduct. The results go to our Compliance Committee and to the Board of Directors as part of annual compliance reporting. The Compliance Committee also monitors our compliance programs on anti-corruption, trade controls & sanctions, and general business ethics. In 2023, we have updated our Topsoe Code of Conduct to incorporate Topsoe's new corporate visual identity and tone of voice and developed a new version of the mandatory e-learning that encompasses key elements of the Code of Conduct. The new Topsoe Code of Conduct and e-learning will be rolled out in 2024. In 2023, we have continued to raise awareness around our Compliance Hotline and train employees in how and when to use the hotline following our global campaign in 2022. During this year, we have also focused on maturing the way we work with due diligence and compliance risks. We updated our third-party risk matrix aligning it with our newly updated process for Enterprise Risk Management (ERM).

In 2024, we will embed awareness messaging on the Topsoe Code of Conduct and Topsoe Compliance Hotline in Topsoe's internal and external communications. In addition, we will continue to conduct internal monitoring and assurance activities to secure the continued effectiveness of our compliance programs.

Data ethics and IT security

Digitization brings a world of opportunities for new ways of working. But it also represents new responsibilities when it comes to handling and protecting data. At Topsoe, we use a variety of technologies when processing data. We also rely on data to provide services and improve product offerings. For us, data is a very valuable asset, which we treat with sensitivity and respect.

Protecting our knowledge, and that of our customers, is critical and calls for constant vigilance when it comes to data security. Ensuring that appropriate measures are in place to safeguard ethical data processing within the Topsoe Group is a natural part of doing business in Topsoe.

Data ethics goes beyond compliance with data privacy laws. We comply with all legal requirements but acknowledge and respect that our use of data (both personal and non-personal data) may create risks for the users that applicable laws do not cover. We manage these risks by adhering to the principles in our Data Ethics Policy. Our data ethics principles cover transparency, data quality, fairness and non-discrimination, autonomy, ethics by design, responsible data sharing and accountability.

See our [Data Ethics Policy here](#) →

BOARD OF DIRECTORS

¹ As defined in the Danish Recommendations on Corporate Governance.
² According to the Danish Recommendations on Corporate Governance, Jeppe Christiansen is not considered independent, as he has been a member of the Board for more than 12 years.

				
	JEPPE CHRISTIANSEN CHAIRMAN	JAKOB HALDOR TOPSØE VICE CHAIRMAN	BENOIT VALENTIN VICE CHAIRMAN	CHRISTINA TENG TOPSØE
NATIONALITY BORN GENDER INDEPENDENCE¹ FIRST ELECTED	Danish 1959 Male No ² 2010	Danish 1968 Male No 2010	French 1968 Male No 2019	Danish 1981 Female No 2013
POSITIONS AND MANAGEMENT DUTIES	<ul style="list-style-type: none"> • CEO and founder of Maj Invest Holding A/S and two wholly owned subsidiaries, all in Denmark • Chairman of Emlika Holding ApS and two wholly owned subsidiaries • Chairman of JEKC Holding ApS • Member of the Board of Directors of Novo Holdings A/S, KIRKBI A/S, USTC, Pluto Naturfonden, Lone Dybkjær Fonden and Randers Regnskov (Fonden), all Denmark, and member of the Board of Directors of BellaBeat Inc., US. • Adjunct Professor, Department of Finance, Copenhagen Business School, Denmark. 	<ul style="list-style-type: none"> • Chairman of the Board of Directors of Topsøe Holding A/S • Member of the Board of Directors of IGM Biosciences, Inc. • Member of the Board of Directors of Centaflow A/S • Member of the Board of Directors of AMBROX Capital A/S 	<ul style="list-style-type: none"> • Deputy Head EMEA, Head of Private Equity Fund Investments, Head of Impact Investing at Temasek • Member of the Board of Directors of Tikehau Capital Associés, Tana Africa Capital, Axereal Malt Holding and Leapfrog Investments 	<ul style="list-style-type: none"> • Vice Chairman of the Board of Directors of Topsøe Holding A/S • Member of the Board of Directors of IGM Biosciences, Inc. • Vice Chairman of the Board of Directors of Centaflow A/S
EDUCATION	MSc in Economics from University of Copenhagen, Denmark (1985)	Graduate Diploma in Business Administration from Copenhagen Business School, Denmark (1994)	MA in Business from HEC Paris (École des Hautes Études Commerciales de Paris), France (1990)	Bachelor of Laws (LL.B.) at SOAS, University of London, UK (2006) and LPC at the University of Law, London, UK (2007). MBA from Columbia Business School, USA and London Business School, UK (2018).

BOARD OF DIRECTORS

¹ As defined in the Danish Recommendations on Corporate Governance.
² According to the Danish Recommendations on Corporate Governance, Jens Kehlet Nørskov is not considered independent, as he has been a member of the Board for more than 12 years.

				
	ROHIT SOBTI	JENS KEHLET NØRSKOV	SUSANA QUINTANA-PLAZA	INES KOLMSEE
NATIONALITY BORN GENDER INDEPENDENCE¹ FIRST ELECTED	Singaporean 1967 Male No 2019	Danish 1952 Male No ² 2010	Spanish 1974 Female Yes 2023	German 1970 Female Yes 2023
POSITIONS AND MANAGEMENT DUTIES	<ul style="list-style-type: none"> Deputy Head, Investments, in Temasek's Industrials, Business Services and Energy cluster Member of the Board of Directors of Schneider Electric India Pvt. Ltd. Member of the Board of Directors of Juniper Aviation Investments Pte. Ltd. 	<ul style="list-style-type: none"> Villum Kann Rasmussen Professor, Catalysis Theory Center, Technical University of Denmark Chairman of the Board of The Danish National Research Foundation 	<ul style="list-style-type: none"> Member of the Board of Directors of Hexagon Purus Strategic Advisor for Emerald Technology Ventures and DANTE AeroNautical 	<ul style="list-style-type: none"> General Partner at Matterwave Ventures Independent member of the Board of Directors of Etex SA, Boralex INC and Prysmian SPA
EDUCATION	MBA from the Institute of Management Technology, India (1992) and B.Eng. Electronics from the B.M.S. College of Engineering, India (1989).	PhD from Aarhus University, Denmark (1979), and honorary doctorates from Technical University of Eindhoven (2006), Norwegian University of Science and Technology (2012), and Technical University of Munich (2018).	MBA from Harvard Business School, and a BSc and MSc in Aeronautical and Astronautical Engineering from the University of Washington.	MBA from INSEAD, MSc. in Process and Energy Engineering from the Technical University Berlin, and a Master's Degree from Ecole des Mines de St. Etienne.

BOARD OF DIRECTORS

¹As defined in the Danish Recommendations on Corporate Governance.

				
	ANDERS BROE BENDTSEN EMPLOYEE REPRESENTATIVE	CHRISTINA BORCH EMPLOYEE REPRESENTATIVE	LIS IBSEN EMPLOYEE REPRESENTATIVE	LINE HOLTEN KOLLIN EMPLOYEE REPRESENTATIVE
NATIONALITY BORN GENDER INDEPENDENCE¹ FIRST ELECTED	Danish 1966 Male No 2018	Danish 1968 Female No 2018	Danish 1961 Female No 2019	Danish 1984 Female No 2022
POSITIONS AND MANAGEMENT DUTIES	Senior Patent Counsel in the Intellectual Property Department in Global Legal Affairs. Topsoe A/S	Process Technical Leader in the TK production in Global Supply, Topsoe A/S	Research Specialist in the Clean Air Applications Department in R&D, Topsoe A/S	Manager Production Support, Technology Development, Power-to-X, Topsoe A/S
EDUCATION	PhD in Chemical Engineering from the Technical University of Denmark (1999), registered European Patent Attorney (2012)	Academy Profession Degree in technology (1991)	Professional Bachelor's Degree as a Laboratory Technician specializing in chemistry (1996)	PhD in Hydrogen Storage Materials within the field of nanotechnology and inorganic chemistry (2012)



Topsoe's headquarters have been located in Lyngby, Denmark since 1975.



SENIOR LEADERSHIP TEAM

Our Senior Leadership Team is responsible for the day-to-day management of the company. It observes the recommendations, guidelines, and decisions issued by the Board of Directors, and makes sure there is timely reporting and information for our shareholders, the board and other stakeholders.

The Senior Leadership Team also submits and recommends proposals for our overall strategy, objectives, and policies to the board, as well as being responsible for implementing them.

The Senior Leadership Team consists of the CEO, CFO and CCO, as well as the global heads of Power-to-X, Strategy & Innovation, Operations, R&D, Human Resources, Sustainability & External Affairs, Transformation and Legal Affairs.

The CEO, CFO, and CCO (the Executive Management) are the company's registered directors and signatories with the Danish Business Authority.

During 2023, Topsoe A/S announced these changes to its Senior Leadership Team: Allan Bødskov Andersen joined as the new CFO, and Amy Chiang joined in the newly created role of Chief Sustainability & External Affairs Officer. Morten Holm Christensen entered the role of Chief Transformation Officer after being interim CFO.

Throughout the year, the Senior Leadership Team has handled a wide range of business matters, including zero harm, people development, new projects, product development and more.

For more details on the current members of the Senior Leadership Team see → topsoe.com

ROELAND BAAN
PRESIDENT & CEO

ALLAN BØDSKOV ANDERSEN
CHIEF FINANCIAL OFFICER

ELENA SCALTRITTI
CHIEF COMMERCIAL OFFICER

KIM S. HEDEGAARD
CEO OF POWER-TO-X

KIM GRØN KNUDSEN
CHIEF STRATEGY & INNOVATION OFFICER

AMY CHIANG
CHIEF SUSTAINABILITY & EXTERNAL AFFAIRS OFFICER

ANDREAS BRUUN JØRGENSEN
CHIEF OPERATING OFFICER

JESPER NERLOV
CHIEF TECHNOLOGY OFFICER

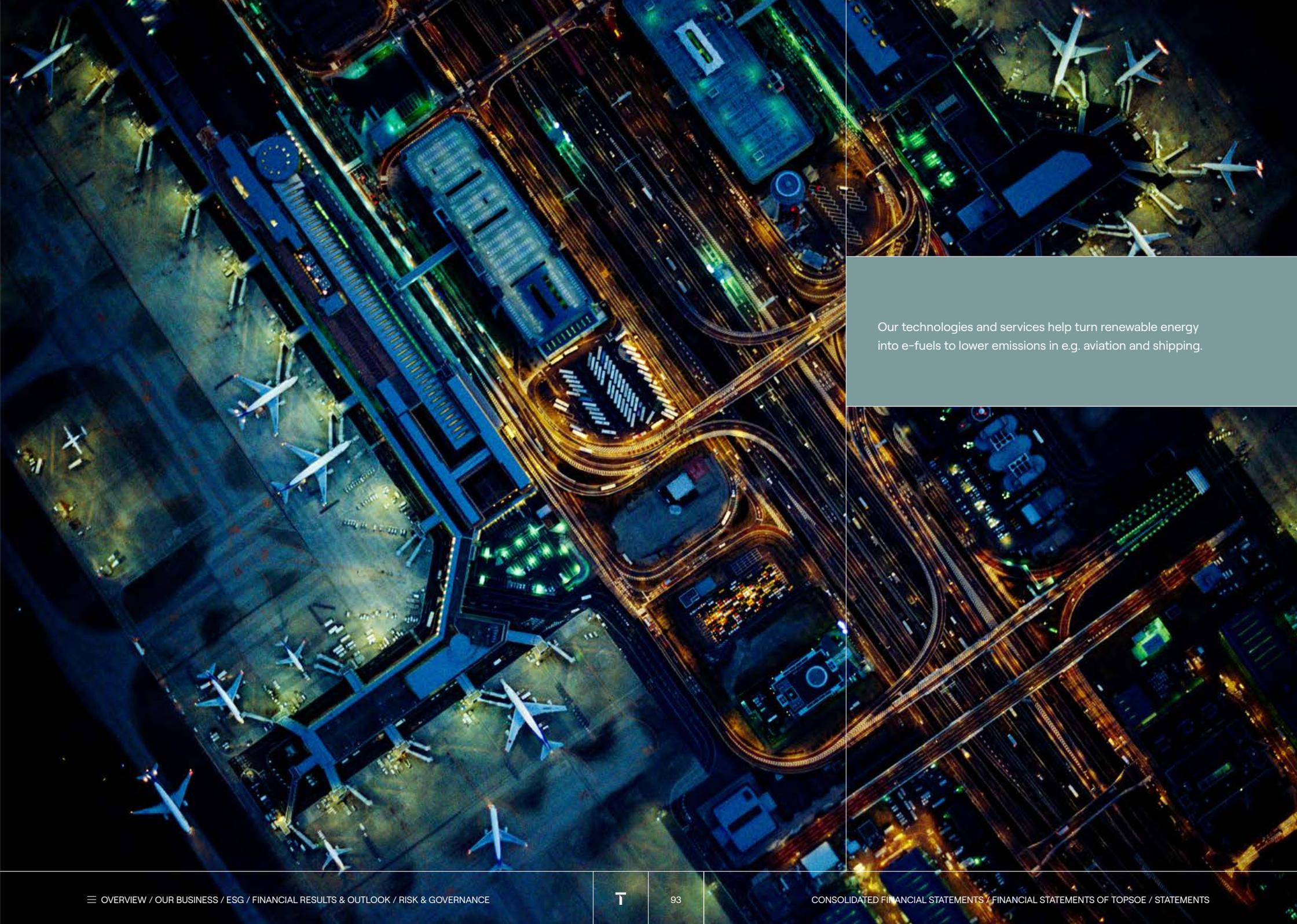
LENE RAMM
GROUP GENERAL COUNSEL

MORTEN HOLM CHRISTIANSEN
CHIEF TRANSFORMATION OFFICER

PETER KIRKEGAARD
CHIEF HUMAN RESOURCES OFFICER

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Our technologies and services help turn renewable energy into e-fuels to lower emissions in e.g. aviation and shipping.

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Consolidated income statement

DKK million	Note	2023	2022
Revenue	2.1	9,416	6,845
Other operating income	2.2	77	61
Purchased equipment for contract work		-557	-417
Raw materials and consumables used		-3,748	-2,398
Other external expenses		-1,624	-1,326
Gross profit		3,564	2,765
Staff costs	2.3	-2,208	-1,809
EBITDA		1,356	956
Depreciation, amortization and impairment losses		-392	-348
EBIT before special items		964	608
Special items	2.4	0	-43
EBIT after special items		964	565
Result of investments in joint ventures and associated companies	3.4	-2	0
Financial income	4.4	298	315
Financial expenses	4.4	-270	-187
Profit before tax		990	693
Tax	2.5	-215	-126
Net profit		775	567
Attributable to:			
Owners of the parent company		775	567
Non-controlling interests		0	0
Net profit		775	567
Earnings per share	4.1	2.01	1.49
Diluted earnings per shares	4.1	2.03	1.49

Consolidated statement of comprehensive income

DKK million	Note	2023	2022
Net profit		775	567
Foreign currency translation adjustment		-47	82
Fair value adjustment on cash flow hedges		-15	3
Other		-3	0
Items that will be reclassified to the income statement		-65	85
Fair value adjustment of investments in other enterprises		8	0
Actuarial adjustments on pension obligations		3	10
Tax on pension obligations	2.5	0	-2
Items that will not be reclassified to the income statement		11	8
Other comprehensive income		-54	93
Total comprehensive income		721	660
Attributable to:			
Owners of the parent company		733	660
Non-controlling interests		-12	0
Total comprehensive income		721	660

Consolidated balance sheet

DKK million	Note	2023	2022
Assets			
Goodwill	3.1	0	0
Rights	3.1	0	12
Patents	3.1	130	86
Software	3.1	72	70
Intangible assets under construction	3.1	107	44
Intangible assets		309	212
Land and buildings	3.2	398	370
Plant and machinery	3.2	599	774
Other fixtures and equipment	3.2	188	174
Property, plant and equipment under construction	3.2	2,542	1,009
Property, plant and equipment		3,727	2,327
Right-of-use assets	3.3	405	459
Deferred tax asset	2.5	6	7
Other non-current assets	3.4	361	347
Non-current assets		4,808	3,352
Inventories	3.5	2,141	2,438
Trade receivables	3.6	1,675	1,490
Contract assets	3.7	328	293
Tax receivable		37	47
Other receivables and prepayments	3.8	503	289
Cash		266	477
Current assets		4,950	5,034
Assets		9,758	8,386

DKK million	Note	2023	2022
Equity and liabilities			
Share capital	4.1	386	385
Share premium	4.1	295	271
Treasury shares	4.1	-146	-151
Reserves		117	197
Retained earnings		3,052	2,502
Equity attributed to the owners of the parent company		3,704	3,204
Non-controlling interests		0	12
Total equity		3,704	3,216
Pension obligations	3.9	36	32
Deferred tax	2.5	611	516
Provisions	3.10	184	211
Borrowings	4.2	563	330
Lease liabilities	4.2	426	445
Other payables	3.11	99	102
Non-current liabilities		1,919	1,636
Borrowings	4.2	594	122
Lease liabilities	4.2	56	60
Contract liabilities	3.7	1,376	1,923
Trade payables		1,519	953
Tax payable		9	6
Other payables	3.11	536	441
Deferred income		45	29
Current liabilities		4,135	3,534
Liabilities		6,054	5,170
Equity and liabilities		9,758	8,386

Consolidated cash flow statement

DKK million	Note	2023	2022
EBITDA		1,356	956
Special items	2.4	18	-26
Adjustments for non-cash items	5.4	-3	62
Change in working capital	5.4	-54	21
Interest received.		56	17
Interest paid.		-87	-17
Corporate income tax paid		-102	-70
Cash flow from operating activities		1,184	943
Purchase of intangible assets		-162	-80
Purchase of property, plant and equipment		-1,726	-777
Sale of property, plant and equipment		0	3
Purchase of non-current financial assets		-3	-20
Sale of non-current financial assets		2	2
Dividend received		92	129
Cash flow from investing activities		-1,797	-743

DKK million	Note	2023	2022
Proceeds from borrowings		704	0
Repayment of borrowings		0	-122
Installments on lease liabilities		-66	-81
Sale and purchase of treasury shares, net		5	-151
Received share capital		50	180
Dividend paid		-282	-445
Cash flow from financing activities		411	-619
Cash flow for the year		-202	-419
Cash and cash equivalents at January 1		477	872
Cash flow for the year		-202	-419
Foreign currency translation adjustments		-9	24
Cash and cash equivalents at December 31		266	477

Consolidated statement of changes in equity

DKK million	Share capital	Share premium	Treasury shares	Reserve for unpaid capital	Foreign currency translation reserve	Reserve for financial assets measured at fair value	Hedge reserve	Total reserves	Retained earnings	Equity attributable to the owners of the parent company	Non-controlling interests	Total equity
Equity at January 1, 2023	385	271	-151	26	141	27	3	197	2,502	3,204	12	3,216
Net profit	0	0	0	0	0	0	0	0	775	775	0	775
Foreign currency translation adjustment	0	0	0	0	-47	0	0	-47	0	-47	0	-47
Fair value adjustment of cash flow hedges	0	0	0	0	0	0	-15	-15	0	-15	0	-15
Other	0	0	0	0	0	8	0	8	12	20	-12	8
Other comprehensive income	0	0	0	0	-47	8	-15	-54	12	-42	-12	-54
Comprehensive income	0	0	0	0	-47	8	-15	-54	787	733	-12	721
Capital increase	1	24	0	-26	0	0	0	-26	26	25	0	25
Purchase of own shares	0	0	-4	0	0	0	0	0	0	-4	0	-4
Sale of own shares	0	0	6	0	0	0	0	0	0	6	0	6
Dividend paid	0	0	3	0	0	0	0	0	-283	-280	0	-280
Employee Share Program - value of employee services	0	0	0	0	0	0	0	0	20	20	0	20
Share-based payments	0	0	0	0	0	0	0	0	0	0	0	0
Transactions with owners	1	24	5	-26	0	0	0	-26	-237	-233	0	-233
Equity at December 31, 2023	386	295	-146	0	94	35	-12	117	3,052	3,704	0	3,704

Consolidated statement of changes in equity

DKK million	Share capital	Share premium	Treasury shares	Reserve for unpaid capital	Foreign currency translation reserve	Reserve for financial assets measured at fair value	Hedge reserve	Total reserves	Retained earnings	Total	Non-controlling interests	Total equity
Equity at January 1, 2022	379	71	0	0	59	27	0	86	2,393	2,929	12	2,941
Net profit	0	0	0	0	0	0	0	0	567	567	0	567
Foreign currency translation adjustment	0	0	0	0	82	0	0	82	0	82	0	82
Fair value adjustment of cash flow hedges	0	0	0	0	0	0	3	3	0	3	0	3
Other	0	0	0	0	0	0	0	0	8	8	0	8
Other comprehensive income	0	0	0	0	82	0	3	85	8	93	0	93
Comprehensive income	0	0	0	0	82	0	3	85	575	660	0	660
Capital increase	6	200	0	26	0	0	0	26	-26	206	0	206
Purchase of own shares	0	0	-157	0	0	0	0	0	0	-157	0	-157
Sale of own shares	0	0	6	0	0	0	0	0	0	6	0	6
Dividend paid	0	0	0	0	0	0	0	0	-445	-445	0	-445
Employee Share Program - value of employee services	0	0	0	0	0	0	0	0	3	3	0	3
Share-based payments	0	0	0	0	0	0	0	0	2	2	0	2
Transactions with owners	6	200	-151	26	0	0	0	26	-466	-385	0	-385
Equity at December 31, 2022	385	271	-151	26	141	27	3	197	2,502	3,204	12	3,216

NOTES → 1 Basis of reporting

1.1 Basis of preparation

Introduction

The financial statements for 2023 comprise the consolidated financial statements of Topsoe A/S and its subsidiaries.

The consolidated financial statements have been prepared in accordance with the IFRS Accounting Standards, as adopted by the EU, and further requirements in the Danish Financial Statements Act for class C large companies.

The financial statements are presented in Danish kroner (DKK) and rounded to the nearest million, unless otherwise stated. The functional currency of the parent company are DKK.

The Board of Directors considered and approved the 2023 Annual Report of Topsoe A/S on March 1, 2024. The Annual Report will be submitted to the shareholders of Topsoe A/S for approval at the Annual General Meeting on April 4, 2024.

Basis of measurement

The consolidated financial statements have been prepared on the historical cost basis, except for derivatives and investments in other enterprises, which are measured at fair value.

The accounting policies have been applied consistently for the financial year and for the comparative figures.

Basis of consolidation

The consolidated financial statements comprise the parent company, Topsoe A/S, and all subsidiaries over which Topsoe A/S exercises control and can use the power to influence the variability of the result.

The consolidated financial statements have been prepared by summarizing the financial statements of the parent company and the subsidiaries, which have been prepared in accordance with the Group's accounting policies. Intra-group balances, income, expenses, shareholdings, and dividends as well as realized and unrealized gains and losses have been eliminated.

The non-controlling interests' share of profit for the year and of equity in subsidiaries, which are not fully owned, is included as part of the Group's profit and equity but shown as separate items.

Foreign currency

Functional currency

A functional currency is determined for each Group enterprise. The functional currency is the currency used in the primary economic environment in which the enterprise operates.

Foreign currency translation

On initial recognition, foreign currency transactions are translated into the functional currency at the exchange rate at the transaction dates. Exchange differences between the exchange rates at the transaction date and the date of payment are recognized in the income statement under financial income or expenses.

Monetary items in foreign currency are translated at the exchange rates at the balance sheet date. The difference between the exchange rates at the balance sheet date and the transaction date is recognized in the income statement under financial income or expenses.

Foreign currency translation differences arising on the translation of non-monetary items, such

as investments in associated companies, are recognized directly in other comprehensive income.

Recognition in the consolidated financial statements

On preparation of the consolidated financial statements, the income statements of Group enterprises with a functional currency other than Danish kroner are translated at the exchange rate at the transaction dates and balance sheet items are translated at the exchange rate at the balance sheet date.

Foreign exchange differences arising on translation of the opening equity at the exchange rate at the balance sheet date and on translation of non-current intercompany balances considered part of the net investment are recognized in other comprehensive income under foreign currency translation reserve.

Foreign exchange differences arising from the translation of the income statement from the exchange rate at the transaction dates to the exchange rate at the balance sheet date are also recognized in other comprehensive income. All items in other comprehensive income are recognized net of tax.

Other accounting policies

Deferred income

Deferred income comprises payments received in respect of income in subsequent years related to government grants.

Presentation

Cash flow statement

The cash flow statement is presented in accordance with the indirect method.

Cash flows from operating activities are stated as EBITDA adjusted for non-cash items, change in working capital, interest received and paid, and paid corporate income tax. Cash flows from investing activities comprise cash flows from purchase and sale of non-current assets and received dividend. Cash flows from financing activities comprise cash flows from borrowings, purchase and sale of treasury shares, installments on lease liabilities as well as payments to and from shareholders.

Cash and cash equivalents comprise cash at hand and deposits with financial institutions.

Materiality in financial reporting

In preparing the Annual Report, Management has sought to improve the information value of the consolidated financial statements, the notes to the statements and other measures disclosed by presenting the information in a way that supports the understanding of the Group's performance in the reporting period which has resulted in immaterial classifications and changes.

This objective is achieved by presenting fair transactional aggregation levels on line items and other financial information, emphasizing information that is considered of material importance to the user and making relevant rather than generic descriptions throughout the Annual Report. All disclosures are made in compliance with the International Financial Reporting Standards, the Danish Financial Statements Act and other relevant regulations, ensuring a true and fair view throughout the Annual Report.

1.1 Basis of preparation (continued)

Presentation of items and subtotals

The presentation of items and subtotals is based on separate classification of material groups of similar items. In the income statement, income and expense items are classified based on the 'nature of expense' method in accordance with IAS 1. Furthermore, the

use of special items is applied to improve the transparency and understanding of the Group's financial statements by separating the ordinary activities of the Group from exceptional items. Please refer to note 2.4 Special items for further information.

Five-year summary

The key figures and financial ratios have been calculated as follows:

Gross margin	=	$\frac{\text{Gross profit} \times 100}{\text{Revenue}}$
EBITDA margin	=	$\frac{\text{EBITDA} \times 100}{\text{Revenue}}$
EBIT before special items margin	=	$\frac{\text{EBIT before special items} \times 100}{\text{Revenue}}$
EBIT after special items margin	=	$\frac{\text{EBIT after special items} \times 100}{\text{Revenue}}$
Return on invested capital	=	$\frac{\text{EBIT before special items} \times 100}{\text{Average invested capital}}$
Equity ratio	=	$\frac{\text{Equity at year-end} \times 100}{\text{Balance sheet total}}$
Return on equity	=	$\frac{\text{Net profit} \times 100}{\text{Average equity}}$
Leverage	=	$\frac{\text{Net interest-bearing debt}}{\text{EBITDA}}$
Earnings per share	=	$\frac{\text{Net profit}}{\text{Average number of shares}}$

1.2 Changes in accounting policies and new standards

The accounting policies are unchanged from last year.

Implementation of new standards, amendments, and interpretations

Topsoe adopts new IFRS standards, amendments and interpretations (IFRICs) from the mandatory effective date at the latest.

Amendments have been made to IFRS standards effective for financial years beginning on or after January 1, 2023 including IAS 1, "Presentation of Financial Statements and Practice Statement", IAS 8 "Accounting Policies, Changes in Accounting Estimates and Errors", IAS 12, "Income Taxes", and IFRS 17, "Insurance contracts". Topsoe has assessed the effect of the amendments and concluded that all amendments effective for financial years beginning on or after January 1, 2023 are either not relevant to the Group or have no significant effect on the Financial Statements.

New standards, amendments, and interpretations adopted but not yet effective

The following new standards, amendments, and interpretations of relevance to Topsoe A/S have been adopted by the IASB and adopted by the EU. The standards are not yet effective and will therefore not be implemented in the annual reports until they take effect.

→ IAS 1, "Presentation of Financial Statements": Clarifies that the definition of current liabilities must be based on the rights existing on the balance sheet date. The requirement for an unconditional right to

postpone payment for 12 months from the balance sheet date is therefore changed to a right to defer payment for 12 months from the balance sheet date. The amendment will be effective for financial years beginning on or after January 1, 2024.

→ IFRS 16, "Leases": The amendment to IFRS 16 clarifies that the leased share in a sale and leaseback transaction should be measured to ensure that no gain or loss arises from recognition of the lease asset. Furthermore, it is clarified that the lease liability should be measured to reflect the present value of the expected future lease payments. The illustrative examples in IFRS 16 have been updated to reflect these changes. Early adoption of the amendment is permitted. If the amendment is applied for an earlier period, this fact must be disclosed. The amendment will be effective for financial years beginning on or after January 1, 2024.

The IASB has issued the following new standards, amendments and new interpretations which could be relevant to Topsoe A/S, but which have not yet been adopted by the EU:

→ IAS 7, "Statement of Cash Flows" and IFRS 7, "Financial Instruments: Disclosures": The amendment introduces disclosure requirements for supplier finance arrangements (reverse factoring), regarding terms and conditions in the agreements, including payment terms for both the liabilities comprised by the agreements and similar for those not covered by the agreements. Significant variances must be explained.

1.2 Changes in accounting policies and new standards (continued)

The amendment also requires disclosure of recognized values at both the beginning and the end of the year for the liabilities comprised by the agreements. The amendment will be effective for financial years beginning on or after January 1, 2024.

→ IAS 21, "Foreign exchange rates": The amendment clarifies the procedures relating to the assessment of whether a currency is exchangeable into another currency, and when it is not, how to determine the exchange rate to use and which disclosures to provide. The amendment will be effective for financial years beginning on or after January 1, 2025.

The above amendments will be implemented when they take effect. None of the above are currently expected to have any significant impact on the consolidated financial statements.

1.3 Key accounting estimates and judgements

When preparing the consolidated financial statements, Management is required to make several estimates and judgements. These estimates and judgements are based on professional experience, historical data and other factors available to Management. Actual

results may differ from the amounts estimated and judgements made, as more detailed information becomes available. Accounting estimates and judgements are continuously evaluated, and the effect recognized in the financial statements.

The primary financial statement items for which more significant accounting estimates and judgements are applied are:

Note	Significant accounting estimates and judgements	Nature of accounting impact	Impact of estimate and judgement
	Determine performance obligation	Judgement	● ● ●
2.1 Revenue	Determine recognition method	Judgement	● ● ●
	Estimate total cost to complete	Estimate	● ● ●
3.5 Inventories	Estimate valuation of inventory	Estimate	● ● ○
3.10 Provisions and contingent liabilities	Estimate warranty provisions	Estimate	● ● ○

Additional information of accounting estimates and judgements are included in the relevant notes.

2 Income statement

2.1 Revenue

Accounting policies

Revenue from contracts with customers is recognized in the income statement when control of the goods or services has been transferred to the customer, i.e. when goods or services are delivered. Revenue is recognized exclusive of VAT and net of discounts relating to sales.

Revenue from catalyst sales is recognized at a point in time when control has been transferred.

Revenue from technology sales is recognized over time using the percentage-of-completion method based on incurred versus forecasted contract costs, which means that revenue equals the selling price of the work completed for the year. This method is applied when total revenue and cost in respect of the contract and the percentage-of-completion at the balance sheet date can be measured reliably, and it is probable that economic benefits, including payments, will flow to the Group.

The transaction price of a contract is allocated to performance obligations, e.g. delivered catalyst and delivered technology. Technology is considered to be one performance obligation, since the deliveries are interlinked and work together as a whole and not as distinct elements.

Accounting estimates and judgements

Judgement is applied when determining if a contract for the sale of technology or catalysts or a combination thereof, involves one or more performance obligations.

Judgements are made by Management when determining if a performance obligation is recognized as revenue over time or at a point in time. The judgements relate to if there is an alternative use of the assets sold and if there is an enforceable right to payment throughout the contractual term.

The percentage-of-completion is determined on the basis of the share of contract costs incurred compared to forecasted contract costs. Forecasted costs are partly based on an estimate which to a high degree is based on historical experience. Expected income and costs of technology projects may be adjusted gradually as projects are progressing and any uncertainties are clarified.

Topsoes technology creates or enhances an asset that the customer controls as the asset is created or enhanced. Topsoe has an enforceable right to payment for performance completed to date

DKK million	2023	2022
Revenue split on categories and recognition method		
Revenue recognized at a point in time	7,106	5,091
Catalyst revenue	7,106	5,091
Revenue recognized at a point in time	526	175
Revenue recognized over time	1,784	1,579
Technology revenue	2,310	1,754
Total revenue	9,416	6,845
Backlog and previously recognized contract liabilities		
Backlog, of which the majority is expected to be recognized within 1 year	5,058	6,015
Revenue recognized that was included in the contract liability balance at the beginning of the year	1,091	616
Revenue per region		
EMEA	3,678	2,356
Americas	3,846	2,918
Asia Pacific	1,892	1,571
Total revenue	9,416	6,845

The Group's revenue can be divided into two main categories: catalyst sales and technology sales. Catalyst sales primarily comprise the sale of catalysts. Technology sales primarily comprise basic engineering design, license fee and hardware.

The majority of catalyst sales are paid after delivery with typically 30-60 days of credit,

but in certain situations the Group receives prepayments.

Technology sales are paid in installments during the contract's lifetime. The Group strives to be cash flow positive on all technology contracts at any time during project execution.

2.2 Other operating income

Accounting policies

Other operating income comprises income of a secondary nature to the Group's main activities, including government grants provided for research projects and other services of secondary nature.

Grants

Government grants are recognized when there is reasonable assurance that the grants

will be received. Government grants received for research and development projects are recognized as deferred income and systematically recognized in other operating income in line with the cost. Grants for the purchase of property, plant and equipment are offset against the related property, plant and equipment.

DKK million	2023	2022
Other operating income		
Government grants	71	38
Other services	0	13
Other operating income	6	10
Total other operating income	77	61

2.3 Staff costs

Accounting policies

Staff costs are recognized in the financial year in which the employees render the related service. Costs related to long-term employee benefits, e.g. share-based payments, are recognized in the periods in which they are earned.

DKK million	2023	2022
Staff costs		
Wages, salary and other remuneration	1,868	1,517
Share-based payment	12	2
Pension costs - defined contribution plans	171	145
Pension costs - defined benefit plans	4	5
Social security cost and other staff costs	153	140
Total	2,208	1,809
Transferred to assets	76	50
Total staff costs	2,284	1,859
Average number of employees	2,668	2,242
Remuneration to Senior Leadership Team and fee to Board of Directors		
Salary	66	68
Share-based payment	8	2
Pension	3	5
Severance pay	2	4
Total remuneration to Senior Leadership Team	79	79
Fee to Board of Directors	7	9
Total remuneration to Senior Leadership Team and Board of Directors	86	88

2.4 Special items

Accounting policies

Special items comprise exceptional income and costs which by their nature are not related to the Group's ordinary operating activities. These are irregular and non-recurring in nature. This includes costs related to significant organizational restructuring, etc.

Accounting estimates and judgements

In the classification of special items, judgement is applied to ensure that only exceptional items not associated with the ordinary operations of the Group are included.

DKK million	2023	2022
Special items		
Restructuring costs	2	-10
Loss on sale of subsidiary	-6	0
Loss on debtors	0	-12
Write-down of fixed assets and right-of-use assets	0	-3
Other financial expenses	4	-18
Total special items	0	-43
Line items impacted, if special items had been recognized in EBIT before special items		
Other external expenses	2	-17
Staff costs	0	-5
Depreciation, amortization and impairment losses	-6	-3
Financial expenses	4	-18
Total special items	0	-43

Special items in 2023 comprise costs and adjustments in connection with the closure of the business in Russia as well as the release of a portion of trapped cash, etc. Furthermore, in 2023 a subsidiary with activity outside of Topsoe's current business was disposed with a net loss of DKK 6 million. The total cash inflow related to special items in 2023 amounts to DKK 18 million

Special items in 2022 comprise cost in connection with the closure of our business in Russia such as loss on receivables, write-down of assets including write-down of trapped cash, etc. The non-cash part amounts to DKK 17 million.

2.5 Income tax and deferred tax

Accounting policies

Tax for the year

Income tax comprises current tax for the year, changes in deferred tax for the year as well as any adjustments to prior years. Tax attributable to the profit for the year is recognized in the income statement, whereas tax attributable to other comprehensive income transactions is recognized through other comprehensive income.

Current tax

Tax receivable and tax payable is recognized in the balance sheet as tax calculated on the taxable income for the year adjusted for tax on taxable income for previous years and for prepaid tax.

Deferred tax

Deferred tax is measured using the balance sheet liability method in respect of temporary differences between the carrying amount and the tax value of assets and liabilities. Deferred tax is not recognized in respect of goodwill, unless it is deductible for tax purposes.

Deferred tax is measured on the basis of the tax rules and tax rates of the relevant countries that will be effective under current legislation at the balance sheet date on which the deferred tax is expected to materialize as current tax.

Deferred tax assets, including the tax base of tax loss carryforwards, are recognized as non-current assets at the expected value of their utilization.

Deferred tax assets and tax liabilities are offset if the enterprise has a legally enforceable right to offset current tax liabilities and tax assets or intends either to settle current tax liabilities and tax assets on a net basis or to realize the assets and liabilities simultaneously.

Topsoe has applied the exception to recognise deferred tax in the OECD/ EU Pillar Two Model Rules and their local implementation. Topsoe is considering the impact and it is expected to be immaterial.

Accounting estimates and judgements

Management applies judgements when recognizing and measuring deferred tax assets. Deferred tax assets, including the tax base of tax loss carryforwards, are recognized if it is assessed that they can be utilized. This assessment is based on business plans and knowledge of the business.

The Group is from time to time part of tax disputes. Management assesses the likely outcome based on knowledge available of the substance of the disputes, including opinions from external tax experts.

2.5 Income tax and deferred tax (continued)

DKK million	2023	2022
Income tax		
Current tax for the year	118	92
Change in deferred tax for the year	95	41
Adjustments to prior years	2	-7
Total income tax recognized in the income statement	215	126
Income tax recognized in other comprehensive income	0	-2
Total income tax recognized in comprehensive income	215	124
Effective tax rate, %		
Danish corporate tax rate	22.0	22.0
Non-deductible expenses	1.9	0.4
Income not subject to tax	-0.8	-1.5
Differences in foreign tax rates	-0.4	3.0
Adjustments relating to prior years	0.2	-0.5
Other adjustments	-1.2	-5.2
Effective tax rate	21.7	18.2

The increase in effective tax rate from 2022 to 2023 is associated with the phase-out of the temporary increase in deduction on R&D activities introduced by the Danish Government for the period from 2020 to 2022.

DKK million	Jan. 1	Foreign currency translation adjustments	Tax for the year	Tax for previous years	Tax on equity	Dec. 31
Deferred tax, 2023						
Intangible assets and property, plant and equipment	119	-2	-21	23	0	119
Inventories	6	0	22	-20	0	8
Contract assets	416	0	81	6	0	503
Provisions	-19	-1	-1	1	2	-18
Other	-13	2	5	-1	0	-7
Deferred tax total, 2023	509	-1	86	9	2	605
Recognized as deferred tax asset						-6
Recognized as deferred tax liability						611
Deferred tax at December 31, 2023						605
Of this, due after more than 1 year						376
Not recognized deferred tax assets regarding unused tax losses						21
Deferred tax, 2022						
Intangible assets and property, plant and equipment	86	2	31	0	0	119
Inventories	13	-1	-2	-4	0	6
Contract assets	380	0	34	2	0	416
Provisions	-20	1	-2	0	2	-19
Other	9	-1	-20	0	-1	-13
Deferred tax total, 2022	468	1	41	-2	1	509
Recognized as deferred tax asset						-7
Recognized as deferred tax liability						516
Deferred tax at December 31, 2022						509
Of this, due after more than 1 year						319
Not recognized deferred tax assets regarding unused tax losses						21

3 Operating assets and liabilities

3.1 Intangible assets

Accounting policies

Goodwill

Goodwill is the positive difference between the cost of an acquisition and fair value of identifiable net assets in the acquired enterprise. Goodwill is measured at cost less accumulated impairment losses.

Goodwill is tested for impairment annually and when there is an indication of impairment. Goodwill is written down to the recoverable amount through the income statement. The recoverable amount is determined as the present value of expected cash flows of the cash-generating unit to which goodwill has been allocated. Impairment indicators comprise e.g. reduced earnings compared to expected future results or material negative development trends in the sector or the economy in the markets of the enterprise.

Impairment loss relating to goodwill is not reversed.

Other intangible assets

Rights and patents are measured at cost less accumulated amortization and impairment losses. Rights as well as patents are amortized on a straight-line basis over the remaining patent term, but not exceeding 10 years, due to the notoriously fast development in applied technologies.

Acquired or internally developed software is measured at cost less accumulated amortization and impairment losses. Software is amortized on a straight-line basis over 4 years or over the contract period.

Other intangible assets are tested for impairment when there is an indication of impairment. Impairment indicators are similar to those stated in the section on goodwill. Intangible assets are written down to recoverable amount through the income statement if lower than the carrying amount. The recoverable amount is the higher of the fair value of the asset less the expected cost to sell and its value in use. Impairment losses relating to other intangible assets are reversed if the recoverable amount subsequently increases.

3.1 Intangible assets (continued)

DKK million	Goodwill	Rights	Patents	Software	Intangible assets under construction	Total
Intangible assets, 2023						
Cost at January 1, 2023	26	39	156	240	44	505
Foreign currency translation adjustment	-1	1	1	-1	0	0
Additions during the year	0	0	66	19	77	162
Disposals during the year	0	-40	-17	-2	0	-59
Transfers during the year	0	0	0	14	-14	0
Cost at December 31, 2023	25	0	206	270	107	608
Amortization and impairment losses at January 1, 2023	26	27	70	170	0	293
Foreign currency translation adjustment	-1	0	1	0	0	0
Amortization for the year	0	5	22	31	0	58
Disposals during the year	0	-32	-17	-3	0	-52
Amortization and impairment losses at December 31, 2023	25	0	76	198	0	299
Carrying amount at December 31, 2023	0	0	130	72	107	309
Research and development costs expensed in 2023						707

DKK million	Goodwill	Rights	Patents	Software	Intangible assets under construction	Total
Intangible assets, 2022						
Cost at January 1, 2022	25	39	127	262	8	461
Foreign currency translation adjustment	1	0	0	0	0	1
Additions during the year	0	0	31	6	43	80
Disposals during the year	0	0	-2	-35	0	-37
Transfers during the year	0	0	0	7	-7	0
Cost at December 31, 2022	26	39	156	240	44	505
Amortization and impairment losses at January 1, 2022	25	22	57	173	0	277
Foreign currency translation adjustment	1	0	0	0	0	1
Amortization for the year	0	5	14	32	0	51
Disposals during the year	0	0	-1	-35	0	-36
Amortization and impairment losses at December 31, 2022	26	27	70	170	0	293
Carrying amount at December 31, 2022	0	12	86	70	44	212
Research and development costs expensed in 2022						587

3.2 Property, plant and equipment

Accounting policies

Property, plant and equipment are measured at cost less accumulated depreciation and impairment losses. Property, plant and equipment under construction are measured at cost less impairment loss.

The cost comprises the acquisition price and other directly attributable expenses of preparing the asset for its intended use. The present value of estimated expenses for dis-

mantling and disposing of the asset as well as restoration expenses are added to the cost if such expenses are recognized as a provision. Material borrowing costs directly attributable to the construction of the individual asset are also added to cost.

Cost of self-constructed assets are recognized as property, plant and equipment in progress on an ongoing basis until the assets are ready

for use and comprises direct and indirect expenses for labor, materials, components and sub-suppliers.

Property, plant and equipment are accounted for as separate items if the useful life of the individual assets is different.

DKK million	Land and buildings	Plant and machinery	Other fixtures and equipment	Property, plant and equipment under construction	Total
Property, plant and equipment, 2023					
Cost at January 1, 2023	866	2,922	1,204	1,009	6,001
Foreign currency translation adjustment	-5	-27	-7	-20	-59
Additions during the year	32	7	43	1,644	1,726
Disposals during the year	0	-86	-119	-8	-213
Transfers during the year	20	-17	50	-53	0
Cost at December 31, 2023	913	2,799	1,171	2,572	7,455
Depreciation and impairment losses at January 1, 2023	496	2,148	1,030	0	3,674
Foreign currency translation adjustment	-2	-16	-4	0	-22
Depreciation and impairment losses for the year	21	154	67	37	279
Disposals during the year	0	-86	-110	-7	-203
Depreciation and impairment losses at December 31, 2023	515	2,200	983	30	3,728
Carrying amount at December 31, 2023	398	599	188	2,542	3,727
Carrying amount of assets used for operational lease	0	0	0	125	125

3.2 Property, plant and equipment (continued)

Accounting policies (continued)

Depreciation based on cost reduced by impairment loss and residual value is calculated on a straight-line basis over the expected useful lives of the assets, which are:

Buildings	13–40 years
Plant and machinery	5–10 years
Other fixtures and equipment	4–20 years
Land is not depreciated.	

The residual value and useful lives of the assets are reassessed annually and adjusted if necessary.

Property, plant and equipment are tested for impairment when there is an indication of impairment. Impairment indicators are similar to those stated in the section on intangible assets. Additionally, indicators comprise damage to the asset or changed use of the asset. Property, plant and equipment are written down to recoverable amount through the income statement if

lower than the carrying amount. The recoverable amount is the higher of the fair value of the asset less the expected cost to sell and its value in use. Impairment losses are reversed if the recoverable amount subsequently increases.

Lessor

When the Group is the lessor in a lease agreement classified as operational lease, the lease asset is recognized as property, plant and equipment and depreciated over the useful life.

Lease income is recognized in other operating income.

Accounting estimates and judgements

Judgement is applied in determining the depreciation period and future residual value and is generally based on historical experience. Reassessment is done annually.

Furthermore, judgement is applied in determining whether impairment indicators are present.

DKK million	Land and buildings	Plant and machinery	Other fixtures and equipment	Property, plant and equipment under construction	Total
Property, plant and equipment, 2022					
Cost at January 1, 2022	841	2,565	1,192	630	5,228
Foreign currency translation adjustment	9	27	0	30	66
Additions during the year	2	32	16	727	777
Disposals during the year	-2	-23	-39	-6	-70
Transfers during the year	16	321	35	-372	0
Cost at December 31, 2022	866	2,922	1,204	1,009	6,001
Depreciation and impairment losses at January 1, 2022	474	2,002	992	0	3,468
Foreign currency translation adjustment	3	21	0	0	24
Depreciation for the year	20	142	67	0	229
Disposals during the year	-1	-17	-29	0	-47
Depreciation and impairment losses at December 31, 2022	496	2,148	1,030	0	3,674
Carrying amount at December 31, 2022	370	774	174	1,009	2,327
Carrying amount of assets used for operational lease	0	0	0	78	78

3.3 Right-of-use assets

Accounting policies

Whether a contract contains a lease or a service arrangement is assessed at contract inception. For contracts which contain a lease, the Group recognizes a right-of-use asset and a lease liability. The right-of-use asset is initially measured at cost, being the initial amount of the lease liability. The right-of-use asset is subsequently depreciated using the straight-line method over the lease term. The right-of-use asset is periodically adjusted for certain remeasurements of the lease liability and reduced by any impairment losses.

The lease term determined by the Group is the non-cancellable period of a lease, together with extension/termination option if these are reasonably certain to be exercised.

The lease liability is initially measured at the present value of the lease payments outstanding at the commencement date, discounted using the incremental borrowing rate. The lease liability is measured using the effective interest method.

The lease liability is remeasured when there is a change in future lease payments, typically due to a change in index on property leases, or if there is a reassessment of whether an extension or termination option will be exercised. A corresponding adjustment is made to the right-of-use asset, or in the income statement when the right-of-use asset has been fully depreciated.

Short-term leases (less than 12 months) and leases relating to low-value assets are not recognized in the balance sheet.

Accounting estimates and judgements

Management has evaluated extension options primarily related to office rentals. In most cases, extension options are not included, as the Group could replace the assets without significant costs or business disruption.

DKK million	Land and buildings	Other fixtures and equipment	Total
Right-of-use assets, 2023			
Carrying amount at January 1, 2023	456	3	459
Foreign currency translation adjustment	-6	-1	-7
Additions during the year	22	2	24
Disposals during the year	-16	0	-16
Depreciation for the year	-53	-2	-55
Carrying amount at December 31, 2023	403	2	405
Right-of-use assets, 2022			
Carrying amount at January 1, 2022	492	6	498
Foreign currency translation adjustment	-1	0	-1
Additions during the year	39	0	39
Disposals during the year	0	0	0
Depreciation for the year	-74	-3	-77
Carrying amount at December 31, 2022	456	3	459

DKK million	2023	2022
Lease information		
Interest expense (included in financial expenses)	20	22
Expense relating to short-term leases (included in other external expenses)	9	0
Expense relating to leases of low-value assets that are not shown above as short-term leases (included in other external expenses)	1	0
Revenue from sub-lease	4	3
Total cash outflow for leases	80	82

The majority of lease contracts relate to lease of office buildings. Please see note 4.2 Borrowing and lease liabilities for information about the lease liabilities. The Group has entered into a lease contract under which the

Group is obligated to purchase the property at a price of DKK 74 million after termination of the lease contract in 2036. The purchase obligation is included in the lease liability.

3.4 Other non-current assets

Accounting policies

Investments in joint ventures and associated companies

Entities in which the Group directly or indirectly controls at least 20%, but not more than 50%, of the voting rights are accounted for as associated companies.

Investments in joint ventures and associated companies are recognized and measured under the equity method. The proportional share of the result after tax of investments in joint ventures and associated companies are included under financial income or financial expense.

Investments with negative net asset values are recognized at DKK 0 million.

Other securities and investments

Investments in other enterprises are measured at fair value at the balance sheet date. Fair value adjustments are recognized through other comprehensive income under the reserve for financial assets measured at fair value.

Securities, e.g. issued loans, are measured at amortized cost less expected credit loss.

Receivables

Receivables are measured at amortized cost less expected credit loss.

Accounting estimates and judgements

Investments in other enterprises are measured at fair value at the balance sheet date. In case that fair value cannot be derived from an active market, it is required that Management assesses and selects an appropriate method for determination of the fair value. In this case, the fair value is measured at the discounted value of expected future cash flows or other generally accepted valuation techniques. Material assumptions comprise expected future cash flows, discount rates and growth rates for the period.

3.4 Other non-current assets (continued)

DKK million	Investments in joint ventures	Pension asset	Other securities and investments	Other receivables	Total
Non-current assets, 2023					
Cost at January 1, 2023	25	52	230	38	345
Foreign currency translation adjustment	-1	1	0	0	0
Additions during the year	0	10	2	0	12
Disposals during the year	0	0	-33	-4	-37
Cost at December 31, 2023	24	63	199	34	320
Value adjustment at January 1, 2023	0	0	9	-7	2
Profit/loss for the year	-2	0	0	0	-2
Disposals during the year	0	0	33	0	33
Value adjustments for the year	0	0	8	0	8
Value adjustment at December 31, 2023	-2	0	50	-7	41
Carrying amount at December 31, 2023	22	63	249	27	361

DKK million	Investments in joint ventures	Pension asset	Other securities and investments	Other receivables	Total
Non-current assets, 2022					
Cost at January 1, 2022	17	40	220	40	317
Foreign currency translation adjustment	0	2	0	0	2
Additions during the year	8	10	10	0	28
Disposals during the year	0	0	0	-2	-2
Cost at December 31, 2022	25	52	230	38	345
Value adjustment at January 1, 2022	0	0	10	-7	3
Profit/loss for the year	0	0	0	0	0
Disposals during the year	0	0	0	0	0
Value adjustments for the year	0	0	-1	0	-1
Value adjustment at December 31, 2022	0	0	9	-7	2
Carrying amount at December 31, 2022	25	52	239	31	347

DKK million	2023	2022
Result from investments in joint ventures and associated companies		
Share of result of joint ventures, net of tax	-2	0
Total result from investments in joint ventures and associated companies	-2	0

3.4 Other non-current assets (continued)

Investments in joint ventures:

Shaanxi Yanchang Topsoe Catalytic Technologies Co, Ltd., Weinan, China

During 2022, the Group invested DKK 8 million in Shaanxi Yanchang Topsoe Catalytic Technologies Co, Ltd., corresponding to 49% of the share capital. In 2023, no further investment has been made. The joint venture is a limited liability company. The company has established a minor production line. The share of net result after tax is DKK -2 million (2022: DKK 0 million)

Other securities and investments:

Karnaphuli Fertilizer Limited, Dhaka, Bangladesh (KAFCO)

The Group holds shares in KAFCO of nominally BDT 692 million, which equals 15% of the shares in KAFCO. The shares are measured at fair value based on a discounted cash flow calculation using the present forecast and expectations to business development of KAFCO.

No fair value adjustment was made in 2023 (2022: DKK 0 million). The fair value of the investment is DKK 156 million.

Ramagundam Fertilizers and Chemicals Limited, New Delhi, India

The Group has an investment in Ramagundam Fertilizers and Chemicals Limited, corresponding to 4% of the share capital. The company is constructing a fertilizer plant in India. The fair value of the investment is DKK 67 million (2022: DKK 67 million).

Liquid Wind, SE

The Group has in 2023 invested DKK 12 million in Liquid Wind (2022: DKK 9 million), corresponding to 4.9% of the share capital. The purpose of the company is to develop, finance, build and manage commercial-scale eMethanol facilities. The fair value of the investment is DKK 21 million (2022: DKK 11 million) by applying the latest known price of shares sold between independent parties.

3.5 Inventories

Accounting policies

Inventories are measured at the lower of cost or net realizable value. Cost is determined using the first-in, first-out method. Cost comprises direct production costs such as raw materials, consumables and labor as well as indirect production costs. Production costs for work in progress and finished goods include indirect production costs such as staff costs, depreciation, maintenance, etc.

Accounting estimates and judgements

The calculation of indirect production costs is reviewed on a regular basis to ensure that all relevant assumptions such as prices, production yield and capacity utilization are incorporated correctly. Changes in the assumptions could have a significant impact on the gross margin and the overall measurement of inventories.

Inventories are written down to net realizable value if this is lower than cost. A potential impairment requirement is primarily assessed based on production quality and the development in sales market. The net realizable value is calculated as the revenue expected to be generated less selling expenses.

DKK million	2023	2022
Inventories		
Raw materials and consumables	683	911
Work in progress	243	382
Finished goods	1,215	1,145
Inventories at December 31	2,141	2,438
Cost of sales for the year	4,604	3,216
Write-down of inventories		
Impairment at January, 1	98	127
Foreign currency translation adjustment	-1	2
Additions during the year	66	29
Reversals during the year	-61	-64
Realized during the year	-5	4
Write-down at December 31	97	98

Reversal of impairment losses is attributable to disposal or reuse of impaired goods in the production.

3.6 Trade receivables

Accounting policies

Trade receivables are measured in the balance sheet at amortized cost less expected credit loss.

Accounting estimates and judgements

The expected credit loss is based on historical credit loss experience combined with forward-looking information.

DKK million	Gross trade receivables	Expected loss rate (%)	Loss allowance	Trade receivables
Ageing of trade receivables and expected credit loss, 2023				
Not due	974	0	0	974
1-90 days	233	0	0	233
91-180 days*	434	0	0	434
181-360 days	17	40	-7	10
360+ days	43	45	-19	24
At December 31, 2023	1,701		-26	1,675
Ageing of trade receivables and expected credit loss, 2022				
Not due	1,142	0	0	1,142
1-90 days	250	0	0	250
91-180 days	62	0	0	62
181-360 days	22	74	-16	6
360+ days	57	48	-27	30
At December 31, 2022	1,533		-43	1,490

* DKK 297 million relates to invoiced amounts not yet recognized as income.

3.6 Trade receivables (continued)

DKK million	2023	2022
Loss allowance		
Loss allowance at January 1	43	19
Foreign currency translation adjustment	-1	0
Additions during the year	4	26
Reversals during the year	-20	0
Realized during the year	0	-2
Loss allowance at December 31	26	43
Trade receivables due after more than 1 year	0	11

3.7 Contract assets and liabilities

Accounting policies

Contract work in progress

Contract work in progress is measured at the selling price of the work completed calculated on the basis of the percentage-of-completion. The percentage of-completion is determined on the basis of the share of contract costs incurred compared to the forecasted contract costs. This method is found to be the best method to reflect the progress.

Prepayments are offset against contract work in progress. Received payments on account exceeding the selling price of the work completed are recognized in contract work in progress under current liabilities, whereas contract assets occurs when the selling price of the work completed exceeds the received payments.

Where it is probable that total contract cost will exceed the total revenue from a contract, the expected loss is recognized as a cost in the income statement.

Where the selling price cannot be measured reliably, the selling price is measured at the lower of costs incurred and net realizable value.

Please refer to accounting estimates and judgements in note 2.1 Revenue.

3.7 Contract assets and liabilities (continued)

DKK million	2023	2022
Contract assets and liabilities		
Contract work in progress	328	293
Contract assets at December 31	328	293
Contract work in progress	915	1,318
Prepayments from customers related to catalysts, etc.	461	605
Contract liabilities at December 31	1,376	1,923
Net contract work in progress has increased due to revenue recognition exceeding actual invoicing during the year, mainly impacting contract liabilities.		
Contract work in progress		
Selling price of work completed at the balance sheet date	6,775	6,510
Payments received on account	-7,362	-7,535
Contract work in progress at December 31	-587	-1,025
Contract work in progress recognized in contract assets	328	293
Contract work in progress recognized in contract liabilities	-915	-1,318
Contract work in progress at December 31	-587	-1,025
Net contract assets and liabilities at January 1	-1,630	-909
Additions during the year	-1,728	-2,475
Recognized during the year	2,310	1,754
Net contract assets and liabilities at December 31	-1,048	-1,630

3.8 Other receivables and prepayments

Accounting policies

Other receivables are measured at amortized cost.

Expenses relating to sales work and the winning of contracts are recognized in the income statement as incurred, except agent commissions which are recognized when the relevant performance obligations have been delivered - either at a point in time or over time.

DKK million	2023	2022
Other receivables and prepayments		
Indirect tax receivables	152	80
Derivatives	2	3
Other receivables	22	92
Prepayments	327	114
Other receivables and prepayments at December 31	503	289
Agent commission for obtaining contracts		
Agent commission recognized as prepayments	14	10
Agent commission recognized in the income statement during the year.	27	17

3.9 Pension obligations

Accounting policies

For defined benefit plans, the costs and obligations for the year are determined using the projected unit credit method. This reflects services rendered by employees up to the valuation dates and is based on actuarial assumptions primarily regarding discount rates used in determining the present value of benefits and projected increase in wages.

Differences between the calculated development in pension obligations and plan assets and the realized values are recognized in other comprehensive income as actuarial gains or losses.

Changes in pension obligations for employees' past services result in an adjustment of the actuarial calculation of the present value, which is classified as past service costs. Past service costs are charged to the income statement immediately if the employees have already earned the right to the adjusted benefits. Otherwise, they will be recognized in the income statement over the period in which the employees earn the right to the adjusted benefits.

Pension plan assets are only recognized to the extent that the Group is able to derive future economic benefits such as refunds from the plan or reductions of future contributions.

Actuarial valuations of the present value of pension obligations are performed annually.

DKK million	2023	2022
Net pension obligations		
Present value of pension obligations at January 1	214	282
Foreign currency translation adjustment	-6	14
Pension costs	4	4
Calculated interest on obligation	10	7
Actuarial gains and losses, demographic assumption	8	7
Actuarial gains and losses, financial assumption	2	-66
Pension paid	-11	-12
Pension paid for settlements	-9	-22
Present value of pension obligations at December 31	212	214
Fair value of pension plan assets at January 1	234	285
Foreign currency translation adjustment	-8	18
Calculated interest on pension assets	10	6
Return on plan assets excl. interest on pension assets	20	-42
Paid by the Group	3	1
Pension paid	-11	-12
Pension paid for settlements	-9	-22
Fair value of pension plan assets at December 31	239	234
Net pension obligations/assets at December 31	-27	-20
Recognized as assets	9	12
Recognized as liabilities	-36	-32
Pension costs		
Pension costs	4	4
Interest expenses	10	7
Interest income on plan assets	-10	-6
Total pension related to defined benefit recognized in staff costs	4	5
Weighted average duration of the defined benefit obligations (in years)	6.0-9.9	6.9-10.5

Expected defined benefit pension payments by the Group in 2024 amount to DKK 17 million.

3.9 Pension obligations (continued)

Percentage	2023	2022
Composition of plan assets, %		
Shares	67	66
Bonds	33	28
Real estate	0	4
Other	0	2
Composition of plan assets at December 31	100	100
Applied actuarial assumptions, %		
Discount rate	3.8-7.5	3.2-7.5
Future wage increases	2.5-10.0	2.5-10.0
Weighted average		
Discount rate	4.7%	4.9%
Future wage increases	3.1%	3.1%
DKK million	2023	2022
Sensitivity analysis of impact on pension obligation		
0.5%-point increase on discount rate	-3	-3
0.5%-point decrease on discount rate	3	3
0.5%-point increase on future wage increase	0	0
0.5%-point decrease on future wage increase	0	0
Life expectancy increase of 1 year	3	4
Life expectancy decrease of 1 year	-3	-4

The Group has entered into pension plans with a considerable number of its employees. Most of the plans are defined contribution plans and only a small part is defined benefit plans.

Defined contribution plans

The Group finances the plans by currently paying a premium to independent insurance companies that are responsible for the pension obligations. Once the pension contributions to the defined contribution plans have been paid, the Group has no further pension obligations to current or terminated employees.

Defined benefit plans

The Group has made agreements with specific groups of employees regarding payment of certain benefits, including pension. These pensions mainly relate to certain employees in the Group's US subsidiary where the plan partly consists of a basic pension and partly of an additional pension for selected members of US management. The pension obligations are partly hedged through an independent fund. Actuarial valuation is performed annually. In addition, employees in India and Germany are covered by defined benefit plans.

The majority of the obligations are funded with assets placed in independent pension

funds mainly in the US. Most of the plan assets are quoted investments.

3.10 Provisions and contingent liabilities

Accounting policies

Provisions are recognized when, due to an earlier event, the Group has a legal or constructive obligation and it is expected that the settlement of the obligation will require an outflow of resources.

Provisions are measured on the basis of Management's best estimate of the amount at which the obligation is expected to be met and are discounted if deemed material.

Contingent liabilities comprise possible obligations which have not yet been confirmed or cannot be measured reliably, but which result in outflow of resources if realized.

Accounting estimates and judgements

The warranty provisions are based on historical levels as well as estimated amounts required for settling specific warranty cases. Furthermore, the warranty provision for engineering projects reflects the expected risk associated with the various technologies. Warranty provisions can be impacted by unexpected quality issues on our catalyst or technology solutions.

Management continuously assesses provisions, including contingencies and the likely outcome of pending and potential legal proceedings. The outcome of these depends on future events which are uncertain by nature.

The assessments may involve advice from external experts and legal advisors.

DKK million	Warranty provision for engineering projects	Warranty provision for catalysts	Other	Total
Provisions, 2023				
Provisions at January 1, 2023	143	58	10	211
Provisions during the year	40	44	1	85
Reversals during the year	-92	0	0	-92
Realized provisions during the year	-20	0	0	-20
Provisions at December 31, 2023	71	102	11	184

The majority of the warranty provisions are expected to be recognized after 1 year.

Provisions, 2022				
Provisions at January 1, 2022	114	51	10	175
Provisions during the year	73	8	0	81
Reversals during the year	-10	-1	0	-11
Realized provisions during the year	-34	0	0	-34
Provisions at December 31, 2022	143	58	10	211

The majority of the warranty provisions are expected to be recognized after 1 year.

3.10 Provisions and contingent liabilities (continued)

DKK million	2023	2022
Ageing of guarantees issued on the Group's behalf for project-related risk		
Less than 1 year	459	379
Between 1 and 5 years	206	270
After 5 years	31	38
Guarantees issued at December 31	696	687

Guarantees have been issued by banks and credit insurance institutions to customers on the Group's behalf to cover project-related risk, such as received prepayments and performance. In the event that a guarantee

materializes, banks and credit insurance institutions have recourse against the Group. In the event that a guarantee is expected to materialize, a provision is recognized.

DKK million	2023	2022
Guarantees issued by the Group		
Guarantee issued by the Group in relation to the Employee Share Program, expires 2024	2	5
Guarantees issued by the Group at December 31	2	5

Contingent liabilities

The Group's property in Frederikssund, Denmark, has been found to be contaminated. Management assesses that the remediation costs will not be significant.

Through participation in joint taxation scheme with Topsøe Holding A/S, the Group is jointly and severally liable for taxes, etc. payable in Denmark.

The Group is a party to a number of court cases and legal disputes. Management assesses that none of these will significantly impact the Group's financial position.

3.11 Other payables

Accounting policies

Other payables are measured at amortized cost, mainly corresponding to nominal value.

DKK million	2023	2022
Other payables		
Staff-related items	524	357
Other payables	111	186
Other payables at December 31	635	543
Classification of other payables		
Non-current liabilities	99	102
Current liabilities	536	441
Other payables at December 31	635	543

Staff-related items primarily comprise employee holiday provision, provision for Group bonus and payroll taxes due.

4 Capital structure and financial items

4.1 Equity, dividend and earnings per share

Accounting policies

Share premium

The share premium consists of the difference between the par value of the shares issued and the issue price.

Reserves

The foreign currency translation reserve comprises all translation adjustments arising from the translation of financial statements of Group enterprises with a functional currency other than Danish kroner as well as translation adjustments concerning non-current inter-company balances that are considered a part of the net investment in such enterprises.

Reserve for financial assets measured at fair value comprises the accumulated net change in the fair value of investments in other enterprises classified as financial assets measured at fair value through other comprehensive income.

Treasury share reserve

The reserve comprises the nominal value of treasury shares. The difference between the market price paid and the nominal value plus dividends on treasury shares is recognized directly as retained earnings in equity.

Treasury shares are bought back to meet obligations under the Group's incentive schemes and to adapt the capital structure.

The reserve is a distributable reserve.

Dividend

Proposed dividend for the financial year is recognized in retained earnings.

According to Danish corporate law, reserves available for distribution as dividends are based on the financial statements of the parent company, Topsoe A/S. Dividends are paid from distributable reserves. Share premium is a distributable reserve.

Earnings per share

Earnings per share are presented as both basic and diluted earnings per share. Basic earnings per share are calculated as profit divided by the monthly average number of shares outstanding. Diluted earnings per share are calculated as profit divided by the sum of monthly average number of shares outstanding, including the dilutive effect of the outstanding share pool.

Non-paid capital

Non-paid capital comprises registered capital that has not yet been paid. The reserve is non-distributable.

Number	2023	2022
Shares		
Shares at January 1	385,056,829	379,292,344
Capital increase	928,996	5,764,485
Shares at December 31	385,985,825	385,056,829

The nominal value of each share is DKK 1. All issued shares have been paid. No shares carry any special right. The capital increase is due to the Employee Share Program (see note 5.1 Share-based payment for further information).

Of the total number of registered shares 3,547,086 are treasury shares held by the Group at year-end.

DKK million	2023	2022
Dividend		
Proposed dividend, DKK per share	0.96	0.73
Proposed dividend, DKK million	354	282
Paid dividend relating to prior year, DKK per share	0.73	1.19
Paid dividend relating to prior year, DKK million	282	454

Proposed dividend for 2023 will be considered at the Annual General Meeting on April 4, 2024.

In 2023, a dividend for 2022 of DKK 282 million was paid to shareholders.

Capital allocation

The dividend policy of Topsoe A/S targets to distribute up to 50% of the net profit adjusted for public grants, provided that the capital structure allows this.

Capital structure

The capital structure of Topsoe is intended to maintain financial stability, optimize cost of the capital and to ensure financial readiness allowing the Group to act on business opportunities as they present themselves. The gearing ratio was 1.09 at December 31, 2023 (2022: 1.61)

4.1 Equity, dividend and earnings per share (continued)

DKK million	2023	2022
Earnings per share		
Net profit, owners of the parent company's share	775	567
Average number of registered shares	385,511,239	379,408,063
Average number of treasury shares	-3,689,195	-2,361,342
Average number of outstanding shares, diluted	381,822,044	377,046,721
Earnings per share	2.01	1.49
Diluted earnings per shares	2.03	1.49
Treasury shares		
Treasury shares at January 1	3,654,382	0
Purchase of treasury shares	400,652	3,888,424
Sale of treasury shares	-507,948	-234,042
Treasury shares at December 31	3,547,086	3,654,382

4.2 Borrowings and lease liabilities

Accounting policies

Borrowings are initially recognized at the proceeds received net of transaction costs incurred. Subsequently, the loans are measured at amortized cost, corresponding to capitalized value, using the effective interest

rate, so that the difference between the proceeds and the nominal value is recognized in the income statement over the term of the loan.

DKK million	Borrowings	Lease liabilities	Other payables	Total
Interest-bearing debt, 2023				
Interest-bearing debt at January 1, 2023	452	505	102	1,059
Value adjustment	1	-6	1	-4
Loans raised	704	24	0	728
Installments	0	-40	0	-40
Interest-bearing debt at December 31, 2023	1,157	483	103	1,743
Of which long-term	563	426	96	1,085
Interest-bearing debt, 2022				
Interest-bearing debt at January 1, 2022	574	535	104	1,213
Value adjustment	0	-9	0	-9
Loans raised	0	39	0	39
Installments	-122	-60	-2	-184
Interest-bearing debt at December 31, 2022	452	505	102	1,059

Borrowings comprise loans from credit institutions. Please refer to note 3.3 Right-of-use assets for further information.

4.3 Financial assets and liabilities

Accounting policies

Fair value measurements are categorized into Level 1, 2 or 3 based on the degree to which the inputs to the fair value measurements are observable and on the significance of the inputs to the fair value measurement as a whole. The inputs are described as follows:

- Level 1 inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at the measurement date.
- Level 2 inputs are inputs, other than quoted prices included within Level 1, that are observable for the asset or liability, either directly or indirectly.
- Level 3 inputs are fair value measures derived from valuation techniques that include inputs for the asset or liability that are not based on observable market data (unobservable inputs).

DKK million	< 1 year	1-5 years	> 5 years	Total payments	Future interests	Carrying amount
Maturity and classification of financial liabilities, 2023						
Borrowings	621	420	215	1,256	-99	1,157
Lease liabilities	67	230	308	605	-123	482
Trade payables	1,250	0	0	1,250	0	1,250
Other financial liabilities	766	11	94	871	-7	864
Financial liabilities measured at amortized cost	2,704	661	617	3,982	-229	3,753
Derivatives	15	0	0	15	0	15
Financial liabilities measured at fair value through other comprehensive income	15	0	0	15	0	15
Financial liabilities at December 31, 2023	2,719	661	617	3,997	-229	3,768
Maturity and classification of financial liabilities, 2022						
Borrowings	132	289	59	480	-28	452
Lease liabilities	69	226	340	635	-130	505
Trade payables	953	0	0	953	0	953
Other financial liabilities	442	13	91	546	-3	543
Financial liabilities measured at amortized cost	1,596	528	490	2,614	-161	2,453
Derivatives	0	0	0	0	0	0
Financial liabilities measured at fair value through other comprehensive income	0	0	0	0	0	0
Financial liabilities at December 31, 2022	1,596	528	490	2,614	-161	2,453

4.3 Financial assets and liabilities (continued)

DKK million	Level 1	Level 2	Level 3
Fair value assets, 2023			
Other securities and investments	0	0	238
Derivatives	0	-13	0
Assets stated at fair value at December 31, 2023	0	-13	238
Fair value assets, 2022			
Other securities and investments	1	0	238
Derivatives	0	3	0
Assets stated at fair value at December 31, 2023	1	3	238

Please refer to note 3.4 Other non-current assets for information on input to the fair value measurement of investments in other enterprises stated in level 3.

There have been no transfers between levels 1, 2 and 3 during the year.

DKK million	2023	2022
Fair value of level 3 assets		
Fair value of level 3 assets at January 1	238	230
Addition	0	9
Write-down recognized in other comprehensive income	0	-1
Fair value of level 3 assets at December 31	238	238

DKK million	2023	2022
Available credit facility		
Undrawn credit facility	1,342	116
Undrawn revolving credit facility	1,836	1,200
Available credit facility at December 31	3,178	1,316

Financial risk

Currencies

As Topsoe operates globally, the income statement, balance sheet, and cash flows are subject to the risk of currency fluctuations, mainly in relation to Topsoe's flows of USD.

Part of this risk is mitigated through natural hedges arising from activities where Topsoe has both income and expenses in the same currency. However, the risk is not fully covered by natural hedges, and consequently Topsoe hedges certain future cash flows. A 5% change in the DKK/USD exchange rate is assessed to have an EBIT effect of DKK 15-25 million (2022: DKK 50-60 million). Please refer to the table on page 119 for sensitivity analysis.

Interest rates

Topsoe's general interest rate policy is to maintain a loan portfolio where the fixed interest rate portion is kept within a range of 50-75%, while the floating interest rate portion is kept within a range of 25-50%. By the end of 2023, the fixed rate portion stood at 37% (2022: 65%), while the floating rate portion stood at 63% (2022: 35%). An increased lending at the end of 2023 has caused the floating rate portion to be above the policy and it will be adjusted during Q1 2024.

For the floating rate portion of our interest-bearing debt at end of 2023, an increase in the interest rate level of 1 percentage point will increase interest expenses by DKK 7.3 million p.a. (2022: DKK 1.6 million).

Market risk

Commodity price risk is the risk that commodity prices will change in a way that causes economic losses. Topsoe hedge certain materials used for production in order to mitigate such risks. Please refer to the table on page 126 regarding commodity hedges.

Credit

The credit risk of Topsoe is primarily related to trade receivables from state, public and privately-owned corporations. Where feasible, we seek to mitigate credit risk by applying instruments such as letters of credit and bank guarantees as well as selective structuring of payment terms, etc. On a quarterly basis, we assess whether the Group should make accruals for bad debt which is considered unlikely to be collected.

Furthermore, credit risk arises from cash and derivatives. In order to reduce this risk, the Group only deals with financial counterparties who, in the opinion of Management, have satisfactory financial strength (based on credit rating from a recognized international credit rating agency where feasible).

At December 31, 2023, the Group considers its maximum credit risk to be DKK 2,843 million (2022: DKK 2,412 million) equal to the total of the Group's financial assets.

Liquidity

Topsoe must maintain sufficient liquidity to fund daily operations, debt service, and expansion. Topsoe's access to liquidity consists of cash and cash equivalents, including access to committed revolving credit facilities.

4.3 Financial assets and liabilities (continued)

The target is to maintain a minimum of DKK 500 million in unused committed revolving credit facilities at any time.

the Group's derivatives are entered into to hedge the currency risk and accounted for as hedge accounting or economic hedges.

Cash flow hedging

We use forward exchange contracts to hedge currency risks and commodity futures to mitigate the risk of price fluctuations on

expected future cash flows that meet the criteria for cash flow hedging.

The fair value reserve of the derivatives is recognised in other comprehensive income until the hedged items affect the income statement through work in progress, inventory or net financials. The fair value of derivatives is recognised in other receivables and other liabilities. The majority of the cash flow hedge instruments are expected to settle and affect the income statement within one year.

Carrying amount, net fair value

DKK million	2023		2022	
	Cash flow hedge	Total hedge	Cash flow hedge	Total hedge
Financial instruments asset	2	2	3	3
Financial instruments liability	-15	-15	0	0
Total	-13	-13	3	3

Ineffectiveness is recognised in the income statement within financial items. Ineffectiveness was immaterial in 2023 and 2022.

At 31 December 2023, the fair value of our cash flow hedge instruments amounted to net MDKK -13 (2022: MDKK 3m). The breakdown of the cashflow hedges by most important currencies for each of the years 2023 and 2022 is shown in the table below.

DKK million	2023	2022
Change in cash flow hedge reserve	-16	3
Reclassified from other comprehensive income to work in progress	0	0

Cash flow hedges

DKK million	2023		2022	
	Notional amount	Net fair value	Notional amount	Net fair value
Currency				
USD	432	2	411	3
Total		2		3

A negative notional amount represents a sale of the currency

DKK million	2023		2022	
	Contractual principal amount	Net fair value	Notional amount	Net fair value
Commodity hedges				
Metals	54	-15	0	0
Other	0	0	0	0
Total		-15		0

In the table 'Transaction impact' on page 127, a sensitivity analysis is disclosed. The analysis assumes that all other variables, in particular exposures and interest rates, remain constant. The sensitivity analysis shows the gain/loss on net profit and other comprehensive income of a 5% increase in the specified currencies against DKK (a 5% decrease will have a similar opposite effect). The analysis includes the offsetting impact from monetary items and

derivatives used to hedge the currency risk. The impact on net profit for the year includes monetary items in foreign currencies that are currency adjusted through the income statement as well as any derivatives used for economic hedging. The impact on other comprehensive income includes the value adjustment on derivatives designated as hedge accounting in effective cash flow hedges.

4.3 Financial assets and liabilities (continued)

DKK million	2023			2022		
	Change	Net profit for the year	Equity	Change	Net profit for the year	Equity
Transaction impact, currency						
USD	5%	21	21	5%	56	56
EUR	5%	123	123	5%	67	67
CNY	5%	16	16	5%	7	7
Total		160	160		130	130

A negative notional amount represents a sale of the currency

Fair value of financial assets and liabilities

DKK million	Level 1	Level 2	Level 3
Other securities and investments			
Fair value at December 31, 2023	1	0	5
Value adjustment recognized in the income statement	0	0	0

Please refer to note 3.4 for information on input to valuation of other securities and investments stated at fair value in level 3.

Derivatives

Fair value at December 31, 2023	0	-13	0
Value adjustment recognized in hedging fund under equity	0	-16	0

4.4 Financial income and expenses

DKK million	2023	2022
Financial income		
Dividend from other investments	92	129
Interest income	13	10
Foreign currency translation adjustment	184	173
Other financial income	9	3
Total financial income	298	315
Financial expenses		
Interest expenses	39	35
Value adjustment of other receivables	228	0
Foreign currency translation adjustment	3	152
Total financial expenses	270	187

Interest expenses include interest on financial liabilities measured at amortized cost of DKK 48 million (2022: DKK 31 million).

5 Other notes

5.1 Share-based payment

Accounting policies

Performance shares

The Group's performance shares scheme is equity-settled, measured at the grant date and recognized in the income statement as staff costs over the vesting period. The offsetting item is recognized directly in equity.

The fair value of the performance shares granted is determined based on the external valuations of the Group and comparable peers.

On initial recognition, an estimate is made of the number of share units that the employees are expected to earn. The estimated number of share units is adjusted subsequently to reflect the actual number of share units earned.

The estimated volatility is based on historical data over the preceding years adjusted for any unusual circumstances during the period.

Employee Share Program (ESP)

The Employee Share Program is considered an equity-settled program. The discount element, which is the deviation between the employees' share purchase price and the market value, is expensed as a cost in Staff costs during the duration of the program. The offsetting entry is included directly in Retained earnings as a transaction with owners.

The Phantom Program is considered a cash-settled program. The invested amount is considered as a non-current liability. The annual fair value adjustment is expensed as cost in Staff costs.

No. of shares	2023	2022
Performance shares	238,875	374,771
Granted during the year	934,106	0
Cancelled during the year	-14,865	-135,896
No. of shares at December 31	1,158,116	238,875

Share-based incentive schemes

In 2021, the Group launched incentive share-based payment schemes for the purpose of motivating and retaining selected employees, senior leaders and members of the Senior Leadership Team.

Retention is motivated by requiring continued service for a period covering the vesting period as a minimum. The schemes are also intended to align the interests of employees and shareholders.

As of December 31, 2023 the company has 3 long term incentive plans and participation as follows:

2021 – 2023 LTI covering 20 employees

2022 – 2024 LTI covering 26 employees

2023 – 2025 LTI covering 32 employees

Total costs recognized in 2023 for all 3 plans amounted to DKK 22 million (2022: DKK 3.3 million).

The fair value of each performance share scheme at December 31, 2023, is estimated as

2021 – 2023 LTI – DKK 17 million (2022: DKK 10 million)

2022 – 2024 LTI – DKK 11.1 million

2023 – 2025 LTI – DKK 17.2 million

Employee Share Program

The Employee Share Program (ESP) was launched in 2019 with enrollment in February 2020. Employees at all levels have been offered the opportunity to acquire shares in Topsoe A/S at market value by investing an amount equal to ½, 1 or 2 months' salary. For every four shares purchased at market value, employees purchased a fifth share at a price of DKK 1. An annual investment window will be open to new employees. The program will expire either in case of an IPO or by December 31, 2024, at the latest. If the program expires without an IPO, the shares will be purchased by a purchaser designated by the Group at market price. The shares cannot be sold or pledged.

In 2023, an additional 74 employees (2022: 265 employees) enrolled in the program and 301,231 new shares (2022: 687,022 shares) were issued. The shares issued in 2023 were issued at an average price of 26.7 DKK (2022: DKK 33.1) per share resulting in a discount element of

DKK 5.1 (2022: DKK 6.4). Staff costs have been impacted by DKK 1.55 million (2022: DKK 5.73 million) due to the accrued part of the discount element and the fair value adjustment.

Good leavers (mainly employees who retire or are dismissed) can choose to keep the shares until the program expires or sell the shares to a purchaser designated by the Group in the next annual window at the fair market price. Resigning participants must sell the shares to a purchaser designated by the Group in the next annual window at the lower of the invested amount plus an amount for the fifth share that increases to the price paid for the four shares during the period or the fair market price.

In some countries, participation in the ESP is not possible due to local legislation. Instead, employees in these countries have been offered to participate in a Phantom Program. The participating employees have invested an amount equal to ½, 1 or 2 months' salary and are granted phantom shares in Topsoe A/S at principles equal to the ESP. At the time of expiry of the program, employees will be refunded based on the fair value of the phantom shares.

1 employee (2022: 54 employees) has been enrolled in the Phantom Program. Staff costs have not been impacted in 2023 nor in 2022.

5.2 Fee to auditors appointed at the general meeting

DKK million	2023	2022
Fee to auditors appointed at the general meeting		
Statutory audit fee	3	3
Other assurance statements	0	0
Tax assistance	3	2
Other assistance	7	4
Total fee to auditors appointed at the general meeting	13	9

5.3 Related parties

Main shareholders

Topsøe Holding A/S, Lyngby, Denmark - control
Dahlia Investments Pte. Ltd., Singapore - minority

DKK million	2023	2022	
Transactions with parent company			
Management fee received from the parent company	1	1	
Receivables from the parent company at December 31	6	7	
Related parties	Transactions		
Companies under common control	Rent	4	3
	Deposit	2	2
Joint venture	Project revenue	0	8

For remuneration to Senior Leadership Team and Board of Directors, please refer to note 2.3 Staff costs.

Intercompany transactions have been eliminated in the consolidated financial statements.

5.4 Cash flow specifications

DKK million	2023	2022
Adjustments for non-cash items		
Gain and losses from disposal of assets	-1	10
Special items, non-cash	-18	-17
Gain from divestment of associated companies	11	0
Change in provisions	32	22
Employee Share Program	0	4
Other adjustments	-27	43
Total adjustments for non-cash items	-3	62
Change in working capital		
Increase (-) / decrease in inventories	273	-772
Increase (-) / decrease in trade receivables	-192	-237
Increase / decrease (-) in contract assets and liabilities	-563	711
Increase / decrease (-) in trade payables, etc.	428	319
Total change in working capital	-54	21

5.5 Commitments

DKK million	2023	2022
Contractual obligations		
Purchase obligations relating to property, plant and equipment and intangible assets	747	293
Lease obligations related to software, IT service and maintenance agreements, running up to 9 years	33	8
Investment obligations related to investing in companies included under non-current assets	0	3
Contractual obligations at December 31	780	304
Ageing of contractual obligations		
Less than 1 year	615	293
Between 1 and 5 years	163	7
After 5 years	2	4
Contractual obligations at December 31	780	304

5.6 Events after the balance sheet date

No events materially affecting the Group's financial position at December 31, 2023 have occurred after the balance sheet date.

5.7 Group enterprises

Company	Country	Ownership share	Activity
Topsoe A/S (Parent)	Denmark		P, S,R,O
Topsoe América Latina S.A.	Argentina	100%	S
Haldor Topsoe Australia Pty. Ltd.	Australia	100%	S
Haldor Topsoe do Brasil Tecnologia e Servicos em Catalisadores Eireli	Brazil	100%	S
Haldor Topsoe Canada Limited	Canada	100%	S
Topsoe (Beijing) Co. Ltd	China	100%	P, S
Topsoe International A/S	Denmark	100%	S
Subcontinent Ammonia Investment Company ApS	Denmark	100%	O
Topsoe Project Investment A/S	Denmark	100%	O
HT Ramagundam A/S	Denmark	100%	O
Topsoe Sustainables A/S	Denmark	100%	O
Topsoe SOEC Production A/S	Denmark	100%	P
Haldor Topsoe Germany GmbH	Germany	100%	S
Haldor Topsoe India Pvt. Ltd.	India	100%	S, O
Topsoe Sdn. Bhd.	Malaysia	100%	S
Haldor Topsoe De Mexico, S. A. de C. V.	Mexico	100%	S
OOO Haldor Topsøe, under liquidation	Russia	100%	S
Topsoe, Inc.	US	100%	P, S
Haldor Topsoe Project Development U.S. Inc.	US	100%	O
Haldor Topsoe LFG Solutions Inc.	US	100%	O
Haldor Topsoe eCOs Inc.	US	100%	O
Topsoe SOEC Production US Inc. (dormant)	US	100%	P

P: Production S: Sales R: R&D O: Other

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Income statement of Topsoe A/S

DKK million	Note	2023	2022
Revenue	2	7,893	6,068
Change in inventories of finished goods and intermediate products		-21	294
Other operating income		69	49
Purchased equipment for contract work		-580	-531
Raw materials and consumables used		-3,188	-2,533
Other external expenses		-1,592	-1,440
Gross profit		2,581	1,907
Staff costs	3	-1,634	-1,296
Depreciation, amortization and impairment losses		-259	-266
Special items		6	-18
EBIT		694	327
Result of investments in Group enterprises, joint ventures, and associated companies	4	279	271
Financial income	5	127	178
Financial expenses	6	-165	-172
Profit before tax		935	604
Tax		-144	-37
Net profit	7	791	567

Balance sheet of Topsoe A/S

DKK million	Note	2023	2022
Assets			
Rights		0	12
Patents		130	86
Software		72	70
Intangible assets under construction		107	44
Intangible assets	8	309	212
Land and buildings		291	283
Plant and machinery		309	359
Other fixtures and equipment		177	132
Property, plant and equipment under construction		526	303
Property, plant and equipment	9	1,303	1,077
Right-of-use assets	10	357	404
Investments in Group enterprises		2,209	2,002
Investments in associated companies		0	0
Investments in joint ventures		21	25
Receivables from Group enterprises		32	30
Other securities and investments		5	6
Other receivables		13	16
Investments	11	2,280	2,079
Non-current assets		4,249	3,772

DKK million	Note	2023	2022
Inventories	12	1,396	1,650
Trade receivables		1,226	1,197
Contract work in progress	13	342	281
Receivables from Group enterprises		1,350	480
Other receivables		235	155
Tax receivable		23	9
Prepayments		180	15
Receivables		3,356	2,137
Cash		113	357
Current assets		4,865	4,144
Assets		9,114	7,916

Balance sheet of Topsoe A/S (continued)

DKK million	Note	2023	2022
Equity and liabilities			
Share capital		386	385
Share premium		295	271
Treasury shares		-147	-151
Reserve for unpaid capital		0	26
Net revaluation reserve according to the equity method		808	653
Hedging reserve		-12	3
Reserve for development costs		118	103
Reserve for Employee Share Program		37	17
Retained earnings		1,865	1,615
Proposed dividends		354	282
Equity		3,704	3,204
Deferred tax	14	557	451
Provisions	15	183	211
Borrowings	16	563	330
Lease liabilities	16	367	401
Other payables	16	97	99
Non-current liabilities		1,767	1,492

DKK million	Note	2023	2022
Borrowings	16	594	122
Lease liabilities	16	40	42
Deferred income		46	31
Prepayments from customers		395	501
Contract work in progress	13	884	1,291
Trade payables		1,096	746
Payables to Group enterprises		161	160
Other payables		427	327
Current liabilities		3,643	3,220
Liabilities		5,410	4,712
Equity and liabilities		9,114	7,916

Statement of changes in equity of Topsoe A/S

DKK million	Share capital	Share premium	Treasury shares	Reserve for unpaid capital	Net revaluation reserve according to the equity method	Reserve for development costs	Hedging reserve	Reserve for Employee Share Program	Retained earnings	Proposed dividend	Total
Equity at January 1, 2023	385	271	-151	26	653	103	3	17	1,615	282	3,204
Net profit	0	0	0	0	198	0	0	0	239	354	791
Adjustments relating to separate foreign legal entities	0	0	0	0	0	0	0	0	0	0	0
Fair value adjustment of hedging reserve	0	0	0	0	0	0	-15	0	0	0	-15
Other adjustments	0	0	0	0	6	0	0	0	0	0	6
Currency translation differences	0	0	0	0	-49	0	0	0	0	0	-49
Capitalized development projects	0	0	0	0	0	15	0	0	-15	0	0
Net profit and income and expenses recognized under equity	0	0	0	0	155	15	-15	0	224	354	733
Capital increase	1	24	0	-26	0	0	0	0	26	0	25
Purchase of own shares	0	0	-4	0	0	0	0	0	0	0	-4
Sale of own shares	0	0	6	0	0	0	0	0	0	0	6
Employee Share Program - value of employee services	0	0	0	0	0	0	0	20	0	0	20
Share-based payment	0	0	0	0	0	0	0	0	0	0	0
Dividend paid	0	0	2	0	0	0	0	0	0	-282	-280
Transactions with owners	1	24	4	-26	0	0	0	0	26	-282	-233
Equity at December 31, 2023	386	295	-147	0	808	118	-12	37	1,865	354	3,704

1 Accounting policies

Basis of preparation

The financial statements for 2023 of Topsoe A/S have been prepared in accordance with the requirements of the Danish Financial Statements Act for class C large companies.

The accounting policies are unchanged from last year.

The applied accounting policies are similar to those of the Group except for the following matters:

Currency translation

Foreign currency adjustments of balances considered part of the total net investment in enterprises which have a functional currency other than Danish Kroner (DKK) are recognized in the income statement of the parent company under financials.

Other securities and investments

Investments in other enterprises are measured at fair value. Fair value adjustments are recognized in the income statement under financial income or financial expenses.

Investments in Group enterprises

Investments in Group enterprises are recognized and measured under the equity method.

Group enterprises with negative equity are measured at DKK 0 million, and receivables from these Group enterprises are written down by the parent company's share of the negative equity if they are estimated to be irrecoverable.

If the negative equity exceeds receivables, the remaining amount is recognized under provisions to the extent the parent company has a legal or constructive obligation to cover the Group enterprise's deficit.

The proportionate share of the result after tax is included in the income statement under result of investments in Group enterprises, joint ventures and associated companies.

Reserves

Reserve for development costs comprises development costs after depreciation and tax for self-constructed development projects.

Cash flow statement

No separate cash flow statement has been prepared for the parent company, as the parent company's cash flow statement is included in the consolidated cash flow statement.

2 Revenue

DKK million	2023	2022
Revenue split on categories and recognition method		
Revenue recognized at a point in time	5,647	4,198
Catalyst revenue	5,647	4,198
Revenue recognized at a point in time	330	353
Revenue recognized over time	1,916	1,517
Technology revenue	2,246	1,870
Total revenue	7,893	6,068
Revenue per region		
EMEA	3,645	2,243
Americas	2,492	2,198
Asia Pacific	1,756	1,627
Total revenue	7,893	6,068

3 Staff costs

DKK million	2023	2022
Wages, salary and other remuneration	1,478	1,151
Pension cost	147	124
Social security cost and other staff costs	85	62
Total	1,710	1,337
Transferred to assets	-76	-41
Total staff costs	1,634	1,296
Executive Management, salary and pension	49	29
Fee to Board of Directors	7	9
Total remuneration to Executive Management and Board of Directors	56	38
Average number of employees	1,834	1,497

4 Result of investments in Group enterprises, joint ventures, and associated companies

DKK million	2023	2022
Share of result of Group enterprises, net	278	276
Change in intercompany profit	2	-5
Share of result of joint ventures and associated companies, net	-1	0
Total income from investments in Group enterprises, joint ventures, and associated companies	279	271

5 Financial income

DKK million	2023	2022
Interest received from Group enterprises	36	3
Interest income	7	3
Foreign currency translation adjustment	84	170
Other financial income	0	2
Total financial income	127	178

6 Financial expenses

DKK million	2023	2022
Interest expenses to Group companies	9	0
Interest expenses	32	28
Foreign currency translation adjustment	120	144
Value adjustments	4	0
Total financial expenses	165	172

7 Proposed distribution of profit

DKK million	2023	2022
Proposed dividend	354	282
Net revaluation reserve according to the equity method	198	248
Retained earnings	239	37
Total proposed distribution of profit	791	567

8 Intangible assets

DKK million	Rights	Patents	Software	Intangible assets under construction
Cost at January 1, 2023	40	156	238	44
Additions during the year	0	66	19	77
Disposals during the year	-40	-16	-2	0
Transfers during the year	0	0	14	-14
Cost at December 31, 2023	0	206	269	107
Amortization and impairment losses at January 1, 2023	28	70	168	0
Amortization for the year	5	22	30	0
Disposals during the year	-33	-16	-1	0
Amortization and impairment losses at December 31, 2023	0	76	197	0
Carrying amount at December 31, 2023	0	130	72	107

9 Property, plant and equipment

DKK million	Land and buildings	Plant and machinery	Other fixtures and equipment	Property, plant and equipment under construction
Cost at January 1, 2023	589	2,096	1,022	303
Additions during the year	6	5	38	1,045
Disposals during the year	-2	-82	-89	-712
Transfers during the year	18	27	65	-110
Cost at December 31, 2023	611	2,046	1,036	526
Depreciation and impairment losses at January 1, 2023	306	1,737	890	0
Depreciation for the year	15	82	60	7
Disposals during the year	-1	-82	-91	-7
Depreciation and impairment losses at December 31, 2023	320	1,737	859	0
Carrying amount at December 31, 2023	291	309	177	526

10 Right-of-use assets

DKK million	Land and buildings	Other fixtures and equipment	Right-of-use assets total
Cost at January 1, 2023	558	8	566
Additions during the year	0	0	0
Disposals during the year	-19	-4	-23
Cost at December 31, 2023	539	4	543
Depreciation and impairment losses at January 1, 2023	156	5	161
Depreciation for the year	37	1	38
Disposals during the year	-10	-3	-13
Depreciation and impairment losses at December 31, 2023	183	3	186
Carrying amount at December 31, 2023	356	1	357

11 Investments

DKK million	Investments in Group enterprises	Investments in joint ventures	Receivables from Group enterprises	Other securities and investments	Other receivables
Cost at January 1, 2023	326	25	31	39	25
Additions during the year	0	0	0	1	0
Disposals during the year	-11	0	0	-33	-12
Cost at December 31, 2023	315	25	31	7	13
Value adjustment at January 1, 2023	1,676	0	1	-33	-7
Foreign currency adjustments	-49	-3	0	0	0
Dividends	-19	0	0	0	0
Net profit/loss for the year	280	-1	0	0	0
Disposals	0	0	0	33	11
Other adjustments	6	0	0	-2	-4
Value adjustment at December 31, 2023	1,894	-4	1	-2	0
Carrying amount at December 31, 2023	2,209	21	32	5	13
Of this less than 1 year					0

11 Investments (continued)

Investments in joint ventures:

Shaanxi Yanchang Topsoe Catalytic Technologies Co, Ltd., Weinan, China

Topsoe A/S has during 2022 invested DKK 8 million in Shaanxi Yanchang Topsoe Catalytic Technologies Co, Ltd., corresponding to 49% of the share capital. The company has established a minor production line.

Investments in Group enterprises:

Company	Registered office	Voting and ownership share
Topsoe América Latina S.A.	Buenos Aires, Argentina	100%
Haldor Topsoe Australia Pty. Ltd.	Perth, Australia	100%
Haldor Topsoe do Brasil Tecnologia e Servicos em Catalisadores Eireli	Rio de Janeiro, Brazil	100%
Haldor Topsoe Canada Limited	Vancouver, Canada	100%
Topsoe (Beijing) Co. Ltd	Beijing, China	100%
Topsoe International A/S	Lyngby, Denmark	100%
Subcontinent Ammonia Investment Company ApS	Lyngby, Denmark	100%
Topsoe Project Investment A/S	Lyngby, Denmark	100%
HT Ramagundam A/S	Lyngby, Denmark	100%
Topsoe Sustainables A/S	Lyngby, Denmark	100%
Topsoe SOEC Production A/S	Lyngby, Denmark	100%
Haldor Topsoe Germany GmbH	Essen, Germany	100%
Haldor Topsoe India Pvt. Ltd.	New Delhi, India	100%
Topsoe Sdn. Bhd.	Kuala Lumpur, Malaysia	100%
Haldor Topsoe De Mexico, S. A. de C. V.	Mexico City, Mexico	100%
OOO Haldor Topsøe, under liquidation	Moscow, Russia	100%
Topsoe, Inc.	Houston, United States	100%
Haldor Topsoe Project Development U.S. Inc.	Houston, United States	100%
Haldor Topsoe LFG Solutions Inc.	Houston, United States	100%
Haldor Topsoe eCOs Inc.	Seattle, United States	100%
Topsoe SOEC Production US Inc. (dormant)	Wilmington, United States	100%

12 Inventories

DKK million	2023	2022
Raw materials and consumables	444	678
Work in progress	198	240
Finished goods	754	732
Inventories at December 31	1,396	1,650

13 Contract work in progress

DKK million	2023	2022
Selling price of work performed at the balance sheet date	5,824	5,644
Payments received on account	-6,366	-6,654
Contract work in progress at December 31	-542	-1,010
Contract work in progress recognized in assets	342	281
Contract work in progress recognized in liabilities	-884	-1,291
Contract work in progress at December 31	-542	-1,010

14 Deferred tax

DKK million	2023	2022
Deferred tax at January 1	451	463
Tax for the year	106	-12
Deferred tax at December 31	557	451
Intangible assets and property, plant and equipment	53	23
Inventories	22	20
Work in progress	503	415
Provisions	-29	-27
Other	8	20
Deferred tax at December 31	557	451

15 Provisions

DKK million	2023	2022
Warranty provision for technology projects and catalysts	173	201
Other provisions	10	10
Provisions at December 31	183	211

The majority of the warranty provisions are expected to be recognized after 1 year.

16 Non-current liabilities

DKK million	2023	2022
Borrowings		
After 5 years	199	58
Between 1 and 5 years	364	272
More than 1 year	563	330
Less than 1 year	594	122
Borrowings at December 31	1,157	452
Lease liabilities		
More than 1 year	367	401
Less than 1 year	40	42
Lease liabilities at December 31	407	443
Other payables		
More than 1 year	97	99
Less than 1 year	0	0
Other payables at December 31	97	99

Other payables consist of employee holiday fund and deposits regarding office lease.

17 Share-based payment

Performance Share Units

No. of shares	2023	2022
Performance shares		
No. of shares at January 1	219,914	374,771
Granted during the year	659,907	0
Cancelled during the year	0	-154,857
No. of shares at December 31	879,821	219,914

Employee Share Program

The Employee Share Program (ESP) was launched in 2019 with enrollment in February 2020. Employees at all levels have been offered the opportunity to acquire shares in Topsoe A/S at market value by investing an amount equal to ½, 1 or 2 months' salary. For every four shares purchased at market value, employees purchased a fifth share at a price of DKK 1. An annual investment window will be open to new employees. The program will expire either in case of an IPO or by December 31, 2024, at the latest. If the program expires without an IPO, the shares will be purchased by a purchaser designated by the Group at market price. The shares cannot be sold or pledged.

In 2023, an additional 74 employees (2022: 265 employees) enrolled in the program and 301,231 new shares (2022: 687,022 shares) were issued. The shares issued in 2023 were issued at an average price of 26.7 DKK (2022: DKK 33.1) per share resulting in a discount element of DKK 5.1 (2022: DKK 6.4). Staff costs have been impacted by DKK 1.55 million (2022: DKK 5.73 million) due to the accrued part of the discount element and the fair value adjustment.

Good leavers (mainly employees who retire or are dismissed) can choose to keep the shares

until the program expires or sell the shares to a purchaser designated by the Group in the next annual window at the fair market price. Resigning participants must sell the shares to a purchaser designated by the Group in the next annual window at the lower of the invested amount plus an amount for the fifth share that increases to the price paid for the four shares during the period or the fair market price.

In some countries, participation in the ESP is not possible due to local legislation. Instead, employees in these countries have been offered to participate in a Phantom Program. The participating employees have invested an amount equal to ½, 1 or 2 months' salary and are granted phantom shares in Topsoe A/S at principles equal to the ESP. At the time of expiry of the program, employees will be refunded based on the fair value of the phantom shares.

1 employee (2022: 54 employees) has been enrolled in the Phantom Program. Staff costs have not been impacted in 2023 nor in 2022.

18 Guarantees

DKK million	2023	2022
Guarantees issued by banks and credit insurance institutions on the Company's behalf for contract work, etc.	621	620
Parent company guarantees issued by the Company for certain obligations in subsidiaries	74	67
Guarantees issued by the Company in relation to the Employee Share Program	2	5

19 Contractual obligations

DKK million	2023	2022
Less than 1 year	609	289
Between 1 and 5 years	145	0
Contractual obligations at December 31	754	289

Contractual obligations relate to software and maintenance agreements running 6-24 months.

The Company is obligated to invest an additional DKK 3 million (2021: DKK 12 million) in companies included under 'Other investments'.

20 Contingent liabilities

The Company's property in Frederikssund, Denmark, has been found to be contaminated. Management assesses that the remediation costs will not be significant.

Topsoe A/S is a party to ongoing litigation. Management assesses that the outcome of these lawsuits will not affect the Company's financial position.

Through participation in joint taxation scheme with Topsøe Holding A/S, the Company is jointly and severally liable for taxes, etc. payable in Denmark.

21 Fee to auditors appointed at the general meeting

Please refer to the note in the consolidated financial statements.

22 Related parties

The main shareholders are:

Topsøe Holding A/S, Lyngby, Denmark
- shareholder - control

Dahlia Investments Pte. Ltd., Singapore
- shareholder - minority

No transactions have been carried out with the Board of Directors, Senior Leadership Team, key management staff, shareholders, Group enterprises or other related parties which have not been under normal market conditions.

23 Fair value financial assets and liabilities

DKK million	Level 1	Level 2	Level 3
Other securities and investments			
Fair value at December 31, 2023	1	0	5
Value adjustment recognized in the income statement	0	0	0
Derivatives			
Fair value at December 31, 2023	0	-12	0
Value adjustment recognized in hedging fund under equity	0	3	0

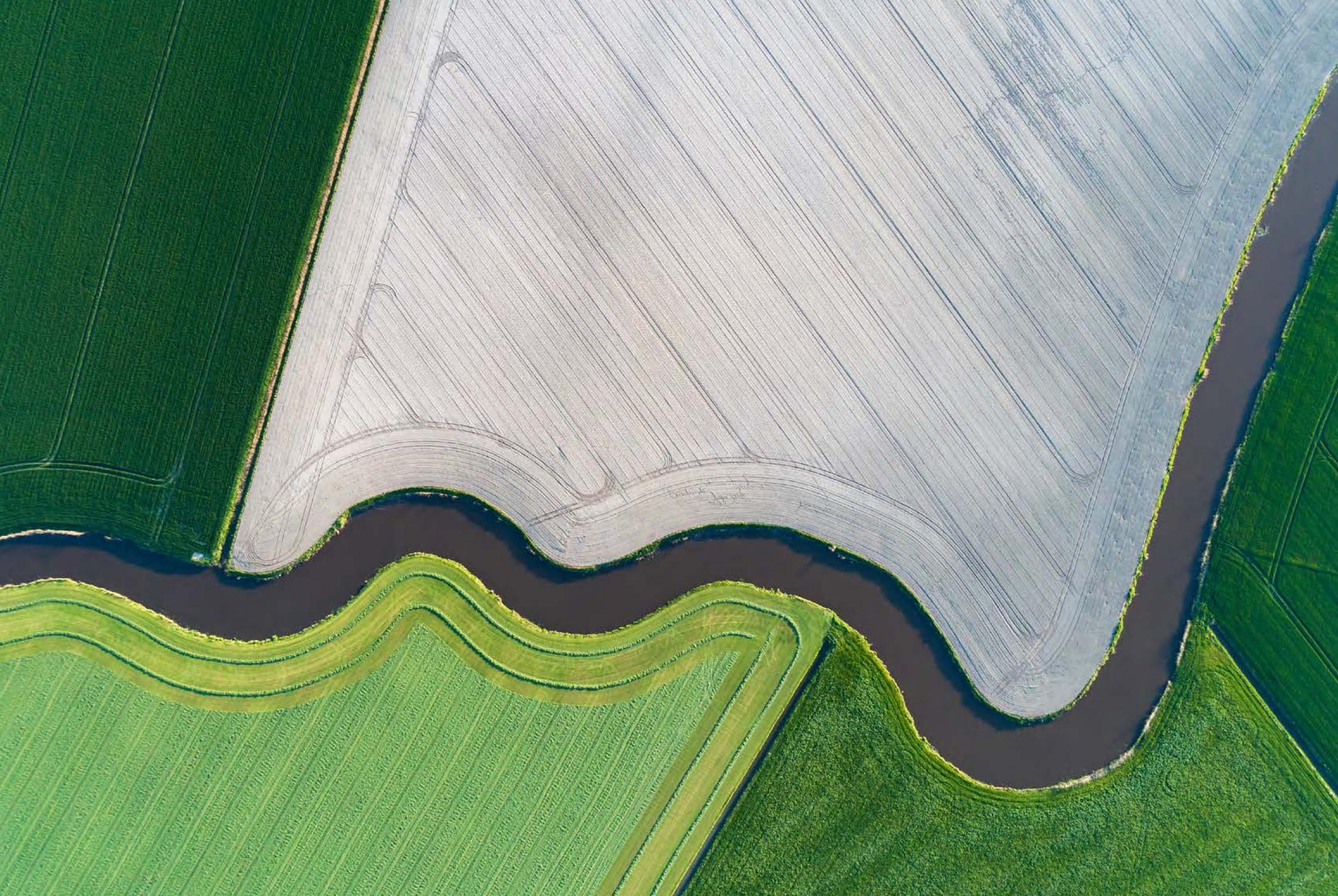
Please refer to note 11 for information on input to valuation of other securities and investments stated at fair value in level 3.

24 Subsequent events

No events materially affecting the Company's financial position at December 31, 2023, have occurred after the balance sheet date.

25 Consolidated financial statements

Topsøe Holding A/S prepares consolidated financial statements, which include the Company and its Group enterprises.



STATEMENTS

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STATEMENT BY THE EXECUTIVE MANAGEMENT AND BOARD OF DIRECTORS ON THE ANNUAL REPORT

The Executive Management and Board of Directors have today considered and approved the Annual Report 2023 of Topsoe A/S.

The consolidated financial statements have been prepared in accordance with IFRS accounting Standards as adopted by the EU, and further requirements in the Danish Financial Statements Act and the financial statements of the parent company have been prepared in

accordance with the Danish Financial Statements Act.

In our opinion, the consolidated financial statements and the parent company financial statements give a true and fair view of the financial position on December 31, 2023 of the Group and the parent company and of the results of the Group and parent company operations and of the Group's cash flows for 2023 in accordance with the applied accounting policies.

In our opinion, the Management's review includes a true and fair view of the development in the operations and financial circumstances, of the results for the year and of the financial position of the Group and the parent company as well as a description of the most significant risks and elements of uncertainty facing the Group and the parent company.

Topsoe's Consolidated environmental data and the Consolidated social and governance data

and the related notes have been prepared in accordance with the reporting principles of materiality, inclusivity, responsiveness and the accounting policies. In our opinion, they give a true and fair view of the organisation's environmental, social and governance performance in accordance with these principles.

We recommend that the Annual Report be adopted at the Annual General Meeting.

Lyngby, March 1, 2024

Registered Executive Management

Roeland Baan
President and Chief Executive Officer

Allan Bødskov Andersen
Chief Financial Officer

Elena Scaltritti
Chief Commercial Officer

Board of Directors

Jeppe Christiansen
Chairman

Jakob Haldor Topsøe
Vice Chairman

Benoit Valentin
Vice Chairman

Christina Teng Topsøe
Member

Rohit Sobti
Member

Jens Kehlet Nørskov
Member

Susana Quintana-Plaza
Member

Ines Kolmsee
Member

Anders Broe Bendtsen
Employee representative

Christina Borch
Employee representative

Lis Ibsen
Employee representative

Line Holten Kollin
Employee representative

INDEPENDENT AUDITOR'S REPORT

To the Shareholders of Topsoe A/S

Opinion

In our opinion, the Consolidated Financial Statements (pages 94–131) give a true and fair view of the Group's financial position at December 31, 2023 and of the results of the Group's operations and cash flows for the financial year January 1 to December 31, 2023 in accordance with IFRS Accounting Standards as adopted by the EU and further requirements in the Danish Financial Statements Act.

Moreover, in our opinion, the Parent Company Financial Statements (pages 133–146) give a true and fair view of the Parent Company's financial position at December 31, 2023 and of the results of the Parent Company's operations for the financial year January 1 to December 31, 2023 in accordance with the Danish Financial Statements Act.

We have audited the Consolidated Financial Statements and the Parent Company Financial Statements of Topsoe A/S for the financial year January 1 to December 31, 2023, which comprise the income statement, balance sheet, statement of changes in equity and notes, including material accounting policy information, for both the Group and the Parent Company, as well as statement of comprehensive income and cash flow statement for the Group ("financial statements").

Basis for opinion

We conducted our audit in accordance with International Standards on Auditing (ISAs) and the additional requirements applicable in Denmark. Our responsibilities under those standards and requirements are further described in the Auditor's Responsibilities for the Audit of the Financial Statements section of our report. We are independent of the Group in accordance with the International Ethics Standards Board for Accountants' International Code of Ethics for Professional Accountants (IESBA Code) and the additional ethical requirements applicable in Denmark, and we have fulfilled our other ethical responsibilities in accordance with these requirements and the IESBA Code. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Statement on Management's review

Management is responsible for Management's Review (pages 5–93).

Our opinion on the financial statements does not cover Management's Review, and we do not express any form of assurance conclusion thereon.

In connection with our audit of the financial statements, our responsibility is to read Management's Review and, in doing so, consider whether Review is materially inconsistent with

the financial statements or our knowledge obtained during the audit, or otherwise appears to be materially misstated.

Moreover, it is our responsibility to consider whether Management's Review provides the information required under the Danish Financial Statements Act.

Based on the work we have performed, in our view, Management's Review is in accordance with the Consolidated Financial Statements and the Parent Company Financial Statements and has been prepared in accordance with the requirements of the Danish Financial Statement Act. We did not identify any material misstatement in Management's Review.

Management's Responsibilities for the Financial Statements

Management is responsible for the preparation of Consolidated Financial Statements that give a true and fair view in accordance with IFRS Accounting Standards as adopted by the EU and further requirements in the Danish Financial Statements Act and for the preparation of Parent Company Financial Statements that give a true and fair view in accordance with the Danish Financial Statements Act, and for such internal control as Management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the financial statements, Management is responsible for assessing the Group's and the Parent Company's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting in preparing the financial statements unless Management either intends to liquidate the Group or the Parent Company or to cease operations, or has no realistic alternative but to do so.

Auditor's responsibilities for the audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these financial statements.

As part of an audit conducted in accordance with ISAs and the additional requirements applicable in Denmark, we exercise professional

judgement and maintain professional scepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness

of the Group's and the Parent Company's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by Management.
- Conclude on the appropriateness of Management's use of the going concern basis of accounting in preparing the financial statements and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's and the Parent Company's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on

the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group and the Parent Company to cease to continue as a going concern.

- Evaluate the overall presentation, structure and contents of the financial statements, including the disclosures, and whether the financial statements represent the underlying transactions and events in a manner that gives a true and fair view.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the Consolidated Financial Statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Hellerup, March 1, 2024

PricewaterhouseCoopers
Statsautoriseret Revisionspartnerselskab
CVR No 33 77 12 31

Michael Groth Hansen
State Authorised Public Accountant
mne33228

Rikke Lund-Kühl
State Authorised Public Accountant
mne 33507

INDEPENDENT AUDITOR'S REPORT ON ESG

To the Stakeholders of Topsoe A/S

Topsoe A/S engaged us to provide limited assurance on the Statement of Environmental, Social and Governance (ESG) performance for the period 1 January - 31 December 2023 stated on pages 46-59 (the "consolidated ESG statement").

Our conclusion

Based on the procedures we performed and the evidence we obtained, nothing came to our attention that causes us not to believe that the consolidated ESG statement for the period 1 January - 31 December 2023 for Topsoe A/S are prepared, in all material respects, in accordance with the applied accounting policies developed by the Topsoe A/S as stated on pages 46-59 (the "consolidated ESG statement accounting policies").

This conclusion is to be read in the context of what we state in the remainder of our report.

What we are assuring

The scope of our work was limited to assurance over the consolidated ESG statement in the 2023 Annual Report of Topsoe A/S on pages 46-59.

We express limited assurance in our conclusion.

Corresponding information

With effect from the current financial year, the consolidated ESG statement has become subject to a limited assurance engagement. Please note that the comparative ESG data points stated in the consolidated ESG statements for the years prior to 2023 have not been subject to assurance, which also appears in the consolidated ESG statements.

Professional standards applied and level of assurance

We performed a limited assurance engagement in accordance with International Standard on Assurance Engagements 3000 (Revised) 'Assurance Engagements other than Audits and Reviews of Historical Financial Information' and, in respect of the greenhouse gas emissions, in accordance with International Standard on Assurance Engagements 3410 'Assurance engagements on greenhouse gas statements'. The quantification of greenhouse gas emissions is subject to inherent uncertainty because of incomplete scientific knowledge used to determine the emissions factors and the values needed to combine emissions of different gasses.

A limited assurance engagement is substantially less in scope than a reasonable assurance engagement in relation to both the risk assessment procedures, including an understanding of internal control, and the procedures

performed in response to the assessed risks; consequently, the level of assurance obtained in a limited assurance engagement is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed.

Our independence and quality control

We have complied with the independence requirements and other ethical requirements in the International Ethics Standards Board for Accountants' International Code of Ethics for Professional Accountants (IESBA Code), which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour and ethical requirements applicable in Denmark.

PricewaterhouseCoopers applies International Standard on Quality Management 1, ISQM 1, which requires the firm to design, implement and operate a system of quality management including policies or procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Our work was carried out by an independent multidisciplinary team with experience in sustainability reporting and assurance.

Understanding reporting and measurement methodologies

The consolidated ESG statement needs to be read and understood together with the consolidated ESG statement accounting policies. The consolidated ESG statement accounting policies used for the preparation of the consolidated ESG statement are the accounting policies developed by the Company, which Management is solely responsible for selecting and applying.

The absence of a significant body of established practice on which to draw to evaluate and measure sustainability data allows for different, but acceptable, measurement techniques and can affect comparability between entities and over time.

Work performed

We are required to plan and perform our work in order to consider the risk of material misstatement of the consolidated ESG statement. In doing so and based on our professional judgement, we:

- Evaluated the appropriateness of the accounting policies used, their consistent application and related disclosures in the consolidated ESG statement;
- Made inquiries and conducted interviews with management with responsibility for management and reporting of the consoli-

dated ESG statement to assess reporting and consolidation process, use of company-wide systems and controls performed;

- Performed limited substantive testing on a sample basis to underlying documentation and evaluated the appropriateness of quantification methods and compliance with the consolidated ESG statement accounting policies for preparing consolidated ESG statement at corporate head office and in relation to selected Topsoe's reporting sites;
- Performed analytical review and trend explanation of the consolidated ESG statement; and
- Evaluated the obtained evidence.

Management's responsibilities

Management of Topsoe A/S is responsible for:

- Designing, implementing and maintaining internal control over information relevant to the preparation of the consolidated ESG statement that are free from material misstatement, whether due to fraud or error;
- Establishing objective consolidated ESG statement accounting policies for preparing the consolidated ESG statement;
- Measuring and reporting the information in the consolidated ESG statement based on the consolidated ESG statement accounting policies; and
- The content of the consolidated ESG statement.

Our responsibility

We are responsible for:

- Planning and performing the engagement to obtain limited assurance about whether the

consolidated ESG statement for the period 1 January – 31 December 2023 are prepared, in all material respects, in accordance with the consolidated ESG statement accounting policies;

- Forming an independent conclusion, based on the procedures performed and the evidence obtained; and
- Reporting our conclusion to the stakeholders of Topsoe A/S.

Hellerup, March 1, 2024

PricewaterhouseCoopers

Statsautoriseret Revisionspartnerselskab
CVR No 33 77 12 31

Michael Groth Hansen
State Authorised Public Accountant
mne33228

Rikke Lund-Kühl
State Authorised Public Accountant
mne 33507

