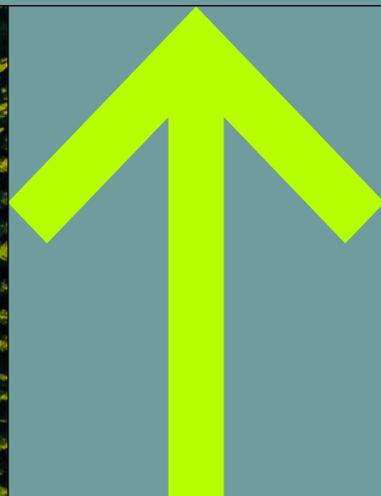
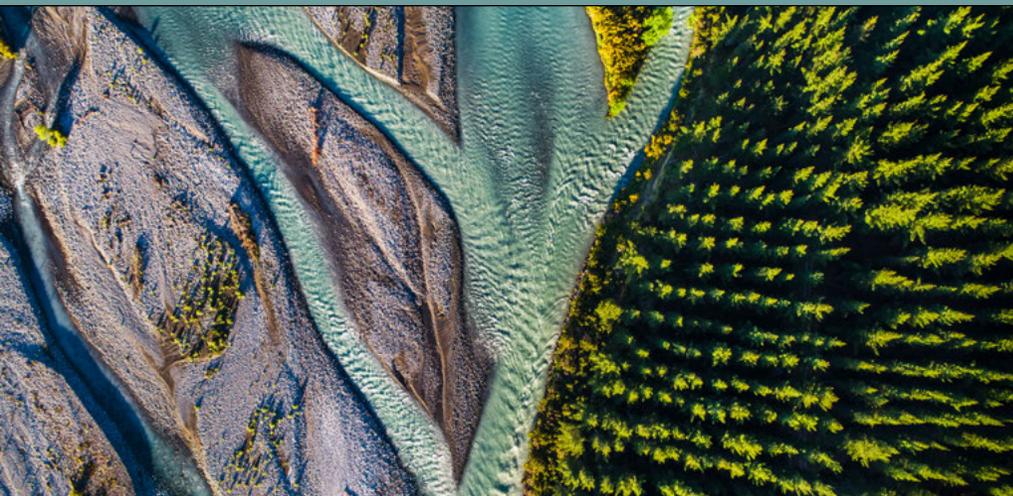
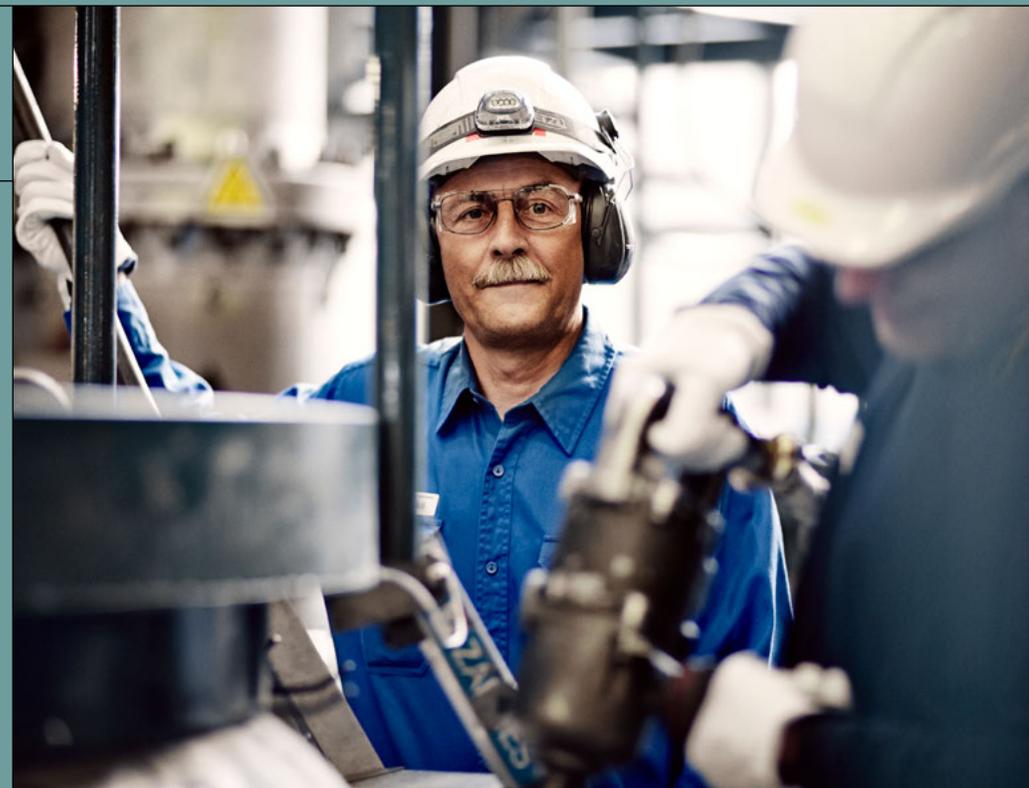


ANNUAL REPORT 2022

MAKING THE TRANSITION HAPPEN



TOPSOE

TOPSOE AT A GLANCE

Topsoe is a leading developer and provider of solutions and technologies to produce fuels and chemicals essential to the energy transition. For more than 80 years, we've been perfecting chemistry to help industries produce more efficiently. Today, it's our ambition to lead the global transition of hard-to-abate sectors to a zero-carbon future. Guided by our purpose, 'Perfecting chemistry for a better world', we work to deliver solutions that will leave the world in better shape for future generations.



6,845

in revenue
(DKK million)

2,242

employees



#1

in renewable fuels

8.6%

of revenue
invested in R&D

608

EBIT before special items
(DKK million)

#1

in low-carbon hydrogen

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STAY
INFORMED



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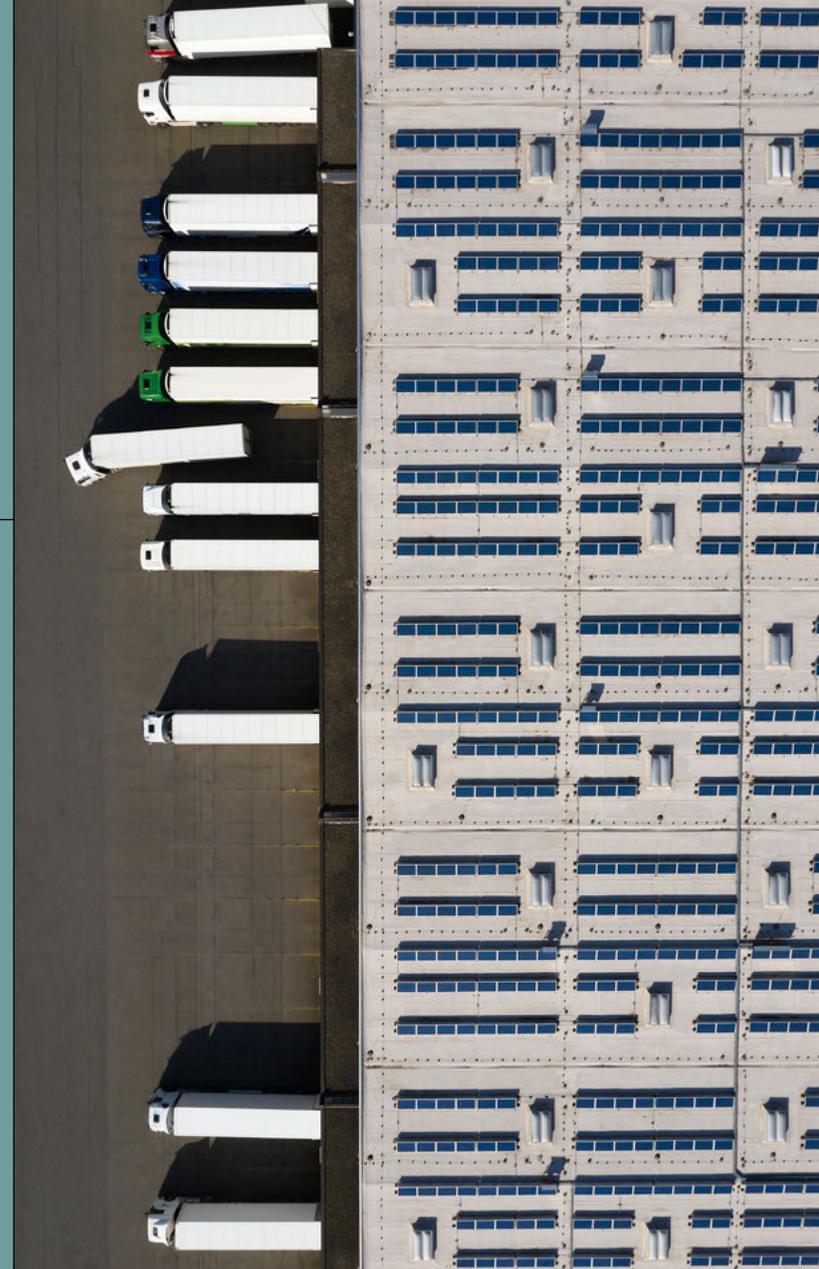
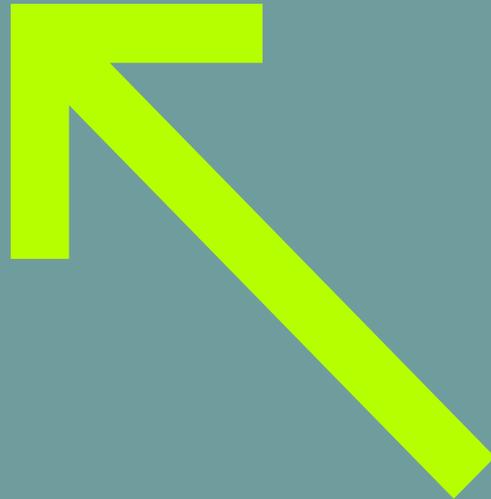
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CHAIRMAN'S LETTER

PASSING OUR TOUGHEST TEST

We've shown we have the resilience to cope with tough times and respond fast in a crisis. And we've demonstrated beyond any doubt that we have the creativity and commitment to turn innovative ideas into tangible results.

JEPPE CHRISTIANSEN
Chairman



It's been an extraordinary year. The war in Ukraine, rising inflation, and cost of living – and even the prospect of recession – combine to give us a sobering new perspective on the immediate future for the world, and for our business. We've had to close our business in Russia, one of our top three markets, and we've had to look for new sources of gas to power our operations. This has caused enormous upheaval and affected our bottom line.

Despite all this, I'm optimistic. This is because Topsoe is in a position to help tackle what remains the world's single biggest challenge: climate change. We have the expertise and technologies the world needs to help reduce greenhouse gas emissions and support the transition to a greener future. We've shown we have the resilience to cope with tough times and respond fast in a crisis. And we've demonstrated beyond any doubt that we have the creativity and commitment to turn innovative ideas into tangible results.

ACHIEVING DESPITE ADVERSITY

Our technologies are supporting our clients' conversion to new energy solutions in different ways, reflecting our three strategic priorities. Our commitment to build a state-of-the-art facility to manufacture our SOEC electrolyzers is a major milestone along the road to being the leader in Power-to-X technologies that turn renewable electricity into green fuels.

The commitment of First Ammonia to buy up to 5GW of capacity is a huge endorsement of this.

When it comes to helping our customers' transition to technologies that reduce carbon emissions, we're now the leading technology provider to refineries switching to sustainable aviation fuel. Finally, in our third priority area – optimizing our traditional business – we're helping clients cut emissions and energy use in their existing processes. These include RCF, one of India's leading chemical and fertilizer producers.

We've also made strides internally towards our committed target to be net-zero by 2040, as well as our near-term target to reduce absolute scope 1 and 2 GHG emissions by 100% by 2030 from a 2020 base year. We submitted our targets to the Science Based Targets initiative (SBTi) for validation in July 2022.

SHOWING OUR UNDERLYING STRENGTH

All of this has been possible, even in a year of such turmoil, because of how we've adapted after restructuring around our new strategy. But this is only part of the story. The year has shown me, once again, that science and innovation lead the way at Topsoe. Our dedication to it over decades has brought us to the point where we have a strong platform of expertise and capability. We also have great clients and partners working with us to pioneer new solutions based

on commitment and trust. And, last but certainly not least, we have a strong culture, exemplified by the energy and talent of our people in responding to organizational change and external crisis.

I'd like to thank everyone in Topsoe – senior leadership, managers, and staff – for their outstanding efforts and hard work. It's because of them that I look forward with confidence to 2023.

JEPPE CHRISTIANSEN

Chairman



We have the expertise and technologies the world needs to help reduce greenhouse gas emissions and support the transition to a greener future.

JEPPE CHRISTIANSEN

Chairman

PROGRESSING TODAY TOWARDS A GREENER TOMORROW



ROELAND BAAN
President &
Chief Executive Officer

We're helping the world reach net-zero through our technologies and solutions – they are vital to decarbonize the hard-to-abate sectors and help society make the transition to a green future. In 2022, we've made significant progress on all fronts while handling challenges including Russia's war on Ukraine, inflation, and the energy crisis.

In recent years, Topsoe has taken a position as a leading force in decarbonization and energy transition. To achieve this, we've focused our efforts on developing and perfecting our technologies to provide renewable energy solutions to hard-to-abate sectors.

The most important indication of our progress is the impact we've had on our customers' greenhouse gas emissions. In 2022, we enabled our customers to reduce emissions by 16 million tonnes – the equiva-

lent of around 40% of Denmark's total emissions. This shows how far and fast we're moving. It also demonstrates that we're not letting turbulence in the wider world deflect us from our overriding objective.

Our other solutions – like carbon capture, clean air solutions that reduce pollutants, and improve our environment, or those that make fossil fuel-based industry less energy-hungry – are just as important as we transition to a sustainable future. I'm pleased



to say we continue to be highly successful across all these areas.

BRIGHT SPOTS IN A TOUGH YEAR

World events created immediate challenges for us in 2022, as we worked to accelerate the green energy transition. Russia's invasion of Ukraine forced us to close our Russian business and relocate nearly half of our 80 Moscow-based colleagues to Topsoe offices outside Russia. A major step, as Russia was our third biggest market. Despite these serious events, we've been able to grow our business steadily.

From an operational point of view, the war and rising inflation not only disrupted our supply chain and increased our costs, but also increased the risk of interruptions to our production due to uncertainties around natural gas supply. To mitigate this, we built LPG and LNG terminals at our main plant in Denmark, diversifying the energy sources for the production. That we succeeded in getting solutions in place in such short time is a tribute to the adaptability and tenacity of our procurement teams, as well as our scientists and operational teams.

This demonstrates the strength of Topsoe; that we can develop our business and protect our colleagues in times of unprecedented and unacceptable aggression in Europe. This has been made possible through dedication and hard work from passionate and skilled Topsoe colleagues, and unwavering support from

our owners, underscoring the belief in the future of Topsoe.

We are committed to deliver solutions that will help decarbonize the world. A landmark example of that commitment is our decision to build a first-of-its-kind electrolyzer manufacturing facility in Herning, Denmark. From 2025, the electrolyzers coming from this plant will be based on our unique Solid Oxide Electrolyzer Cell technology (SOEC). With this technology, our customers will be able to produce green hydrogen up to 35% more efficiently compared to conventional electrolysis technology. The investment is the biggest in the history of Topsoe. The commitment of a major customer to take up to 5GW of capacity underlines the market's confidence in our trail-blazing work in Power-to-X technology.

THE WORLD NEEDS MORE NOW

The global COP27 conference showed us that there's still a long way to go towards the real unity and commitment needed to fight the impending climate crisis. There was no global commitment to targets for reducing and phasing out fossil fuel use and, besides a few exceptions, no new NDCs (Nationally Determined Contributions) were submitted. This places major responsibility on companies like ours to develop and push solutions for a net-zero world.

Significant reductions of CO₂ need to be achieved already during this decade, and we need to embrace

all available avenues to decarbonize faster. Relying only on completely green fuels and energy sources won't be enough to limit global warming to 1.5 degrees. Solutions based on Power-to-X to produce green hydrogen, ammonia, and other sustainable fuels are developing fast and are without any doubt the future of our world, but decarbonization needs to take place here and now as well. Until these new technologies reach significant scale, we depend on low-carbon energy solutions, like sustainable aviation fuels (SAF), biofuels, and low-carbon hydrogen. These technologies are available, proven, and scalable. That's why we continue to work on all these fronts.

Given what's at stake for the world, businesses involved in decarbonization need the right policy environment to accelerate innovation. In the US, the Inflation Reduction Act is an important step and could potentially cut US emissions by 31%-44%. REPowerEU, the EU's plan to make the bloc independent of Russian gas, will also encourage green technologies. But the world needs more if it is to cut emissions by 50% of 1990 levels by the end of this decade. In addition to backing all forms of decarbonization, we urge policy makers to create a level international playing field, for example by agreeing on a global tax on greenhouse gas emissions or through mechanisms such as the recently announced CBAM (Carbon Border Adjustment Mechanism) in the EU, which aims to protect against 'carbon leakage' by equalizing the price on carbon between domestic and imported products in selected sectors, including hydrogen.



A difficult economic and political environment must not slow down the green transition. Demand for zero and low-carbon solutions are high, but supply is still low. Our technologies put us in a good position to meet this demand.

ROELAND BAAN
CEO

REVENUE

(DKK million)

6,845

EBIT B.S.I.

(DKK million)

608

WE'RE WELL PLACED TO FORGE AHEAD

A difficult economic and political environment must not slow down the green energy transition. Demand for zero and low-carbon solutions are high, but supply is still low. Our technologies put us in a good position to meet this demand.

Our technology for low-carbon hydrogen and renewable fuel projects has been the technology of choice for customers in the US market. We're also supporting shipping and aviation, and have been awarded a large majority of the projects we bid on in 2022.

For our low-carbon technologies, we aim to work with customers who share our ambition to reach the lowest carbon intensity along the whole production chain, including fugitive methane emissions and carbon capture and storage. This can be done by combining our blue solutions with the best technologies in carbon capture.

We also continue to work with long-standing clients in our traditional business, using our technology and expertise to make industry more efficient, curb its energy use, and limit its environmental impact.

WALKING THE TALK

Not only do we want to help our customers reduce their carbon emissions, but we also want to lead the way by running Topsoe as a sustainable operation. In

September 2022, we committed to being net-zero across our value chain (scope 1, 2 and 3) by 2040.

In November 2022, we were rewarded with the highest possible ranking, Platinum, by the trusted sustainable business rating, EcoVadis.

Our sustainability commitments cover the full spectrum of environmental, social, and governance issues, whether it's achieving Zero Harm through our health, safety, and environmental systems, or building a more diverse organization. An example of this is the establishment of a Diversity, Equity & Inclusion (DE&I) Committee, which will give an even more prominent voice to Topsoe employees to advise our leadership on building a diverse and inclusive workplace.

To set a new standard for transparency and emphasize that sustainability sits at the core of our business, we decided to combine our financial and sustainability reporting this year, following the practices of integrated reporting. So, this report is a first for Topsoe. We will keep refining this framework, to give all our stakeholders a better understanding of the financial and non-financial factors that determine our performance and the way we create value as a business.

PERFORMING WELL, DESPITE SHOCKS

Despite the challenges we've faced in 2022, we've been able to deliver strong revenue growth. This

demonstrates the resilience of our business, and that there is a significant interest in our solutions for the energy transition. Global uncertainty, inflation and supply chain challenges affected our earnings, but we managed to address these issues in a timely manner, which positively impacted the second half of 2022. We remain committed to the energy transition and continue to upscale our low-carbon offerings and our Power-to-X organization to deliver on our ambitions.

THANK YOU

In a year where we've faced and met numerous challenges, I'd like to thank our owners, business partners, and customers for their support throughout the year. A special thanks goes to my colleagues who have done a tremendous job navigating the company through the shoals of a very difficult environment. It's down to them all that we can look to the future from such a great position of strength.

ROELAND BAAN

CEO

BUSINESS MILESTONES 2022

TOPSOE

APRIL

Haldor Topsøe changes company name to Topsoe

[→ Read more](#)



MAY

Topsoe signs a joint declaration to ramp up manufacturing of electrolyzers to boost green hydrogen production in the EU

[→ Read more](#)



JUNE

Topsoe launches the 2022 target to help reduce our customers' greenhouse gas emissions by 12 million tonnes. Later in the year, we raised the target to 16 million tonnes

[→ Read more](#)



SEPTEMBER

Topsoe confirms final investment decision for construction of our first SOEC electrolyzer manufacturing plant in Herning, Denmark

[→ Read more](#)

APRIL

Topsoe exits Russia and Belarus, and we close down our Russia office

[→ Read more](#)



MAY

Topsoe signs agreement with Cresta to support production of renewable diesel and sustainable aviation fuel in Canada

[→ Read more](#)



AUGUST

Topsoe joins the partnership, the Circular Industrial Plastics partnership, committed to increasing recycling of industrial plastics by 20% before 2025

[→ Read more](#)



BUSINESS MILESTONES 2022



SEPTEMBER

Topsoe increases climate commitment by setting ambitious industry-leading net-zero targets

[→ Read more](#)



OCTOBER

The Danish Power-to-X partnership between Topsoe, Skovgaard Energy, and Vestas, breaks ground on first-of-its-kind green ammonia project

[→ Read more](#)



DECEMBER

Rating agency, EcoVadis rewards Topsoe with the highest possible rating, Platinum

[→ Read more](#)

SEPTEMBER

Topsoe and First Ammonia launch green ammonia production based on the world's largest reservation of electrolyzer capacity

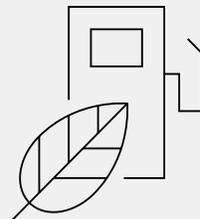
[→ Read more](#)



SEPTEMBER

Topsoe signs an agreement with HIF Global Partners to deliver technology to planned eFuels facility in Texas

[→ Read more](#)



DECEMBER

Topsoe signs agreement with Ascension Clean Energy to support the production of low-carbon ammonia in Louisiana, USA

[→ Read more](#)



DECEMBER

Topsoe gathers businesses across the value chain to discuss scaling Sustainable Aviation Fuel at Topsoe SAF Summit



OUR BUSINESS MODEL

Topsoe has a business model covering the full value chain, progressing toward solutions to support our customers' decarbonization journey.

ENERGY SOURCES

Fuels and chemicals can be produced from various sources of both renewable and fossil feedstocks.



Renewable electricity



Biomass, waste, and carbon



Fossil energy

SOLUTIONS

Topsoe helps customers on their decarbonization journey through advanced energy solutions, such as Power-to-X, renewable fuels, and blue solutions for chemicals.



Topsoe electrolysis solutions



Topsoe chemical solutions



Topsoe fuel solutions

CHEMICALS AND FUELS

For our customers, the output is more efficient processes or renewable feedstocks, which can significantly lower carbon footprint and so support their energy transition.



Hydrogen



Ammonia



Methanol



Fuels



Sulfur removal

UTILIZATION

The societal benefits of these end-products come in the shape of, among other things, a cleaner transportation sector and lower carbon footprint for hard-to-abate sectors such as steel, cement, and mining.



Transportation



Chemicals and fertilizers



Heavy industry

VALUE CREATION

We create value for customers, employees, shareholders, and society. We contribute directly to the United Nation's Sustainable Development Goals (SDGs) nos. 13, 7, 3, 12, and 8.



13 CLIMATE ACTION



12 RESPONSIBLE CONSUMPTION AND PRODUCTION



7 AFFORDABLE AND CLEAN ENERGY



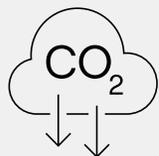
8 DECENT WORK AND ECONOMIC GROWTH



3 GOOD HEALTH AND WELL-BEING

PERFORMANCE HIGHLIGHTS 2022

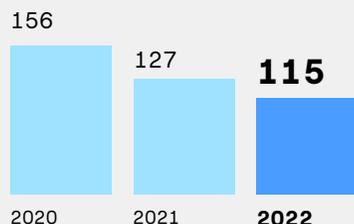
2022 was a year of global insecurity. Like most businesses, we felt the effects of rising prices and unrest in the market. So we're extremely proud of our performance during this year, which is down to great team effort across Topsoe.



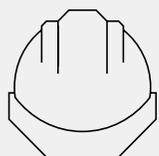
115

Carbon footprint

tCO₂e thousand (Scope 1 & 2)



In 2022, greenhouse gas emissions from our operations were 10% lower compared to 2021, and 23% lower compared to 2020.



0.6

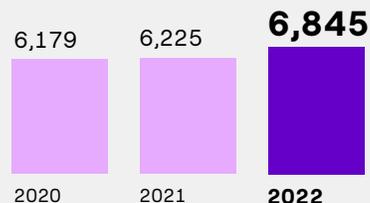
Safety (TRIF)



We have a strong focus on safety, and we reduced our total recordable incident frequency (TRIF) ratio by 0.1. Since 2020, our (TRIF) per 200,000 working hours has been reduced by 50%.

Revenue

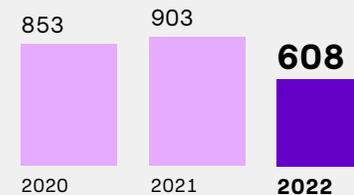
DKK million



Revenue increased by 10% to DKK 6,845 million driven by strong demand for Topsoe's energy transition solutions. Topsoe closed down its business in Russia, which had a negative impact on revenue and growth. Growth excluding Russia was 18%.

EBIT before special items

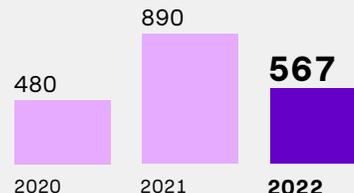
DKK million



EBIT before special items decreased by 33% to DKK 608 million, mainly driven by closing down our business in Russia, temporary inflation-driven margin squeeze, higher product costs caused by raw material shortages, and upscaling our Power-to-X organization.

Net profit

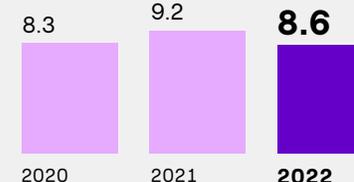
DKK million



Net profit decreased by 36% to DKK 567 million, mainly driven by closing down our business in Russia and 33% decline in EBIT before special items.

Innovation

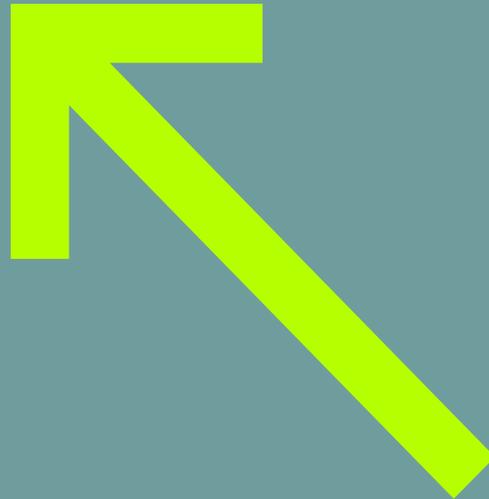
Percent of revenue



In 2022, Topsoe invested 8.6% of its revenue in R&D, compared to 9.2% in 2021. We always strive to develop the best possible solutions, and we continue to invest in R&D to support our vision.

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OUR STRATEGIC DIRECTION

LEADING THE WAY TO A GREENER FUTURE

When Dr. Haldor Topsøe founded this company in 1940, he based it on two central qualities: a passion for science and a determination to make a positive difference to the world. We stay committed to his legacy. And we've defined a way to secure it for the future with an ambitious vision to inspire us and a clear strategy to guide our efforts.

The greatest challenge facing the world is climate change. Countries, companies, and citizens must ramp up their efforts to reduce carbon emissions and support the transition to net-zero by 2050. We have the know-how and the technologies to accelerate these efforts – and make a positive difference on a global scale.

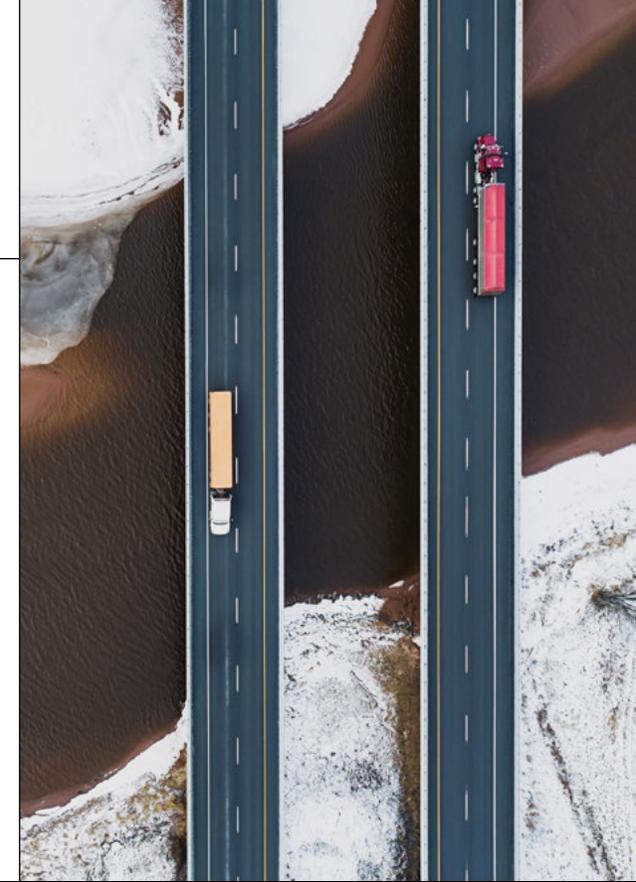
Our vision is to be recognized as the global leader in carbon emission reduction technologies. In 2022, our aim was to enable our customers to reduce annual greenhouse gas emissions by 12 million tonnes. We're proud to say that we surpassed that target, ultimately cutting annual emissions by 16 million tonnes.

MEETING MARKET NEEDS

We've designed our strategy to support our customers' decarbonization journey and address the climate challenge, while at the same time maintaining sustainable growth in our business.

Our strategic priorities to meet existing and future market needs are:

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



BUILDING A LEADERSHIP POSITION IN POWER-TO-X

A critical step in the energy transition is the production of green ammonia for fertilizer and fuels



Decarbonizing some of the most carbon-intensive industries like heavy transportation, steel, chemicals, cement, and mining is immensely challenging as they can't be electrified. Power-to-X is the missing link, enabling companies in the so-called hard-to-abate sectors to replace fossil fuels with alternatives such as green hydrogen, green ammonia, and numerous other derivatives.

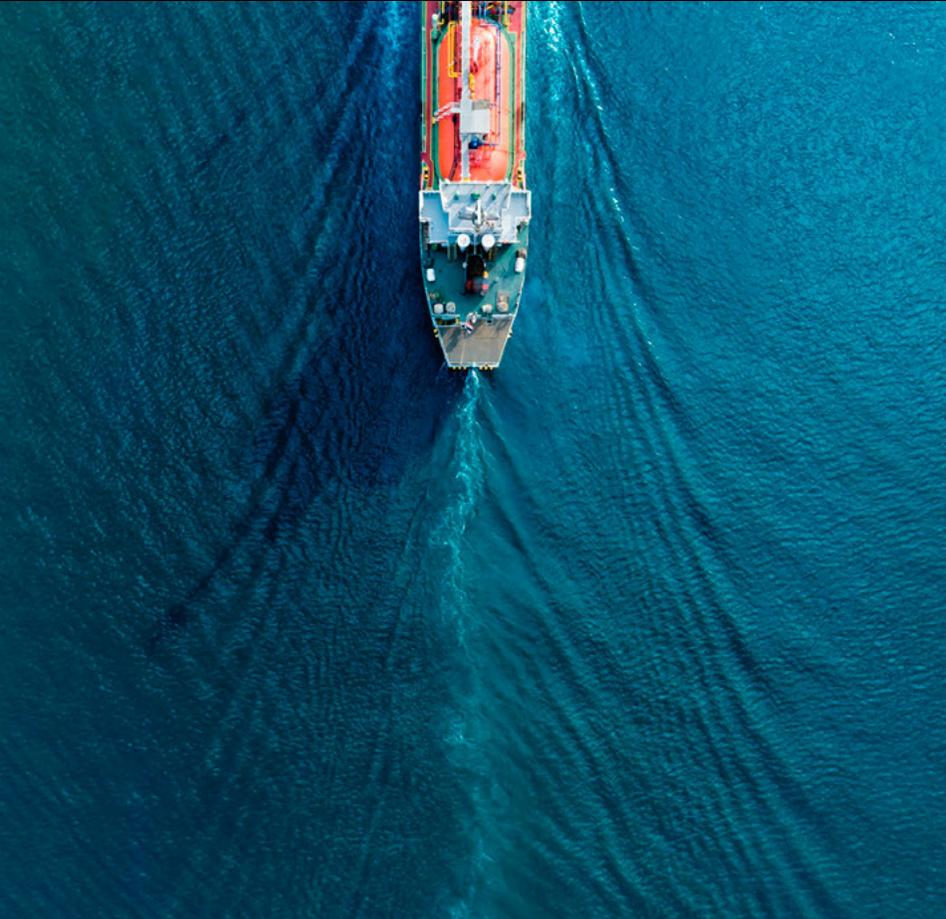
One main challenge here has been the lack of much-needed electrolyzer capacity. Facing this challenge head on, we've started building the world's most advanced electrolyzer manufacturing plant that has an annual capacity of 500MW and can be scaled to 5GW to meet increasing demand. This is a critical step to accelerate the global green energy transition and reducing dependence on fossil fuels.



Power-to-X describes the process of using an electrolyzer to turn renewable electricity into hydrogen, and then converting the hydrogen into other chemicals. The result is a range of storable and transportable fuels and chemicals.

TOPSOE™ SOEC electrolyzers are 20-35% more efficient than competing electrolyzers, and integrate seamlessly with downstream processes to deliver maximum value, efficiency and performance.

Partnering with First Ammonia to deliver a greener future



Green ammonia – ammonia produced using renewable energy – is crucial to a low-carbon future. It can serve as a carbon-free fuel for industry and shipping, as well as stored energy to support renewable power grids. It's also easier and safer to transport than the hydrogen it derives from.

Producing green ammonia demands electrolysis on a huge scale. Our solid oxide electrolyzer cell (SOEC) technology promises to provide exactly that. Our new plant in Denmark is set to produce electrolyzers with an annual capacity of 500MW. US-based First Ammonia will use these electrolyzers to produce green ammonia at its plants in Germany and the US, using renewable power from nearby solar and wind facilities.

In the world's largest agreement of its kind to date, First Ammonia will take 5GW of electrolyzer capacity in all. This will produce enough ammonia to eliminate 13 million tonnes of CO₂ emissions – equivalent to taking 9 million petrol cars off the roads*.

'We're not messing around here. This is about saving the world,' says First Ammonia CEO Joel Moser. 'Ammonia has done that once by producing fertilizer to grow crops that prevent starvation. It can now do it again by creating green fuel and energy to help decarbonize the world.'

* Source: First Ammonia



To produce enough ammonia, we need companies like Topsoe. They're uniquely positioned to get it right and help us demonstrate to the world that this works.

JOEL MOSER
CEO, First Ammonia

DRIVING OUR CUSTOMERS' TRANSITION TO CARBON EMISSION REDUCTION TECHNOLOGIES

Our existing technologies and insights can help drive our customers' transition to carbon emission reductions technologies in several areas. This includes expanding our strong hydrogen technology position into blue hydrogen, blue ammonia, and blue methanol. These are low-carbon fuels and chemicals produced using fossil energy sources and certified technology and processes for carbon capture and storage.

Over the past few years, and increasingly so in 2022, we've seen a keen interest in these technologies from our customers in transport and industry. We expect this demand to grow, driven by companies' own policies and regulation, but also by consumers pushing for a more sustainable future.

Today, we're the global market leader in technology to produce renewable fuels made from feedstock such as vegetable oils and waste, using our HydroFlex™ technology. We're already using this to produce sustainable aviation fuel (SAF), and can expand further into other renewable fuels, including biofuels for shipping.



Low-carbon fuels and chemicals are key for the energy transition and Topsoe provides leading technologies.



Fuelling the journey to net-zero aviation with SkyNRG



The aviation industry currently produces 3% of global CO₂ emissions but aims to be at net-zero by 2050. Sustainable aviation fuel (SAF) is vital to reaching that target because its emissions are up to 85% lower than the fossil fuel equivalent.

SkyNRG is among the leaders in developing SAF. The company is behind Europe's first facility devoted solely to producing SAF – and our HydroFlex™ technology is at the heart of these plans. It turns feedstocks like non-fossil waste oils into fuel that can power jet engines without having to replace or adapt them.

SkyNRG's plant, at Delfzijl in the Netherlands, is set to start up by 2027. It will produce 100,000 tonnes of SAF per year, removing 250,000 tonnes of CO₂ emissions.

'We want to maximize SAF volumes instead of producing renewable diesel with a small amount of SAF as a by-product,' explains SkyNRG CEO Philippe Lacamp. 'No one else has done that. Topsoe came on board with us and embraced this challenge. Their commitment and innovative approach have made this facility possible.'

SkyNRG's eyes are already on higher-capacity SAF plants to produce millions of tons of SAF per year by 2040. Again, our expertise is at the heart of these plans as we work with SkyNRG on new combinations of technologies and feedstocks.



Topsoe is such an important partner for us. The only way we decarbonize the aviation industry fast enough is with world-leading companies like them.

PHILIPPE LACAMP
CEO, SKYNRG

OPTIMIZING OUR TRADITIONAL BUSINESS

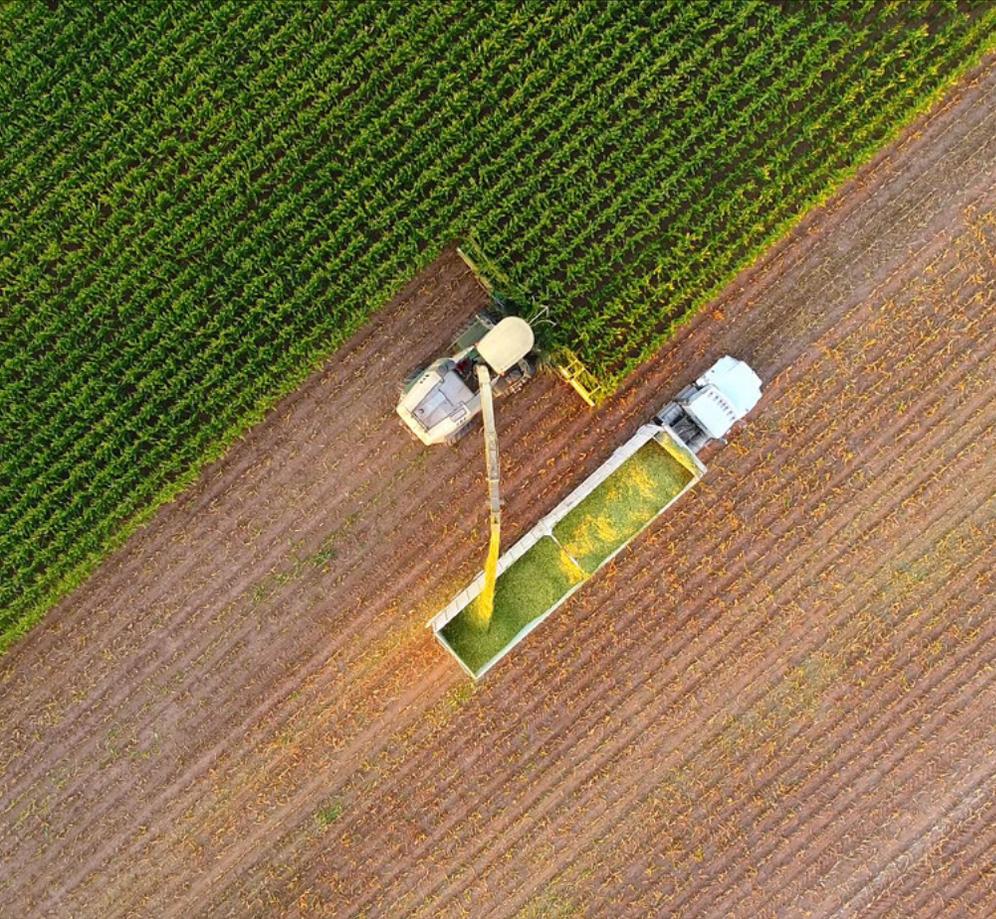
Our well-known technologies and catalysts play a key role in making production of the world's fuels and chemicals more energy-efficient. This contributes to preserving cleaner air and environment during the energy transition, where fossil fuels will still be a part of the energy mix. At the same time, this part of our business is funding our innovation and growth in green technologies.

We'll continue to strengthen our position in low-sulfur fuels, hydrogen, ammonia, and methanol using our technologies and catalysts. We'll also work to maintain our leading position in sulfur 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 the way we run our business. This includes optimizing processes and reducing waste; improving hardware design; removing non-value-adding tasks; and rolling out digitalization projects so we can help clients at their sites remotely.



Optimizing energy consumption for RCF



RCF is one of India's biggest fertilizer and chemical producers, producing fertilizers and a wide range of industrial chemicals. The company began using our ammonia technology and catalysts for fertilizer production in the 1980s, and we've upgraded energy efficiency and capacity of RCF's plants since 2011-12.

Natural gas is the main raw material for producing ammonia. The urea fertilizer industry is highly dependent on Indian government subsidy, and the government has set a policy to reduce energy consumption, and so bring down the subsidy payment. RCF is planning to reduce its energy consumption proactively in line with this policy.

RCF has benefited continuously from our technology and innovation, with our plants powering ammonia production from the beginning. The company can cut energy consumption by 5% by implementing the recommendations in our study report. The design of the original plants makes it possible to upgrade them by adding more recent technology to their cores, rather than having to replace them completely.



Topsoe's proposal allows us to keep producing a vital fertilizer for India's farmers by optimizing energy resources and drawing on Topsoe's technical know-how. This will also help reduce carbon emissions and contribute to reducing global warming.

MILIND. M. DEO
DIRECTOR TECHNICAL, RCF

COMMITTED TO BEING A SUSTAINABLE BUSINESS

Global efforts to limit climate change need to accelerate for the world to achieve the goals of the Paris Agreement. We provide leading technologies to help society reduce carbon emissions and address climate change.

We've built a solid foundation throughout our organization to incorporate sustainability across material environmental, social, and governance (ESG) topics. We capture this in our Sustainability Framework. This defines what we see as the fundamentals of responsible business conduct as well as our strategic imperatives and the commitments we make - from reducing emissions to promoting circular product design.

In 2022, we updated our Sustainability Policy to reflect new ambitions and actions, and reviewed our materiality assessment, which anchored the development of our Sustainability Framework in 2021. We concluded that the assessment is still in step with internal and external expectations about Topsoe and mirrors the key topics defined in our framework.

In 2023, we'll conduct a double materiality assessment to further embed sustainability risks and opportunities into our business.

We've established clear roles and responsibilities for sustainability governance to make sure we're consistent across our global organization. The Senior Leadership Team is ultimately accountable for the Sustainability Framework, targets, and action plans. The Sustainability Team sets direction and targets, works closely with functional teams to embed sustainability, and monitors and reports on progress against ambitions and targets. See [→ topsoe.com](https://topsoe.com) for a visualization of our sustainability governance. For more about corporate governance, see [→ page 56](#), including stronger Board oversight related to sustainability and ESG.

SUSTAINABILITY FRAMEWORK

CARBON EMISSION REDUCTION		PRODUCT LIFE CYCLE			
	Low-carbon and energy-efficient products, technologies and services (incl. life cycle assessments)		Sustainable and circular product design		
	Science-based emission reduction in the value chain		Address end-of-life product waste challenge		
	Public affairs, advocacy and partnerships		Advocacy and partnerships		
E ENVIRONMENT		S SOCIAL		G GOVERNANCE	
<ul style="list-style-type: none"> → Resource efficiency and emissions management → Waste reduction → Resiliency in minerals sourcing → Chemical footprint management 		<ul style="list-style-type: none"> → Safety, well-being and fair working conditions → Inclusive and diverse workplace → Donations and community development 		<ul style="list-style-type: none"> → Governance frameworks → Compliance management, due diligence and business ethics → Transparency and disclosures → Responsible sourcing 	

2022 HIGHLIGHTS



SETTING OUR SIGHTS ON A MORE SUSTAINABLE FUTURE

AMBITIOUS NEW CLIMATE COMMITMENTS

In 2022, we took a leap forward in our climate commitments and action. Our ambition for the year was to enable our customers to reduce annual greenhouse gas emissions by 12 million tonnes – but we managed to surpass that target, cutting emissions by as much as 16 million tonnes. We also announced our commitment to set a net-zero 2040 target for our entire value chain, and submitted our target for validation with SBTi. And we received our first Carbon Disclosure Project (CDP) rating, a B-, as well as engaged with more than 200 suppliers on decarbonizing our value chain.

INCREASING OUR AWARENESS OF CLIMATE RISKS, HUMAN RIGHTS IMPACTS, AND CIRCULARITY

During 2022, we carried out several studies to increase our awareness around key sustainability topics. This included a first-time climate risk scenario analysis; continuation of our human rights impact assessment with stakeholders from across our organ-

ization; and a circular economy self-assessment covering company, portfolio, and product levels. Data and insights from these studies will inform updates of our internal procedures and our risk management processes, and give us the basis for developing new initiatives to continually improve our Sustainability Framework.

In the next few years, we'll be in scope for reporting under the EU Taxonomy Regulation. To make sure we're ready, a cross-functional task force has mapped our business activities, and we'll continue preparations for compliance in 2023.

We continued to run life cycle assessments (LCAs) of our products and solutions to help us evaluate and document their environmental impacts. LCAs are a key tool for spotting how we can improve product design and production, as well as for knowledge-sharing with customers.

OUR SUSTAINABILITY COMMITMENTS

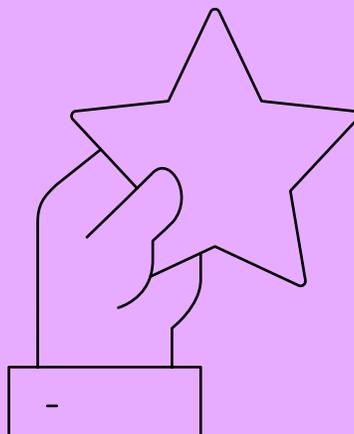
GHG emission reduction

20_{mt}

2022: 16 mt

Enable our customers to reduce annual greenhouse gas emissions by 20 million tonnes in 2023

Employee engagement



25

2022: 24

Top 25 score in the annual employee engagement survey compared to the industry benchmark by 2024

Safety (TRIF)

0.4

2022: 0.58

By 2024, a TRIF of 0.4 for employees and 0.55 for employees and contractors combined

Net-zero by

2040

2022: 25% reduction in scope 1&2

Net-zero greenhouse gas emissions by 2040 for the entire value chain, with a near-term target to reduce absolute scope 1 and 2 greenhouse gas emissions by 100% by 2030 from a 2020 base year

Women in management

30%

2022: 23%

30% women in management by 2024

ENVIRONMENT

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Minimizing our environmental impact	27
Net-zero by 2040	28
Managing emissions and resource efficiency	29
Managing waste	30
Resilience in minerals sourcing	31
Managing our chemical footprint	32



Zeolites are essential raw materials for production of some of our catalysts.

OUR FOCUS

We conduct our daily operations in an environmentally sound manner, ensuring safe handling of chemicals and a continuous reduction of waste, emissions, and resource consumption.

Requirements of our environmental management systems (ISO14001 and RC14001) and quality (ISO9001) within production drive continuous efficiency improvements.

TARGETS

→ Net-zero GHG emissions by 2040 for scope 1, 2 and 3

POLICIES

→ [Sustainability Policy](#) →
→ [Global Environmental Policy](#) →

SDG IMPACT

→ SDG 13 Climate Action
→ SDG 3 Good Health and Well-being
→ SDG 7 Affordable and Clean Energy
→ SDG 12 Responsible Consumption and Production



PUSHING TOWARDS NET-ZERO

We're committed to being responsible in how we manage our impacts on the environment throughout our value chain. We use our strong scientific foundation to develop the best products in the most responsible way. We continuously strive to minimize the potential negative impact on the environment from our production. And we manage our resources responsibly across the value chain through a life cycle approach.



MINIMIZING OUR ENVIRONMENTAL IMPACT

Our operations affect the environment through the raw materials, energy and water we use, and the waste and emissions we generate.

Local Health, Safety, Security & Environment (HSSE) teams make sure we comply with all relevant rules and regulations. As part of local HSSE improvement plans, the teams set annual targets for continuously improving procedures, processes, risk assessments, and internal spot checks. In 2022, we made important progress to improve environmental practices at our two production sites in Denmark and the US. The US site received the American Chemistry Council's Responsible Care® RC14001 certification. At our site in Frederikssund, Denmark, we will start implementing ISO 50001 for Energy Management in 2023, with the ambition to achieve certification in the beginning of 2024.

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 2022, we started using SAP EHS software, to monitor occupational health and safety. In 2023, we'll upgrade the system to manage all environmental and energy data. This will give us monthly progress reports that enable us to be more agile in how we achieve our targets, as well as help us to continually evaluate our ambitions.

NET-ZERO BY 2040



Our commitment to climate action

As a company we are determined to help solve the world's most challenging issue - climate change. This includes addressing the greenhouse gases that we emit - directly or indirectly - in our current operations and across our value chain. Our ambition is to reduce our global greenhouse gas emissions to net-zero by 2040.

Our near-term strategy focuses on eliminating emissions in our own operations and initiating collaboration with key suppliers to decarbonize our supply chain.

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



Eliminate process 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:

Absolute scope 1 and 2 GHG reduction of 100% by 2030

Long-term target commitment:

Net-zero emissions across our value chain

— Path to net-zero
 --- Business as usual

2020

2022

2024

2030

2040

MANAGING EMISSIONS AND RESOURCE EFFICIENCY

Our operations are resource intensive both for energy and raw materials. And energy consumption (natural gas and electricity) has a material adverse impact on our scope 1 and 2 emissions profile.

MANAGING EMISSIONS

Reducing emissions in our value chain is a strategic priority for us. We manage emissions to continuously reduce our negative impact on the environment and human health. This includes all relevant greenhouse gases contributing to climate change, as well as emissions such as sulfur oxides (SOx), nitrogen oxide (NOx), ammonia (NH3), and dust.

We're developing management systems for capturing the data to support these improvement activities and help us report our progress in a transparent and verifiable way.

In 2022, like many other companies, we had to develop contingency plans in case natural gas supplies in Europe and Denmark were restricted or halted altogether. For this reason, finding ways to maintain energy supply and business continuity has taken priority over activities to reduce carbon emissions in our operations. The solutions we've found have meant

redesigning and building out operational processes, and applying for extra permits to use LNG, LPG, and low-sulfur fuel oil. Unfortunately, these solutions are more carbon-intensive than the natural gas they might replace. But we've calculated the potential increase as not material. This step is necessary to protect business continuity, but it doesn't change our commitment to reduce our absolute scope 1 and 2 greenhouse gas (GHG) emissions by 2030.

REDUCING GREENHOUSE GAS EMISSIONS

We set out to reduce our operational GHG emissions (scope 1 and 2) by 25% in 2022 through measures like removing N₂O emissions from our production site in Denmark. We had to delay this to be able to focus on our internal infrastructure to support energy security. To meet our 2022 target, we decided to accelerate investment in renewable energy. Lower production volume has also meant we reduced our scope 1 and 2 GHG emissions in 2022 compared to 2020. In total, we have cut emissions by 25% in our own operations since 2020.

In 2022, we focused on developing a detailed plan to decarbonize our value chain (highlights are in the graphic on page 28). To address our upstream scope 3 emissions, which cover 70% of our total emissions (baseline 2020), we engaged with key suppliers, accounting for about 80% of our suppliers' GHG footprint, to partner with us in becoming net-zero.

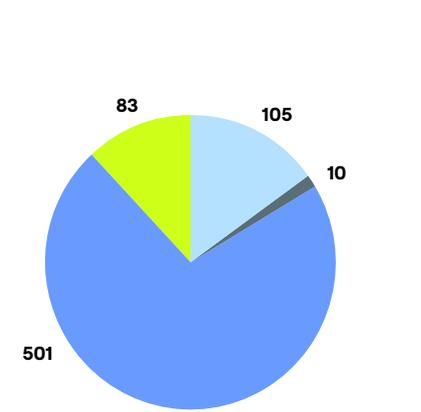
RESOURCE EFFICIENCY

Reducing energy use from our operations and contributing to climate change solutions are critical business priorities. 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.

The scarcity of fresh water resources is an important issue of our business. Climate change and population growth will restrict the availability of fresh water. For this reason, we need to make sure that we use water wisely and sustainably in the years to come. Our two production sites in the US and Denmark are both operating in low-medium water risk areas according to World Resource Institute's Aqueduct Water Risk Atlas.

TOTAL GHG EMISSIONS

(thousand tonnes CO₂e, 2022)



TOTAL

699

- Scope 1
- Scope 2 - Market-based
- Scope 3 - Upstream
- Scope 3 - Downstream



MANAGING WASTE

How we reduce waste, and how we handle the waste we do produce, affects our environmental impact.

We work continuously to manage resources better by optimizing production processes. We evaluate all material fractions for possible internal or external use, or, where we can't recycle, for authorized disposal. In all cases, authorized contractors transport and process the material to make sure it's 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, and most of the waste we generate is sent to recovery rather than landfill.

In 2022, our production sites made efforts to reduce waste and to increase the proportion of recovered

waste. We have succeeded in increasing the proportion of recovered waste from 82% to 92%, as well as reducing the total waste generated by 9%.

In 2023, we will develop global targets for reduction of waste across our operations. We will also broaden the scope of waste reporting to include our R&D operations.

RESILIENCE IN MINERALS SOURCING

Minerals and metals are essential to many of today's rapidly growing clean energy technologies, including ours. So demand for these materials will grow quickly as the transition to clean energy gathers pace - and Topsoe will be part of that.

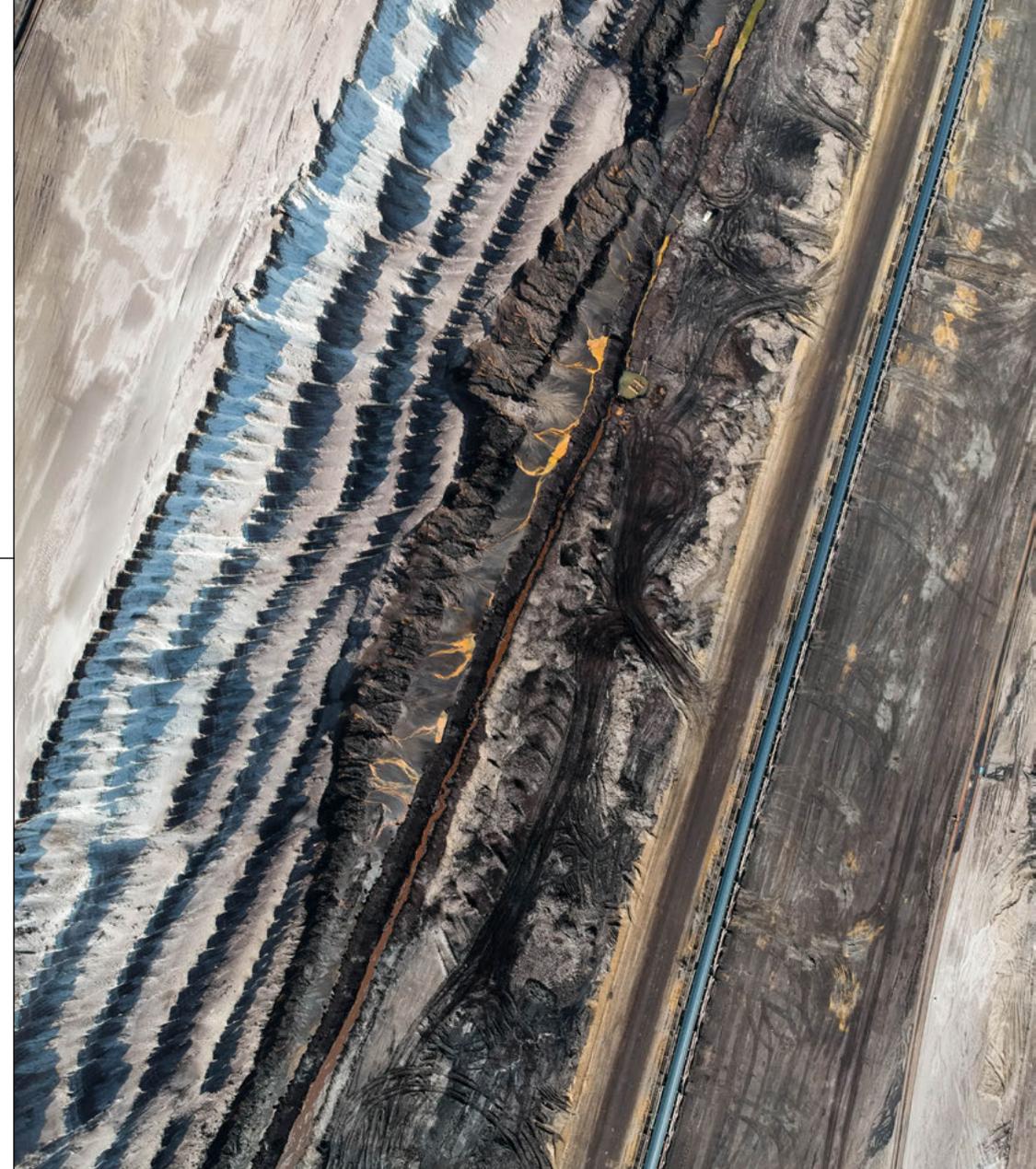
We continuously assess the resilience of our supply chain, particularly when it comes to single-source suppliers, critical raw materials constraints, and geopolitical uncertainties.

In 2022, like most global chemical companies, we were affected by market uncertainties in the wake of Russia's invasion of Ukraine. But our proactive sourcing practices mitigated any severe negative consequences, and we were able to navigate uncertainties without any major impact on our production.

We believe that we, our customers, and society benefit from exploring and developing circular business models that treat spent catalysts, as well as other end-of-life products, as secondary resources and not

waste. Currently, we reactivate selected spent hydro-treating catalysts through our ReFRESH™ process to restore up to 95% of fresh catalyst activity. This process is significantly more sustainable than recycling end-of-life catalysts.

In 2022, we engaged a wide range of internal stakeholders to assess the maturity of our circular model. This gives us a baseline understanding to take the next steps to integrate circular thinking throughout our business.



MANAGING OUR CHEMICAL FOOTPRINT

Hazardous materials are inherent in our products. If we don't manage them properly, they can pose a risk to the environment and people's health. This is why we're committed to handling hazardous materials in a safe and compliant way.

We evaluate all chemical substances we use to create a hazard classification according to the criteria of the Globally Harmonized System of Classification and Labelling of Chemicals (GHS). Our catalysts are mixtures and classified in line with GHS criteria. All chemicals and products classified as carcinogen, mutagen, or reprotoxic (CMRs) have high priority for handling and precautionary measures. Between five and ten substances used in around 300 of our finished products are classified as High Priority Chemicals. Around 250 finished Topsoe products are non-high priority products.

Our product stewardship management system covers substance management, regulatory management, and product management. We register all substances in line with regulations. We also continuously monitor and implement all relevant regulatory requirements and comply with all applicable regulations and require-

ments. And we manage risks related to our products at every stage.

Employees, customers, contractors, and others handling our products always have the latest correct information they need to mitigate any chemical risks associated with our products. This includes Safety Data Sheets (SDS), detailed procedures, workplace instructions, checklists, communication about hazards and safe handling, training, and monitoring programs.

We strive to minimize the use of hazardous chemicals where feasible. Throughout the R&D process, from raw material and intermediates in production to the final product, we identify and mitigate potential hazards and risks where possible before making products commercially available. Often, though, the hazardous materials play a key role in the products' performance

and aren't easy to replace with less hazardous alternatives.

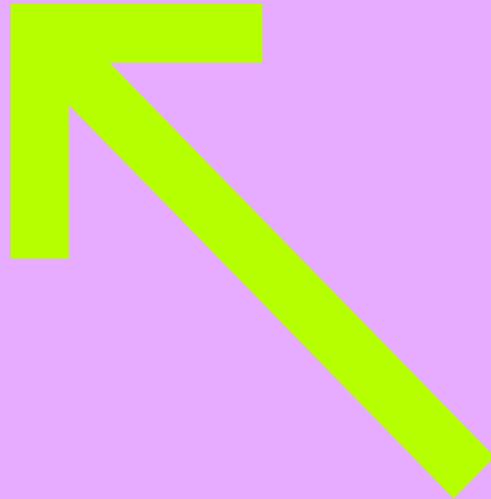
In 2022, we continued our effort to fully phase out our chromium-containing high-temperature shift catalyst. Our new chromium-free version has been well-received by our customers, and in 2023 we will accelerate transition toward this product.



We strive to minimize the use of hazardous chemicals where feasible. Often, though, the hazardous materials play a key role in the products' performance and aren't easy to replace with less hazardous alternatives.

SOCIAL

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OUR FOCUS

We want to provide a safe and healthy working environment for employees, contractors, and business partners. Our health, safety and environmental (HSE) management system follows international standards such as ISO 45001 (Denmark) and RC 14001 (US).

We are committed to promoting a workplace with excellent working conditions and development opportunities. We strive for promoting an inclusive and diverse workplace, free of harassment and where everyone thrives.

TARGETS

- By 2024, a TRIF of 0.4 for employees and 0.55 for employees and contractors combined
- 30% women in management by 2024
- Top 25 score in the annual employee engagement survey compared to the industry benchmark by 2024

POLICIES

- [Sustainability Policy](#) →
- [Code of Conduct](#) →
- [Global Health & Safety Policy](#) →
- [Global Diversity Policy](#) →

SDG IMPACT

- SDG 3 Good Health and Well-being
- SDG 8 Decent Work and Economic Growth
- SDG 5 Gender Equality



PUTTING PEOPLE FIRST

Our people enable us to aim high. Reaching our ambitious targets depends on engaged and motivated employees, who work in safe and excellent conditions and get opportunities to develop. Our People Promise boils down all the things that make Topsoe a unique and great place to work.



We're problem solvers. We're working together to apply our knowledge to rewrite the future of green energy. In every corner of our business, in every role and office, you'll find people who are committed to finding answers.

SAFETY, WELL-BEING AND FAIR WORKING CONDITIONS

Our success depends on keeping our people safe, motivated, and engaged.

HEALTH, SAFETY, AND SECURITY

We aspire to Zero Harm for colleagues as well as our contractors, customers, and the communities we work with. This encompasses excellence in the Health, Safety, Security and Environmental (HSSE) aspects of our products and services. Complying with regulations is our license to operate.

We believe Zero Harm is a shared responsibility for all employees. In 2022, we started training all employees to act as 'Zero Harm Leaders', which enables us to create a shared understanding of key risks in all areas of our operations, as well as a shared approach to managing them. Through our Safety Organization, we engage employees frequently in HSSE matters.

A key part of progressing towards HSSE excellence is managing important risks in all aspects of operations. We identify top risks in manufacturing plants and R&D, develop action plans to reduce them, and review these plans regularly. In 2022, we put extra focus on

recording observations and near-misses to boost risk awareness and learning. We also launched our SAP EHS module as the system that captures all reported incidents and observations.

Managing risks related to chemical exposures is one of our highest priorities. We train employees to work safely with chemicals, using detailed procedures, workplace instructions, checklists, communication about hazards and safe handling, training, and monitoring programs. For more about chemical product stewardship, see page 32.

A key focus area for HSSE is safety for our traveling employees working at customer sites. We have specific programs that define the safe work environment we expect our customers to provide for our people. In 2022, we also optimized and simplified our travel and security process to give us more oversight of travel to high-risk destinations. And we strengthened our contractor safety program, which includes

risk assessment and mandatory training for all on-site contractors.

We continued to monitor COVID-19 cases throughout 2022. We took a precautionary approach, always assessing risks and operational situations individually, prioritizing according to business-critical needs and geographical contexts, and complying with recommendations from local authorities.

EMPLOYEE ENGAGEMENT AND WELL-BEING

A fair, equal, and respectful workplace creates a solid foundation for engagement and well-being for our employees. We do our utmost to provide excellent working conditions in our global business. Employees have the right to join labor unions, and we offer fair working hours and remuneration, flexibility, and social benefits.

As a company undergoing a major transition, employees' engagement and well-being remain high



Roman Ovsyannikov relocated to Buenos Aires

Relocating Russian colleagues

After Russia's invasion of Ukraine, we made the difficult decision to close down our Russia office in April 2022, affecting around 80 employees. We offered more than 50 employees relocation to other Topsoe offices and 38 accepted. They're now continuing their Topsoe careers at other locations.



Anup Maity, Principal Specialist, Topsoe

UNLEASH

In 2022, three Topsoe colleagues joined the UNLEASH Global Innovation Lab in India as part of our talent development program. UNLEASH enables young people to create solutions that support the UN Sustainable Development Goals. After returning from the program, the three have taken on the role of ‘Sustainability Ambassador’ in Topsoe, and are responsible for role modeling our sustainability values and building awareness.

priorities for us. In 2022, we introduced a mental well-being program that gives our employees tools to handle changes and challenges, and deal with thoughts and emotions in a constructive and healthy way. We made this mandatory for all leaders, and then offered it to all employees. By the end of 2022, 202 leaders and 1,020 employees had signed up to the course.

Our global employee engagement surveys, TopsoeVoices, are established feedback tools, which we use to involve employees in shaping our workplace by giving input on their engagement and well-being. We’ve seen a high participation rate of more than 87% across our two annual surveys. We were thrilled to see that engagement among our employees was 76 in November 2022 up from 69 in 2021- in line with our target to achieve a top 25 score in the annual employee engagement survey compared to the industry benchmark by 2024.

The Senior Leadership Team hosts monthly virtual town hall meetings as well as live Q&A sessions. Together with TopsoeVoices, this creates opportunities for open and honest dialog on workplace issues. In Denmark, we also maintain management-employee dialog through Works Councils.

In 2023, we’ll introduce a new onboarding program for all new Topsoe employees with the objective of creating a sense of belonging from the start.

DEVELOPING OUR EMPLOYEES

Giving employees ample opportunity to continuously develop and build new skills is key to maintaining an engaging working environment. It also helps us to attract and hold on to the sharpest minds.

This is especially important in the current job market and as we set out to deliver on our vision to become a key player in the green transition. In 2022, we introduced My Development for all employees. This program includes mandatory employee-leader talks, personal development plans, a development toolbox, and access to extensive online learning opportunities through LinkedIn Learning.

In 2022, we rolled out Topsoe’s Leadership Foundation to establish a common language for leadership in Topsoe and to set clear expectations to our leaders. For mid-level leaders, we launched our Go Lead program, which builds on Topsoe’s Leadership Foundation and develops the personal leadership capabilities needed to drive change.

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. Our policies and procedures make sure we mitigate any negative impact on human rights.

As a participant of the UN Global Compact, respect for human rights is embedded in our commitment to act as a responsible business. Our responsibilities go beyond our own employees, and we’re dedicated to safeguarding the rights of people in our business relationships, including customers, contractors, workers in our supply chain, our neighboring communities, and others.

We conduct human rights due diligence in line with the United Nations Guiding Principles on Business and Human Rights. We make sure to identify and assess any actual and potential negative impact, address and mitigate these risks, and provide remedy to anyone affected. Rights holders have access to our established grievance mechanism, the → [Topsoe Compliance Hotline](#).

In 2022, we conducted a human rights assessment across the business, engaging broadly with internal stakeholders. The assessment, reviewed by an external human rights expert, was a first step toward developing a human rights framework. It gives us an in-depth understanding of our salient human rights impacts and helps us take appropriate action where the risk to people is highest. See an overview of our salient human rights impacts on → [Topsoe.com](#)

Our ambition is to maintain and improve a solid foundation for our human rights due diligence, also considering coming EU legislation.

CREATING A DIVERSE AND INCLUSIVE WORKPLACE

We strive to create an inclusive and diverse workplace, where we can harness the business benefits of different perspectives, backgrounds, and experiences.

Working with diversity, equality and inclusion (DE&I) is a journey, and we haven't yet made the progress we hoped for. We still have some way to go to meet our 2024 target for gender diversity, but we're determined to attract and retain more women in Topsoe, while also broadening the scope for our DE&I efforts.

In 2022, we established a DE&I Committee, sponsored by our CEO and hosted by our Chief Human Resources Officer, and with broad engagement from leaders and employees with various backgrounds. The committee will act as a sounding board for the organization and help us prioritize initiatives to further the DE&I agenda.

We took the first steps to prevent unconscious bias in connection with salary reviews to ensure equal pay for equal work. We'll continue to build our bias training in 2023 to strengthen understanding and awareness

across our organization, and mitigate unconscious bias in key processes like recruitment, performance assessment, and career development.

We have zero tolerance of harassment and discrimination, as set out in our Anti-Harassment Policy and Code of Conduct. In Denmark, we also have a policy to motivate and retain senior employees through individual arrangements, such as adjusting tasks and responsibilities.

In 2022, our gender diversity among managers was 75/25 compared to 75/25 in 2021.

In 2023, we'll work to optimize data collection on DE&I indicators to inform our understanding of gaps and improvement areas.



DONATIONS & COMMUNITY DEVELOPMENT

Every year, we allocate 0.1% of our annual revenue to global and local donations and community engagement activities.

In 2022, we supported activities that help families and children lead a dignified life even when facing poverty, climate change, and conflict. We work with trustworthy and recognized partners, including WWF, Save the Children, UNICEF, and UNHCR. We also support many local civil society organizations, mainly through our global offices.

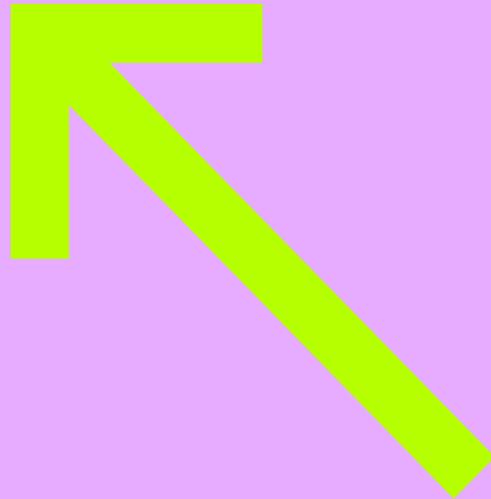
We entered a three-year partnership with WWF to support creation and scaling of green jobs to protect ecosystems and create climate resilience in the Rwenzori Landscape in Uganda. Read more about this partnership on → topsoe.com

Image credit: Jonas Ejderskov, WWF



GOVERNANCE

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OUR FOCUS

At Topsoe, we're committed to performing all activities in a compliant, transparent, and responsible manner. Our quality management system (ISO9001) provides a solid foundation to guarantee sufficient and consistent processes across Topsoe. To guide this, we use our IT platform, Topsoe HUB, as a governance tool to describe business processes transparently.

POLICIES

- [Code of Conduct](#) →
- [Topsoe Compliance Hotline Policy](#)
- [Sustainability Policy](#) →
- [Third Party Assurance Policy](#)
- [Data Ethics Policy](#) →
- [Competition Law Policy](#)
- [Global Security & Crisis Management Policy](#)
- [Tax Policy](#) →
- [Supplier Code of Conduct](#) →
- [Responsible Minerals Sourcing Policy](#) →

SDG IMPACT

- SDG 16 Peace, Justice and Strong Institutions
- SDG 8 Decent Work and Economic Growth



HOW WE DO BUSINESS MATTERS

What we do is important, and how we do it matters just as much. We base our actions on good governance practices – with solid governance structures and business processes that make sure we earn and keep the trust of our customers, owners, business partners, local communities, and other stakeholders. Compliance with all applicable requirements is fundamental to our long-term success and our values – it is our license to operate in an increasingly demanding global business environment. We're committed to disclosing our sustainability ambitions and efforts transparently through annual reporting on progress against our targets.

GOVERNANCE FRAMEWORKS

Mechanisms like our Code of Conduct give us clear guidance on what does and doesn't constitute responsible, ethical behavior. And our hotline helps people report anything that doesn't look right.



Our Code of Conduct sets standards for our behavior by outlining the rules that we choose to play by, whether because of legal requirements or our own business ethics. The Code of Conduct outlines the way we expect our employees to approach their daily work, so that we always operate with integrity and within the law. What enables us to achieve this consistently responsible behavior are policies, procedures, regular monitoring, and training. Other activities also raise awareness of anti-corruption, anti-money laundering, economic sanctions, competition law, health & safety, responsible sourcing, and other business-critical areas, as outlined in our Code of Conduct.

Each year, our Compliance function assesses how well structures to help us comply with the Code of Conduct are functioning. Results go to our Compliance & Sustainability Committee and to the Board

of Directors as part of annual compliance reporting. The Compliance & Sustainability Committee also monitors compliance programs on anti-corruption, trade controls and sanctions, competition law, and data privacy. In 2023, our Code of Conduct will be relaunched using Topsoe's updated corporate visual identity.

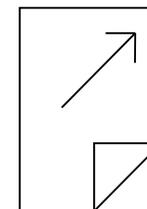
→ [Read about corporate governance on page 56.](#)

TOPSOE COMPLIANCE HOTLINE

The Topsoe Compliance Hotline is an online platform where people can report concerns in line with the EU Whistleblower Directive 2021. These concerns include discrimination, health and safety violations, threats to the environment, theft, bribery, fraud, leaks of confidential information, and other grave breaches of laws or our Code of Conduct and Supplier Code of Conduct.

The hotline gives people inside and outside our business a secure and confidential way to report without fear of retaliation, which they can use anonymously if they choose. The hotline, administered by a third party, offers end-to-end encrypted, two-way data transmission between us and the person reporting a concern. We strictly prohibit retaliation (intentional unfair treatment) against anyone for reporting a concern to us in good faith. Hotline reports go to trained internal or external investigators, depending on their complexity and severity as described in our compliance investigation procedure.

In 2022, we carried out a global internal campaign to raise awareness of the hotline. To make it easier to access, we've updated the platform so people can use it from devices like smartphones.



Topsoe's Compliance Hotline → [Read more](#)

Topsoe's Code of Conduct → [Read more](#)



COMPLIANCE MANAGEMENT, DUE DILIGENCE AND BUSINESS ETHICS

To do the right thing in business and protect our reputation, we're always on the alert for risks – from bribery and corruption to trade controls and sanctions.

ANTI-CORRUPTION AND FAIR COMPETITION

We never tolerate any type 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 2022, we reviewed the program's effectiveness and identified areas for further development as we prepare to enter a new market (Power-to-X/SOEC) as a leading player.

TRADE CONTROLS AND SANCTIONS

We continuously monitor the geopolitical landscape in the countries where we operate and adjust our trade controls and sanctions compliance program to follow

all applicable EU, US, and UN regulations. This includes, but isn't limited to, export licensing requirements for dual-use items and restrictions or prohibitions on trade with sanctioned countries, entities and individuals.

In 2022, we adjusted our business processes to comply with EU sanctions against Russia in the wake of Russia's invasion of Ukraine. This included introducing new commercial, support and compliance procedures, and securing technical barriers in our ERP and CRM systems to raise awareness of the new restrictions and ensure robust barriers against inadvertent breaches of sanctions. As the new geopolitical reality emerged, we decided to close our Moscow office, successfully transferring many of our Russian colleagues to positions in other Topsoe locations.



THIRD-PARTY ASSURANCE AND COMPLIANCE DUE DILIGENCE

To mitigate our exposure to legal and reputational risk through our interactions with third parties, we perform compliance due diligence on certain business partners using a risk-based approach. This lets us implement mitigating measures to reduce our compliance exposure and identify any interactions that can't happen because we can't mitigate the risk they entail.

In 2022, we continued to integrate select sustainability/ESG parameters into our due diligence processes and risk matrices. This gives us a holistic view of third-party risks and enables us to comply with upcoming EU legislation, such as the EU Taxonomy and the Directive on Corporate Sustainability Due Diligence.

In 2023, we'll launch an updated third-party risk matrix aligned to our evolving process for professionalizing Enterprise Risk Management (ERM). For more about our risk management, see [page 50](#) →

PROTECTING DATA PRIVACY AND INFORMATION

Digitization brings a world of opportunities for new ways of working, but also represents new responsibilities when it comes to handling and protecting data. Protecting our knowledge, and that of our customers, is critical and calls for continuous improvements.

Our use of data is limited to non-sensitive customer and employee data. We're committed to complying with all laws, including GDPR, and all our data processing is in line with our policies on data privacy and IT security.

In 2022, we implemented a Data Ethics Policy and updated our IT Code of Conduct. To make employees more aware of cyber security, we ran mandatory information security training, with a completion rate of 98%. Moving forward, we will train our people on cyber security issues on a regular basis. We also began preparing for compliance with the Network and Information Security (NIS2) Directive, the first piece of EU legislation on cyber security, which we expect will apply to us by 2024. The data ethics principles are implemented in a position on privacy, data protection and data ethics and includes principles on lawfulness, fairness, transparency, data minimization, security, integrity and confidentiality.

EMERGENCY AND CRISIS MANAGEMENT RESPONSE SYSTEM

To protect our employees and assets, including production facilities, we do all we can to prevent crisis situations from happening, and, if they do, be as prepared as possible to handle them. Our emergency and crisis management response system takes a risk-based approach. It's designed to apply in any sort of crisis, and to gear the response to how severe the crisis is. The objective is to limit the impact on people and the environment, as well as protect business continuity.

Our three-tiered response includes all levels of the organization (see figure). If the incident is very serious and potentially has a high impact on us as an organization, we activate our Crisis Management Team (CMT). Here, representatives from the Senior Leadership Team take a central role in communicating with stakeholders

and providing immediate funding to mitigate negative impact.

In June 2022, our CMT took part in a workshop to reinforce roles and responsibilities, identify potential gaps, and rehearse team decision-making during a simulated incident. Our high ambitions to keep our employees and assets secure mean we're taking a more systemic and structured approach through ongoing review and updates to our procedures.

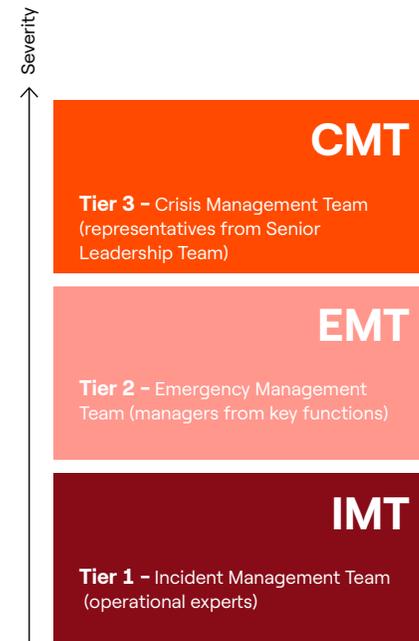
As COVID-19 no longer poses the same challenge to our activities as at the height of the pandemic, we've amended and simplified our travel process. But we've maintained our arrangements with International SOS to support our travelers with up-to-date information on COVID-19 restrictions.

RESPONSIBLE TAX

We have a responsible, transparent, and consistent approach to all tax matters. We comply with all tax legislation in the countries where we operate by following both the letter and the spirit of the law. We pay taxes where we create value, and we don't use contrived or abnormal tax structures that are intended for tax avoidance, have no commercial substance, or that don't meet the spirit of local or international tax law. We submit country-by-country reporting and transfer pricing documentation in line with the laws of the countries where we operate.

Our Tax Policy applies to all group companies and is approved by the Board of Directors.

EMERGENCY & CRISIS MANAGEMENT RESPONSE SYSTEM



RESPONSIBLE SOURCING

We take extra care to make sure we're choosing the right suppliers, respecting human rights, protecting data, and guarding business continuity.

We have more than 500 global raw materials and hardware suppliers and 2,500 suppliers of indirect materials and services like IT services, facility management, professional services and freight. We take a responsible and balanced approach to our supplier base and look to integrate commercial risk and quality aspects, as well as social, environmental and ethical responsibility when choosing our suppliers.

We import and consume tungsten and cobalt. We follow global standards and comply with legislation, including the EU Conflict Minerals Regulation. We've 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.

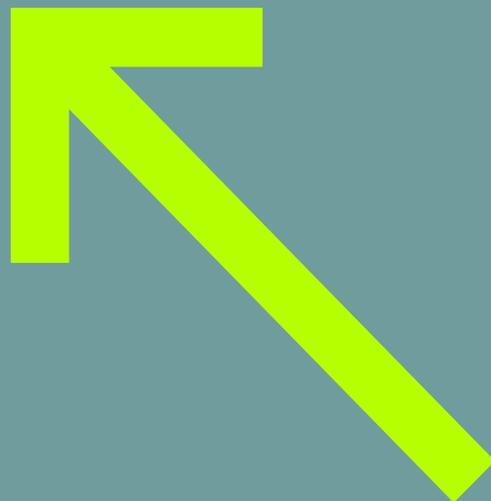
We expect all suppliers to follow our Supplier Code of Conduct. As of 2022, we risk assess all new suppliers and, based on the outcome, screen them through a sustainability self-assessment program. If serious issues remain, we audit the supplier. We also updated our Supplier Code of Conduct to reflect increased requirements and expectations toward our suppliers, especially on decarbonization in light of our net-zero target.

We want close and long-term engagement with our key suppliers, as this is the best foundation for a strong and ethical supply chain. So we're developing and implementing a preferred supplier program that will give suppliers certain benefits when they commit to meeting our high conduct expectations.



FINANCIAL RESULTS & OUTLOOK

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GROUP FINANCIAL REVIEW

Financial highlights 2022

Topsoe delivered strong revenue growth in challenging environment.

- Revenue increased by 10% to DKK 6,845 million driven by strong demand for Topsoe energy transition solutions.
- Topsoe closed down its business in Russia including its Moscow office. Growth excluding Russia was 18%.
- EBIT before special items declined by 33% to DKK 608 million. The positive development of our underlying business was significantly impacted by a number of factors including: the closing down of our Russian business; the inflation-driven margin squeeze; higher production costs caused by raw material shortages; and costs related to the upscaling of our Power-to-X organization.
- Net profit decreased by 36% to DKK 567 million, mainly driven by closing down business in Russia and decline in EBIT before special items.

Revenue

Total revenue increased by 10% in 2022 to DKK 6,845 million (2021: DKK 6,225 million).

The increase was mainly driven by increases in catalyst revenue, especially revenue from hydrotreating and chemicals catalysts, which increased by 17% and 27%, respectively. The revenue increase was mainly a result of higher demand and price increases driven by higher production and raw material costs. Revenue from our technology business was flat year-over-year, and lower than expected going into 2022. The delay in terms of growth was significantly adversely impacted by closure of our business in Russia. On a positive note, we saw promising underlying trends and technology revenue from solutions related to the global energy transition increased to 48% in 2022 (2021: 30%).

EBIT before special items

EBIT before special items amounted to DKK 608 million (2021: DKK 903 million), down 33% compared to 2021. EBIT margin before special items decreased by 5% percentage points to 9% (2021: 14%). This was driven by closing down business in Russia, but also the temporary margin squeeze, higher product costs caused by raw material shortages, and upscaling of our Power-to-X organization.

Total special items of DKK -43 million for 2022 reflects costs from closing our operations in Russia.

In 2021, special items amounted to DKK -26 million, mainly driven by restructuring costs.

Net profit

Topsoe's net profit declined by 36% to DKK 567 million (2021: DKK 890 million). The decrease was mainly driven by closing down business in Russia and the decline in EBIT before special items.

2022 included DKK 129 million in dividends from investments, compared to DKK 33 million in 2021. This was however offset by an income from the sale of Faradion in 2021 of DKK 137 million.

Cash flow

Cash flows from operating activities amounted to DKK 943 million (2021: DKK 500 million). The improvement since a year ago is mainly explained by working capital, as 2021 cash flows were negatively impacted by working capital as opposed to 2022, where we have seen a small positive impact. Receiving the proceeds from the Faradion sale in the beginning of 2022, which was included in working capital in December 2021, had a positive impact. Further, working capital was supported in 2022 due to higher work in progress and contract liabilities compared to 2021, which was offset by increased inventories and higher trade receivables resulting from sales growth.

Cash flow from investment activities amounted to DKK -743 million (2021: DKK -391 million), mainly driven by significant property plant and equipment investments in 2022.

Return on invested capital (ROIC)

ROIC before special items amounted to 15.7% (2021: 28.5%) driven by the decline in net operating profit after tax, related to closing down business in Russia and Belarus, and an increase in invested capital, primarily related to fixed asset investments.

Financial covenants

Financial covenants as of December 31, 2022, were all met.

Order backlog

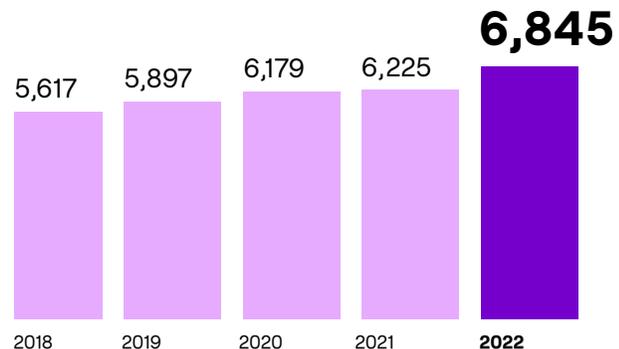
The order backlog amounted to DKK 6,015 million at the end of 2022, an increase of DKK 2,381 million, or 66%, compared to 2021. Combined with the strong revenue for 2022, this indicates a strong demand for our products.



FINANCIAL PERFORMANCE

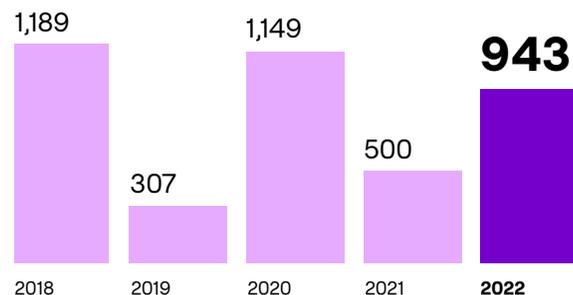
REVENUE

DKK million



CASH FLOWS FROM OPERATING ACTIVITIES

DKK million



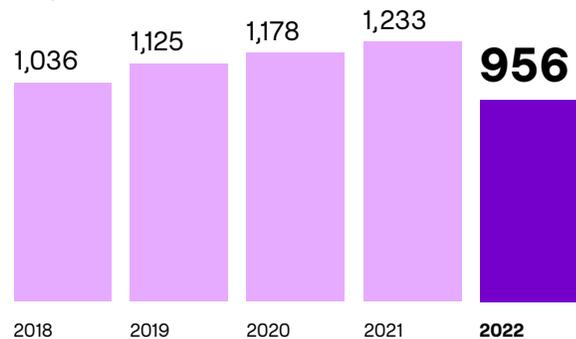
REVENUE

(DKK million)

6,845

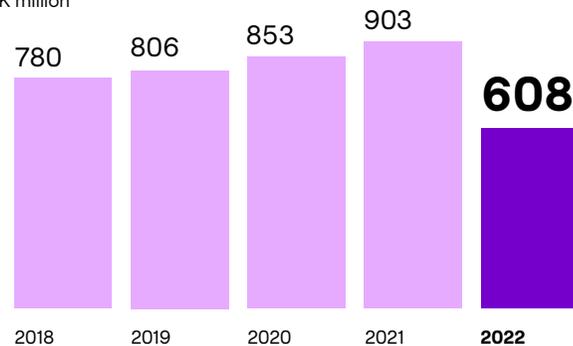
EBITDA

DKK million



EBIT BEFORE SPECIAL ITEMS

DKK million



EBIT B.S.I.

(DKK million)

608

KEY FINANCIAL FIGURES

	2022	2021	2020	2019	2018 ¹
Income statement					
DKK million					
Revenue	6,845	6,225	6,179	5,897	5,617
Gross profit	2,765	2,884	2,789	2,782	2,620
EBITDA	956	1,233	1,178	1,125	1,036
Depreciation and amortization	-348	-330	-325	-319	-256
EBIT before special items	608	903	853	806	780
Special items	-43	-26	-275	136	-72
EBIT after special items	565	877	578	942	708
Net financial expenses, etc.	128	167	-29	-4	-16
Profit from continuing operations	567	880	435	714	507
Profit/loss from discontinuing operations	0	10	45	0	-16
Net profit	567	890	480	714	491

	2022	2021	2020	2019	2018 ¹
Balance sheet					
DKK million					
Balance sheet total	8,386	7,162	6,688	6,694	5,356
Equity	3,204	2,929	2,139	1,730	1,046
Net working capital	1,159	1,132	427	602	447
Net interest-bearing debt	578	136	203	871	756

	2022	2021	2020	2019	2018
Cash flow					
DKK million					
Cash flows from operating activities	943	500	1,114	307	1,189
- of which continuing operations	943	500	1,149	307	1,205
Cash flows from investing activities	-743	-391	-368	-88	-220
- of which investment in Property, plant and equipment	-777	-330	-325	-213	-251
Cash flows from financing activities	-619	-435	-339	-197	-1,194

Employees					
Numbers					
Average number of employees	2,242	2,133	2,268	2,238	2,246

Ratios					
%					
Gross margin	40.4	46.3	45.1	47.2	46.6
EBITDA margin	14.0	19.8	19.1	19.1	18.4
EBIT before special items margin	8.9	14.5	13.8	13.7	13.9
EBIT after special items margin	8.3	14.1	9.4	16.0	12.6
Return on invested capital (ROIC)	15.7	28.5	29.8	30.6	32.4
Equity ratio	38.2	40.9	32.0	25.8	19.5
Return on equity	18.5	35.1	24.8	51.4	39.3
Leverage ratio	0.6	0.2	0.2	0.8	0.7

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

1. IFRS 16 was implemented in 2019 using the modified retrospective approach, and comparative figures for 2018 have not been restated.

OUTLOOK

OUTLOOK 2023

Topsoe expects 2023 revenue to be in the range of DKK 7,500–8,500 million based on entering 2023 with a healthy order book. The EBIT margin for 2023 is expected to be in the range of 8.0–10.0%.

Topsoe's business, excluding Power-to-X, is expected to return to an EBIT level in line with the EBIT achieved in 2021 before Russia's invasion of Ukraine. This is despite our decision to close down all Russia and Belarus-related activities, including our Russian subsidiary and operations – equivalent to 10% of Topsoe's revenue in 2021.

The global energy transition will continue to drive our growth, and 2023 is expected to be a milestone year for Topsoe in many regards. Our Power-to-X business will, for the first time, deliver a meaningful and visible contribution to the topline. We also plan to significantly increase our investments in Power-to-X, including the world's largest SOEC (Solid Oxide Electrolyzer Cell) factory in Herning, Denmark, which will bring capital investments to an all-time high in 2023, surpassing DKK 2 billion.

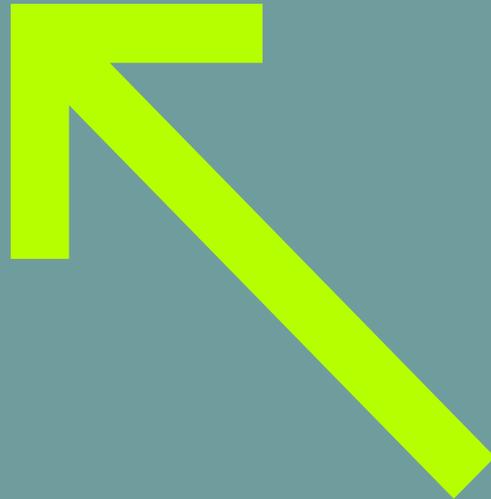
FORWARD-LOOKING STATEMENTS

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.



RISK MANAGEMENT & KEY RISKS

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RISK MANAGEMENT

Managing risks thoroughly and systematically is vital to how we create and protect value over the short, medium, and long term.

Scenario and risk assessments are part of our strategic planning process. They include analyzing market dynamics as well as economic and political developments that present opportunities or threats for our business. We're exposed to a variety of risks linked to our business operations. As well as strategic and operational risks, there are financial risks, such as interest rates, exchange rates, commodity prices, credit risk, and insurance risk.

We use an enterprise risk management approach to identify, quantify and mitigate risks that could have an adverse impact on our operations. Each year, we identify and assess risks and agree on actions to mitigate them with management teams across the organization. The risks identified as most critical are assigned to a member of the Leadership Team who becomes owner of the risk. This role includes identifying and initiating mitigating actions. The Senior Leadership Team, Audit Committee, and the Board of Directors oversee progress in mitigating the identified risks.

TOPSOE'S RISK MANAGEMENT PROCESS



	CHALLENGES IN DELIVERING ON THE ENERGY TRANSITION	GEOPOLITICAL AND ECONOMIC INSTABILITY	CYBER RISK / CYBER-ATTACK
RISK DESCRIPTION	<p>We expect global energy consumption to grow considerably over the coming decades. Our traditional core business plays a key role in ensuring energy-efficient production of the world's chemicals and fuels. Already, we provide chemical and fuel producers with solutions for energy-efficient production. At the same time, we see a push to accelerate the transition to renewable energy carriers and new technologies. While a significant part of our technical and catalytic solutions is based on fossil fuel feedstock (notably natural gas), we also work intensively with an increasingly wide range of non-fossil-based technologies in green hydrogen, green ammonia, eMethanol, and eFuels. Our decision to build an SOEC factory is the most notable step taken in 2022 to address this risk.</p> <p>As focus on the energy transition is still relatively new, there's a risk that we don't fully unlock its potential due to internal or external factors.</p>	<p>We operate globally, including in regions exposed to geopolitical and macroeconomic instability and risks that could affect demand for our technologies and our ability to deliver our solutions to market. 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>In recent years, several major cyber-attacks have been launched against companies around the world, and we see growth in serious cyber operations closer to our business. As a knowledge-based and increasingly digitized company, we are exposed to information security risks. The threat of cyber-attacks is increasing and we are continuously monitoring the area to keep digital environments stable and secure.</p>
IMPACT	<p>If the risk materializes, the consequence for us would be that competitors take over the core and new markets and that we don't fulfill our ambitions.</p>	<p>A geopolitical conflict or major macroeconomic disruption could reduce 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. This, in turn, could significantly affect our short and long-term financial results.</p>	<p>Should the risk materialize through a major cyber-attack, it could lead to severe business disruption and/or loss of confidential information.</p>
MITIGATING ACTIONS	<ul style="list-style-type: none"> → Maintain internal process and system to execute, monitor, and follow up on strategic initiatives. → Develop the right skills and capabilities. → Regularly evaluate the strategy and related roadmaps. 	<ul style="list-style-type: none"> → Monitor political developments in global regions as well as key markets, and liaise with external stakeholders to identify and implement supplementary mitigating actions. → Secure proper contractual frameworks to mitigate exposure to potential and emerging risks. → Consider alternative production scenarios and closely monitor raw material prices. → Secure proper payment security. 	<ul style="list-style-type: none"> → Deliver on our Security Improvement program, which will significantly improve our defenses against cyber-attacks. → Engage in Cyber Communities via the Danish Cyber Defense group and Istari-Global (part of Temasek). → Address information security as an integral part of all future IT projects.

	INCREASING COMPLEXITY IN REGULATORY CHEMICALS LEGISLATION	OPERATION DISRUPTION	TRADE CONTROLS AND BUSINESS ETHICS RISKS
RISK DESCRIPTION	Updates to legislation related to chemicals may result in restrictions on the use of some substances we rely on.	Several factors, including the COVID-19 pandemic and the gas price increase, continue to affect the global economy and the world's supply chains. While COVID-19 has challenged our supply chain at times, we haven't experienced major disruptions such as supply failures, and we've been able to continue production more or less as usual.	Our supply chain and customer base are global. This leads to a risk that we conduct business with sanctioned or otherwise restricted counterparties, or in countries subject to trade prohibitions. The global nature of our business also entails the risk that we, directly or via intermediaries, win or retain business or other advantages through corrupt practices.
IMPACT	If the risk materialized, there could be an impact on the manufacturing or the use of some of our products. Updates to the legislation can also give a competitive advantage to some of our products.	Disruption in raw material supply or in access to energy could mean production would not be happening as planned, with delays to projects or deliveries.	Actual or suspected non-compliance with sanctions, export control and anti-corruption laws and regulations could lead to significant reputational damage, 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.
MITIGATING ACTIONS	→ Closely monitor the legislative process.	<ul style="list-style-type: none"> → Consolidate emergency preparedness plans. → Secure delivery agreements. → Increase inventory levels. 	<ul style="list-style-type: none"> → Continue compliance due diligence on agents, other intermediaries, business partners located in high-risk jurisdictions, and other high-risk counterparts, in line with our global Third Party Assurance Policy. → Maintain awareness and training among internal stakeholders of their roles in ensuring our 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.

	INABILITY TO ATTRACT, DEVELOP, AND RETAIN TALENT TO DRIVE TRANSFORMATION	INFRINGEMENT OF INTELLECTUAL PROPERTY
RISK DESCRIPTION	Our employees and their problem-solving skills are essential to our success. This is all the more apparent now that we're engaged in strategic transformation.	We invest a significant portion of our revenue in research and development. Patents and, more broadly, intellectual property are an important part of our business. The IP risk has two sides – the risk of someone infringing our Topsoe IP (patents, trademarks, trade secrets) or someone accusing Topsoe of infringing their IP.
IMPACT	Should key people leave Topsoe, projects and development activities could be delayed and the growth we expect could be set back.	If our IP was lost or infringed, we could lose business and revenue opportunities, and we would have to spend significant resources defending our IP. If Topsoe was accused of infringing third party IP, we could be forced to stop producing and selling products and technologies, and it could even lead to contractual indemnities, economic penalties or reputational damage.
MITIGATING ACTIONS	<ul style="list-style-type: none"> → Define our unique employee value proposition. → Provide development opportunities for leaders and employees. → Map technology leaders in the organization. → Run an annual talent review. 	<ul style="list-style-type: none"> → Maintain a dedicated and highly qualified IP department. → Regular updates of the IP strategy. → Ensure that FTO (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.



UNDERSTANDING CLIMATE RISK

In 2022, we took an important step to strengthen our understanding of climate-related risks and opportunities, by conducting a climate risk assessment following the Taskforce for Climate-Related Financial Disclosures (TCFD). The analysis enables us to understand and quantify potential value chain risks and opportunities under different future climate scenarios.

We assessed our asset portfolio for both physical and transitional policy and market risk exposure, and assessed our strategic suppliers and customers for transitional policy and market risk.

The analysis strengthens and builds upon the climate-related risk mitigation activities we already conduct on an annual basis in our operations. A good example of previous risk mitigation includes the risk of potential flooding at our Danish production site, where we've built dykes to mitigate risks.

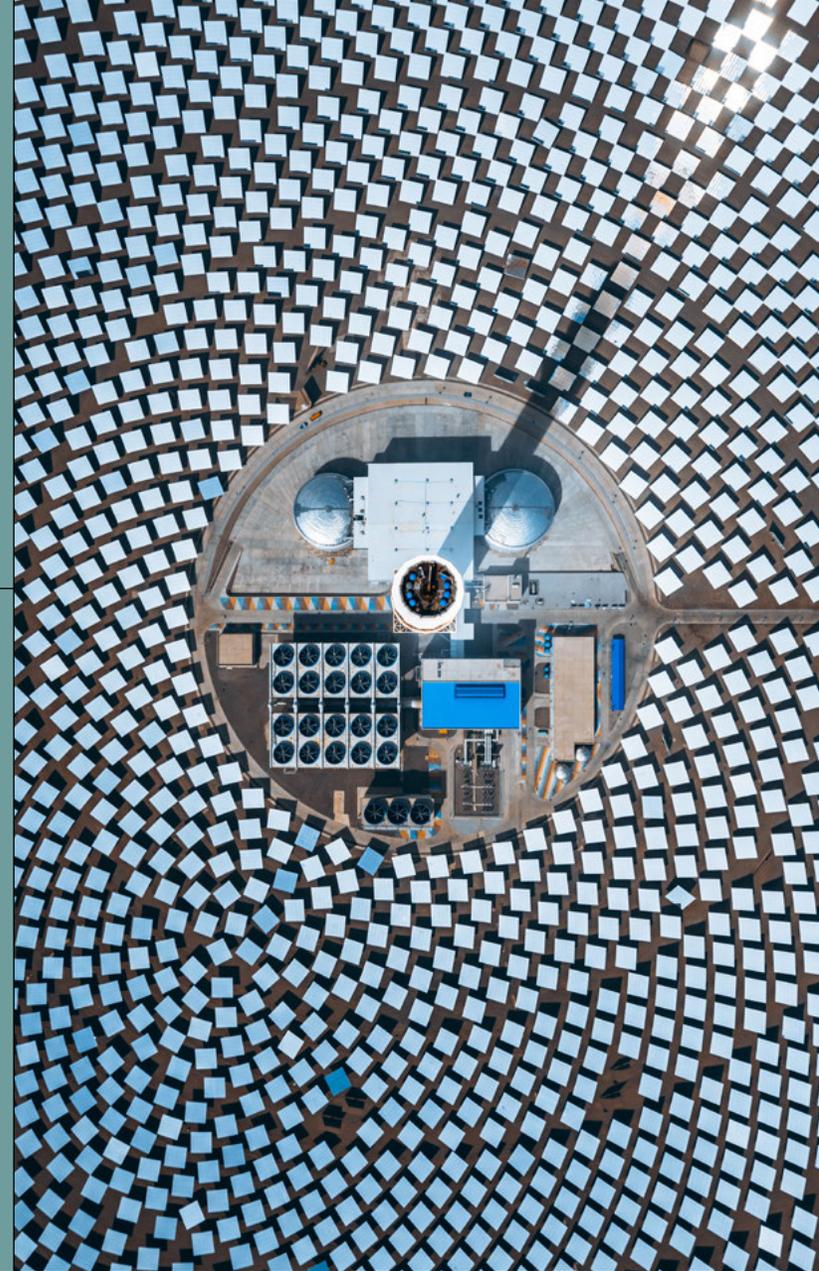
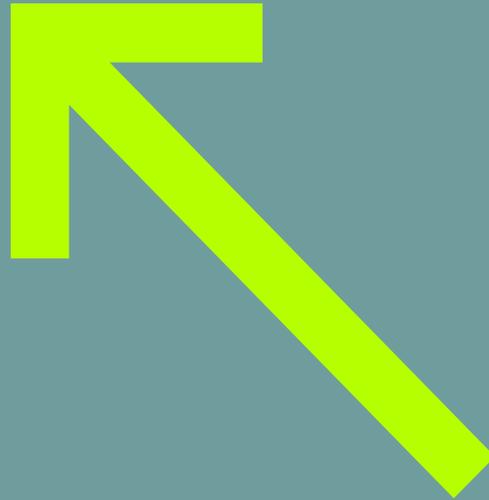
In 2022, we reported through the Carbon Disclosure Project (CDP), which aligns to the TCFD recommendations for climate-related financial disclosures on governance, strategy, risk management, and metrics and targets. Download our CDP report at → topsoe.com

In 2023, we'll work to further integrate the findings into the existing Enterprise Risk Management (ERM) and both near and long-term strategic development. Climate-related risks aligned with TCFD are therefore embedded in the ERM governance structure, ensuring adequate Board and management oversight.

CORPORATE GOVERNANCE

Corporate governance
Board of directors
Senior leadership team

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CORPORATE GOVERNANCE

Corporate governance is vital to making sure we manage our business in a responsible and efficient way in line with our values, purpose, and strategy.

CORPORATE GOVERNANCE STRUCTURE

A corporate governance structure is where a business shows its accountability and integrity. Ours is no different. The interplay between its different elements is how we aim to reflect the company's culture, while giving a voice to its shareholders and staff.

The structure gives us a way to absorb outside influences and learn from others, as well as oversee the performance of our company and apply controls to its operations. It's also a mechanism for us to spot opportunities, challenges, and risks, and respond decisively and efficiently.

Legislation provides the overall framework for governance in Topsoe, while corporate governance determines how the business is managed within this framework. For this purpose, we take inspiration from the Danish Recommendations on Corporate Governance, which apply to listed companies, and we're committed to continue strengthening our practices accordingly. Other key corporate governance elements 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 and a comprehensive set of internal policies and procedures.



TOPSOE

SHAREHOLDERS 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 (~69%), Dahlia Investment Pte. Ltd. (~30%) and company employees through the Employee Share Program (~1%). 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 annual general meetings, shareholders exercise their rights, e.g. 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.

Resolutions can generally 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.

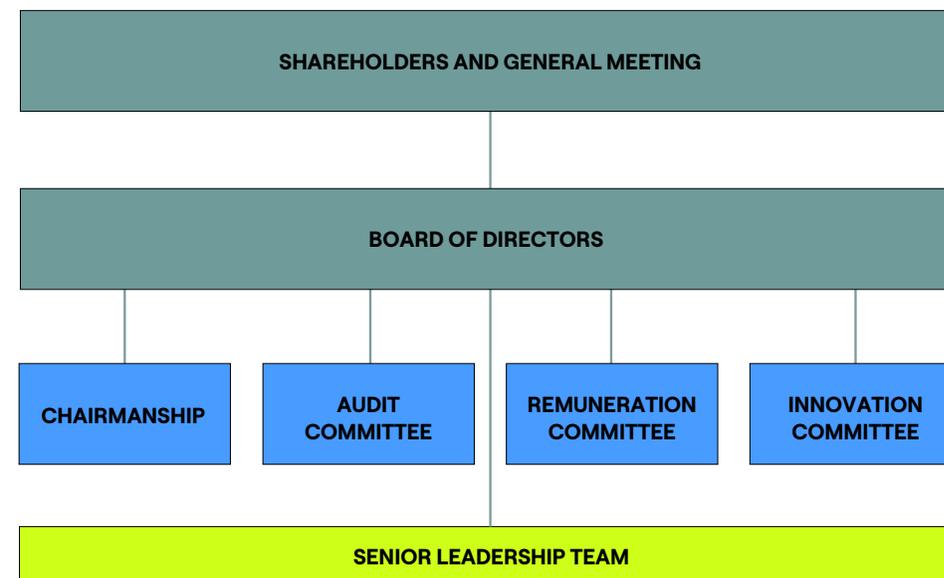
BOARD OF DIRECTORS

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 and independence

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 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.

GOVERNANCE MODEL



The employee-elected board members have the same rights, duties, and responsibilities as shareholder-elected board members.

As of December 31, 2022, the Board of Directors of Topsoe A/S had 12 members – eight elected by shareholders and four elected by employees. Jeppe Christiansen, Jakob Haldor Topsøe, Benoit Valentin, Rohit Sobti, Christina Teng Topsøe, Jens Kehlet Nørskov, Jørgen Huno Rasmussen and Jan Kreibaum were all re-elected for another one-year term at the Annual General Meeting in April 2022. The most recent employee election was in March 2022, where Christina Borch, Lis Ibsen, and Anders Broe Bendtsen were re-elected, while Line Holten Kollin was newly elected. Jette Søvang Christiansen had decided not to run for re-election after serving on the board since 2005.

Four of the eight shareholder-elected board members are considered independent as defined by the Danish Committee on Corporate Governance, which recommends that at least half of the shareholder-elected board members are independent. Employee-elected board members are not considered independent.

Board competencies and diversity

The Board of Directors strives to be diverse in gender, nationality, age, international experience, qualifications, and competencies. The board comprises four

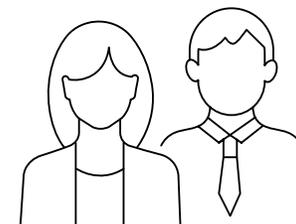
different nationalities, and board members bring a variety of backgrounds in business, engineering, physics, economy and law, coupled with extensive experience and expertise across a wide range of sectors, businesses and institutions.

For gender diversity, the board has a target of two female board members elected by the shareholders by 2024. As there were no changes to the board composition after the 2022 Annual General Meeting, we haven't yet met this target. As of December 31, 2022, there was one female board member among the eight elected by shareholders. When including the employee-elected board members, the board had four female members and eight male members. Diversity in the broadest sense remains a key focus area for the board, and it continues to focus on the target set for the underrepresented gender when evaluating the board's composition, competencies, and potential candidates.

For more details about the individual board members, including independence and their other positions and directorships, see → [pages 63-65](#) and → [topsoe.com](#)

BOARD DIVERSITY

GENDER



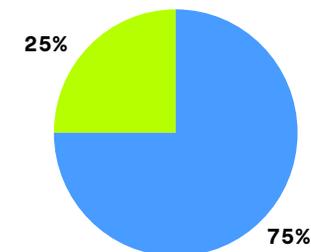
33%

Female

67%

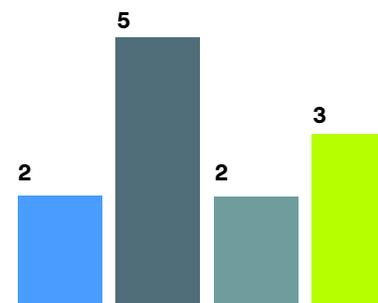
Male

NATIONALITY



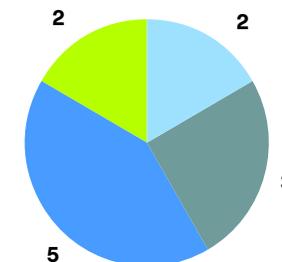
● Danish
● Non-Danish

TENURE



0-2 yrs 3-6 yrs 7-10 yrs 10+ yrs

AGE



● 35-44 years ● 45-54 years
● 55-64 years ● 65+ years

Board evaluation

The board regularly conducts self-evaluations of its composition, competencies and performance. The most recent evaluation was in 2021, by an external consultant working exclusively with board effectiveness reviews. The evaluation covered all board members, as well as the CEO, CFO, and CCO, and looked at:

- board performance and competencies
- main focus areas and prioritization
- quality and effectiveness of board meetings and material
- performance of board committees
- collaboration in the board, and between the board, its committees and the Senior Leadership Team.

The process also evaluated topics including financial responsibility and risk management, strategy, and organizational themes, including succession planning.

Overall, the evaluation revealed a very solid performance by the board and good collaboration in the board and between the board, its committees and the Senior Leadership Team. The board reviewed and discussed the results of the evaluation with the

external consultant, and the Chairman held feedback meetings with the individual members. The evaluation identified a number of focus areas, including diversity, succession planning, cyber security, and risk management, as well as a number of improvement areas in relation to the Innovation Committee, and the board agreed on specific actions. The board addressed the majority of the actions in 2021/2022, and continuously follows up on progress on the outstanding items.

Board meetings and attendance

In 2022, the Board of Directors held five ordinary board meetings, one extraordinary board meeting and a two-day strategy session. Board members' meeting attendance during 2022 is shown in the table on the right.

The Senior Leadership Team normally attends board meetings, unless the board is reviewing matters that relate to it. The board can also invite employees from various parts of the organization, as well as relevant external experts, to parts of the board meetings.

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 make sure the board covers all relevant topics during the year, from

MEETING ATTENDANCE IN 2022

	BOARD OF DIRECTORS	AUDIT COMMITTEE	REMUNERATION COMMITTEE	INNOVATION COMMITTEE
Jeppe Christiansen	● ● ● ● ● ● ● ●	● ● ● ● ●	● ● ● ● ● ● ● ●	-
Jakob Haldor Topsøe	● ● ● ● ● ● ● ●	● ● ● ● ●	● ● ● ● ● ● ● ●	-
Benoit Valentin	● ● ● ● ● ● ● ●	-	● ● ● ● ● ● ● ●	-
Rohit Sobti	● ● ● ● ● ● ● ●	● ● ● ● ●	-	● ● ● ● ● ●
Christina Teng Topsøe	● ● ● ● ● ● ● ●	-	-	● ● ● ● ● ●
Jørgen Huno Rasmussen	● ● ● ● ● ● ● ●	-	● ● ● ● ● ● ● ●	-
Jens Kehlet Nørskov	○ ● ● ● ● ● ● ●	-	-	● ● ● ● ● ●
Jan Kreibaum ¹	● ● ● ● ● ● ● ●	-	-	○ ○ ● ● ● ●
Anders Broe Bendtsen ²	● ● ● ● ● ● ● ●	-	-	● ● ● ● ● ●
Christina Borch ²	● ● ● ● ● ● ● ●	-	-	-
Lis Ibsen ²	● ● ● ● ● ● ● ●	-	-	-
Line Holten Kollin ^{2,3}	○ ● ● ● ● ● ● ●	-	-	-

¹ Joined the Innovation Committee in June 2022;

² Employee representative;

³ Joined the Board after the employee election in March 2022.



strategy, people and succession planning, to compliance, risk management and sustainability/ESG.

Apart from the topics in the annual wheel, the key matters handled by the Board of Directors in 2022 included:

- Investment decision to build the world's largest SOEC electrolyzer manufacturing plant in Herning, Denmark.
- Review of supply chain risks and mitigation strategies to tackle the effects of the global energy crisis and the economic turmoil sparked by Russia's invasion of Ukraine.

- Closure of operations in Russia and Belarus, including our Moscow office.
- Review of, and alignment with, the Senior Leadership Team on our strategic direction and priorities, supporting our ambition to lead the global transition to a greener future.
- Introduction of stronger sustainability and ESG oversight at board and committee level.

STRONGER SUSTAINABILITY AND ESG BOARD OVERSIGHT

Environmental, social, and governance (ESG) issues are increasingly recognized as imperative for doing business in a sustainable way. Companies must look to create long-term value by taking into account the needs of all their stakeholders, and society at large. This creates increased expectations for board

stewardship on ESG issues. So Topsoe A/S' Board of Directors has adopted enhanced oversight of ESG, with expanded fiduciary duties for the board and committees from 2022.



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 Committee, a Remuneration Committee, and an Innovation Committee.

The purpose of the board committees is to report and make recommendations to the board.

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.

BOARD COMMITTEES			
	AUDIT COMMITTEE	REMUNERATION COMMITTEE	INNOVATION COMMITTEE
MEMBERS	<ul style="list-style-type: none"> → Jakob Haldor Topsøe (Chairman) → Jeppe Christiansen → Rohit Sobti 	<ul style="list-style-type: none"> → Jørgen Huno Rasmussen (Chairman) → Jeppe Christiansen → Jakob Haldor Topsøe → Benoit Valentin 	<ul style="list-style-type: none"> → Jens Kehlet Nørskov (Chairman) → Christina Teng Topsøe → Rohit Sobti → Jan Kreibaum → Anders Broe Bendtsen
KEY RESPONSIBILITIES Assists the Board of Directors with:	<ul style="list-style-type: none"> → Financial and ESG reporting¹, including internal controls → External auditors → Financial risk management and financial counterpart exposure → IT/cyber security → Tax and insurance coverage 	<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 2022	<ul style="list-style-type: none"> → Review of financial impact from the Russia/ Ukraine situation, incl. energy supply risks and mitigation → 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 → Launch of sales incentive program → Management investment program → Review of SLT, Board and board committee remuneration → Review of ESP valuation methodology 	<ul style="list-style-type: none"> → Regular review and discussion of SOEC technology developments and progress on key milestones → 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. The Audit Committee charter was updated in 2022, giving the Committee increased oversight with respect to ESG reporting			

BOARD OF DIRECTORS

				
	JEPPE CHRISTIANSEN CHAIRMAN	JAKOB HALDOR TOPSØE VICE CHAIRMAN	BENOIT VALENTIN VICE CHAIRMAN	JAN KREIBAUM
NATIONALITY BORN GENDER INDEPENDENCE¹ FIRST ELECTED	Danish 1959 Male Yes 2010	Danish 1968 Male No 2010	French 1968 Male No 2019	German 1962 Male Yes 2020
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 Nordisk A/S, 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 • Member of the Board of Governors of Det Kgl. Vajsenhus, Denmark • 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"> • Senior advisor focusing on China-specific strategies along the chemicals value chain • Serving in roles with industry associations in China, including the European Chemical Industry Council (Cefic) and the China Petroleum and Chemical Industry Federation (CPCIF) • Member of the Board of Directors of Unitech North America Inc.
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)	M.Eng. (Chem.) from McGill University (1986)

BOARD OF DIRECTORS

				
	JENS KEHLET NØRSKOV	JØRGEN HUNO RASMUSSEN	ROHIT SOBTI	CHRISTINA TENG TOPSØE
NATIONALITY BORN GENDER INDEPENDENCE¹ FIRST ELECTED	Danish 1952 Male Yes 2010	Danish 1952 Male Yes 2013	Singaporean 1967 Male No 2019	Danish 1981 Female No 2013
POSITIONS AND MANAGEMENT DUTIES	<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"> • Vice Chairman of the Boards of Terma A/S, Rambøll Group A/S, STIBOFONDEN and Stibo Holding A/S • Member of the Board of Directors of Bladt Industries A/S, Otto Mønsted A/S, Thomas B. Thriges Foundation, and Aase and Jørgen Münters Foundation 	<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"> • 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	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).	MSc (1976) and PhD (1980) from the Technical University of Denmark. Graduate Diploma in Business Administration from Copenhagen Business School, Denmark (1977), where Mr. Rasmussen is also Adjunct Professor.	MBA from the Institute of Management Technology, India (1992) and B.Eng. Electronics from the B.M.S. College of Engineering, India (1989).	BSc in Chinese studies from the University of Copenhagen, Denmark, and the Peking University, China (2003). 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 (2018).

BOARD OF DIRECTORS

				
	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	Group Manager in the Support and Maintenance Projects Department in Global Supply, Topsoe A/S	Research Specialist in the Clean Air Applications Department in R&D, Topsoe A/S	Principal scientist in 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)

SENIOR LEADERSHIP TEAM

The 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's timely reporting and information for our shareholders, the board and other stakeholders.

The Senior Leadership Team also submits and recommends proposals for Topsoe's 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 Chief Commercial Officer (CCO), as well as the global heads of Strategy & Innovation, Power-to-X, R&D, Supply, Human Resources 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 2022, Topsoe A/S announced these changes to its Senior Leadership Team:

→ Kim Hedegaard, former Chief Operating Officer (COO) of Global Supply, was appointed CEO of Power-to-X to replace Chokri Mousaoui, who left the company to pursue other opportunities.

→ Andreas Bruun Jørgensen, former Vice President of Technology in Global Supply, was appointed COO of Global Supply.

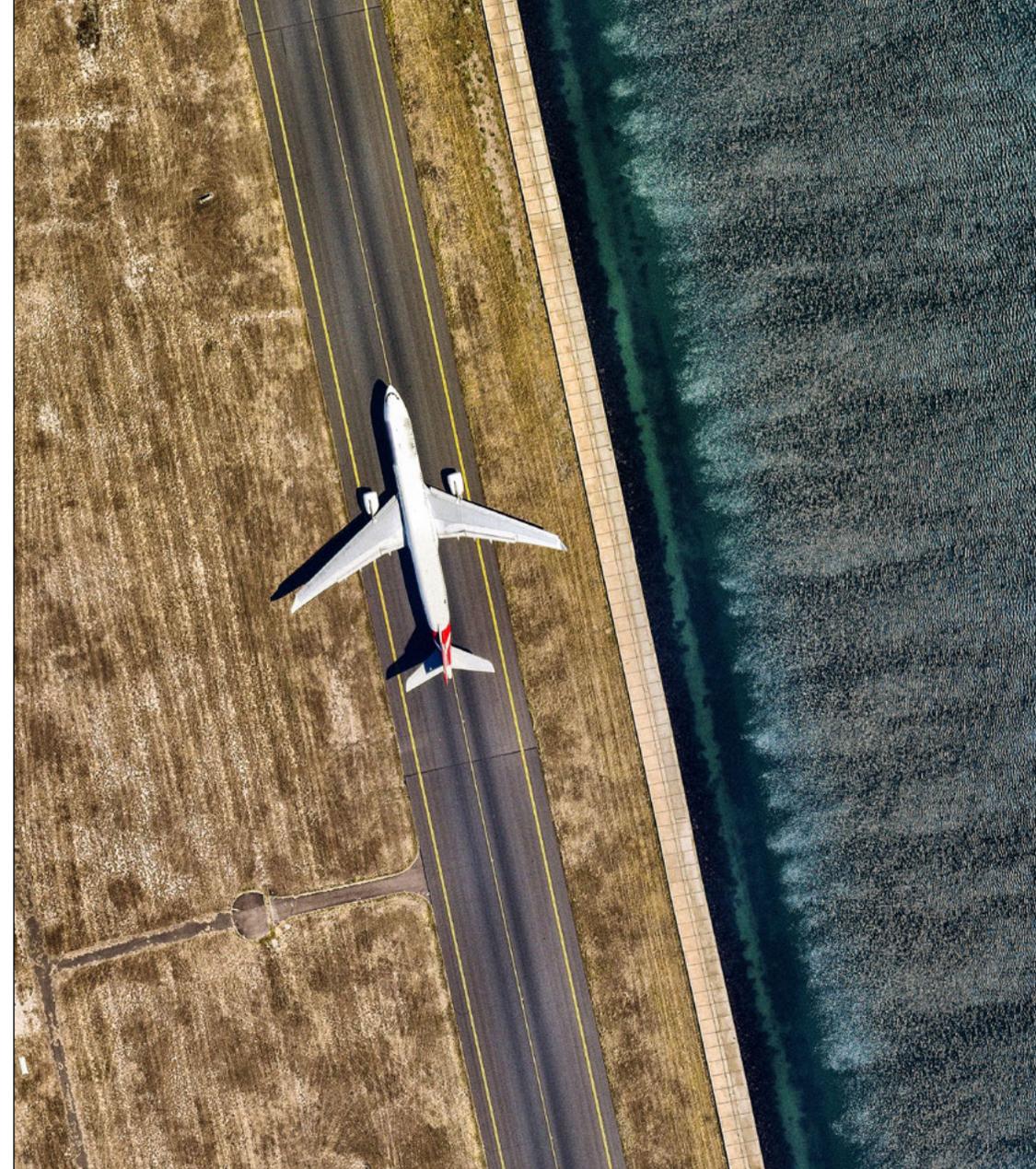
→ Elena Scaltritti was appointed CCO.

→ Morten Holm Christiansen, who also serves as Chief Digital Officer & Chief Information Officer, was appointed interim CFO to replace Philip Eickhoff, who resigned from the company.

→ Kristine Ahrensbach, Chief Communications & Brand Officer, left Topsoe to pursue other opportunities and was replaced by Kasper Westphal Pedersen, who joined the company as Vice-President of Communications & Brand, reporting to Chief Human Resource Officer Peter Kirkegaard.

Consequently, the Senior Leadership Team was reduced to nine members.

For more details on the current members of the Senior Leadership Team see → pages 67-68 and → topsoe.com



SENIOR LEADERSHIP TEAM

					
	ROELAND BAAN PRESIDENT & CEO	MORTEN HOLM CHRISTIANSEN INTERIM CHIEF FINANCIAL OFFICER	ELENA SCALTRITTI CHIEF COMMERCIAL OFFICER	KIM S. HEDEGAARD CEO OF POWER-TO-X	ANDREAS BRUUN JØRGENSEN CHIEF OPERATING OFFICER
NATIONALITY BORN GENDER JOINED TOPSOE A/S IN	Dutch 1957 Male 2020	Danish 1965 Male 2021	Italian 1972 Female 2022	Danish 1976 Male 1999	Danish 1979 Male 2010
PAST EXPERIENCE	<ul style="list-style-type: none"> Previously served as President and CEO of Outokumpu, a global stainless-steel company listed on the Finnish stock exchange. Has also held a wide range of global CEO and Executive Vice President (EVP) positions at Aleris International, Arcelor Mittal, SHV NV, and Shell. 	<ul style="list-style-type: none"> Has held various CFO and Corporate Vice President positions at Maersk, COOP and Novo Nordisk. At present also serving as Chief Digital Officer & Chief Information Officer at Topsoe. 	<ul style="list-style-type: none"> Previously served as Executive Vice President at SONGWON Industrial Group, responsible for the group's commercial activities. Has also held various sales and commercial roles at BASF and Ciba Specialty Chemicals. 	<ul style="list-style-type: none"> Previously served as Chief Operating Officer at Topsoe in charge of Global Supply and was globally responsible for catalyst production and technology. Has also served in various other leadership positions at Topsoe within engineering, technology, and sales. 	<ul style="list-style-type: none"> Previously served as Vice President, Technology in Global Supply at Topsoe responsible for engineering, license and hardware supply. Has also served in various other leadership positions at Topsoe in Denmark and India within engineering and technology.
OTHER POSITIONS	Chairman of the Board of SBM Offshore NV	<ul style="list-style-type: none"> Chairman of the CIO Transformation Board at the Danish ICT Industry Association Board member at Albert Sounit SRL 	None	<ul style="list-style-type: none"> Vice Chairman of the Board of Process Industry and board member in Production Industry – both member organizations under the Confederation of Danish Industries. Member of the Board at the secondary education institution U/ NORD and co-founder/owner of FlexHospital. 	None
EDUCATION	MSc in Economics from Vrije Universiteit Amsterdam, the Netherlands (1980)	MSc in Business Economics (Cand. Oecon) from University of Aarhus (1990), EMBA from IMD, Switzerland (2011)	BSc in Organic Chemistry from Università degli Studi di Milano (1997), and MBA from MIP Politecnico di Milano (2009)	MSc in Chemical Engineering from the Technical University of Denmark (1999)	MSc in Chemical Engineering from the Technical University of Denmark (2006)

SENIOR LEADERSHIP TEAM

				
	PETER KIRKEGAARD CHIEF HUMAN RESOURCES OFFICER	KIM GRØN KNUDSEN CHIEF STRATEGY & INNOVATION OFFICER	JESPER NERLOV CHIEF TECHNOLOGY OFFICER	LENE RAMM GROUP GENERAL COUNSEL
NATIONALITY BORN GENDER JOINED TOPSOE A/S IN	Danish 1965 Male 2021	Danish 1964 Male 1996	Danish 1968 Male 1998	Danish 1967 Female 2003
PAST EXPERIENCE	<ul style="list-style-type: none"> Previously served as Executive Vice President, Chief People & Culture Officer at Hempel A/S. Has also had a 15-year career with Accenture as Partner leading the Human Performance and Finance & Performance Management service lines. 	<ul style="list-style-type: none"> Previously headed the New Business, Environmental and Refinery Business units at Topsoe, and has also held various positions within Topsoe's Research & Development, including Vice President. Served as Research Associate Professor at the Technical University of Denmark before joining Topsoe. 	<ul style="list-style-type: none"> Previously held various positions within Topsoe's Research & Development, including Vice President. Served as Research Associate Professor at the Technical University of Denmark before joining Topsoe. 	<ul style="list-style-type: none"> Previously served as Attorney-at-Law at Kromann Reumert and Head of Section in the Danish Ministry of Foreign Affairs.
OTHER POSITIONS	Member of the Board of Science City Lyngby, Also serves as Member of the Confederation of Danish Industries' Global Talent Advisory Board	Member of the Advisory Boards of the Danish Energy Industries Federation (DI Energi), Axcel-future – a think tank for the Danish business community, and the Department of Energy Conversion and Storage (DTU Energy)	Member of the Board of the Danish Eco-Innovation Program (MUDP) under the Ministry of Environment of Denmark. Also serves as Vice Chairman of the Danish Environmental Technology Association, member of the Board of Representatives of the Technical University of Denmark, and member of the Advisory Board for Science at the University of Copenhagen.	None
EDUCATION	MSc in Political Science from University of Aarhus, Denmark (1991), and an MA in International Relations from University of Reading, UK (1989)	MSc (1990) and PhD (1992) in Chemical Engineering from the Technical University of Denmark	PhD in Physical Chemistry from the University of Copenhagen, Denmark (1992)	MA in Law from the University of Copenhagen, Denmark (1995), and a supplementary degree in Business Administration and Management from Columbia Business School, US (2017)

FINANCIAL AND ESG STATEMENTS

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Financial statements of Topsoe A/S

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Statement of environmental, social and governance (ESG) performance

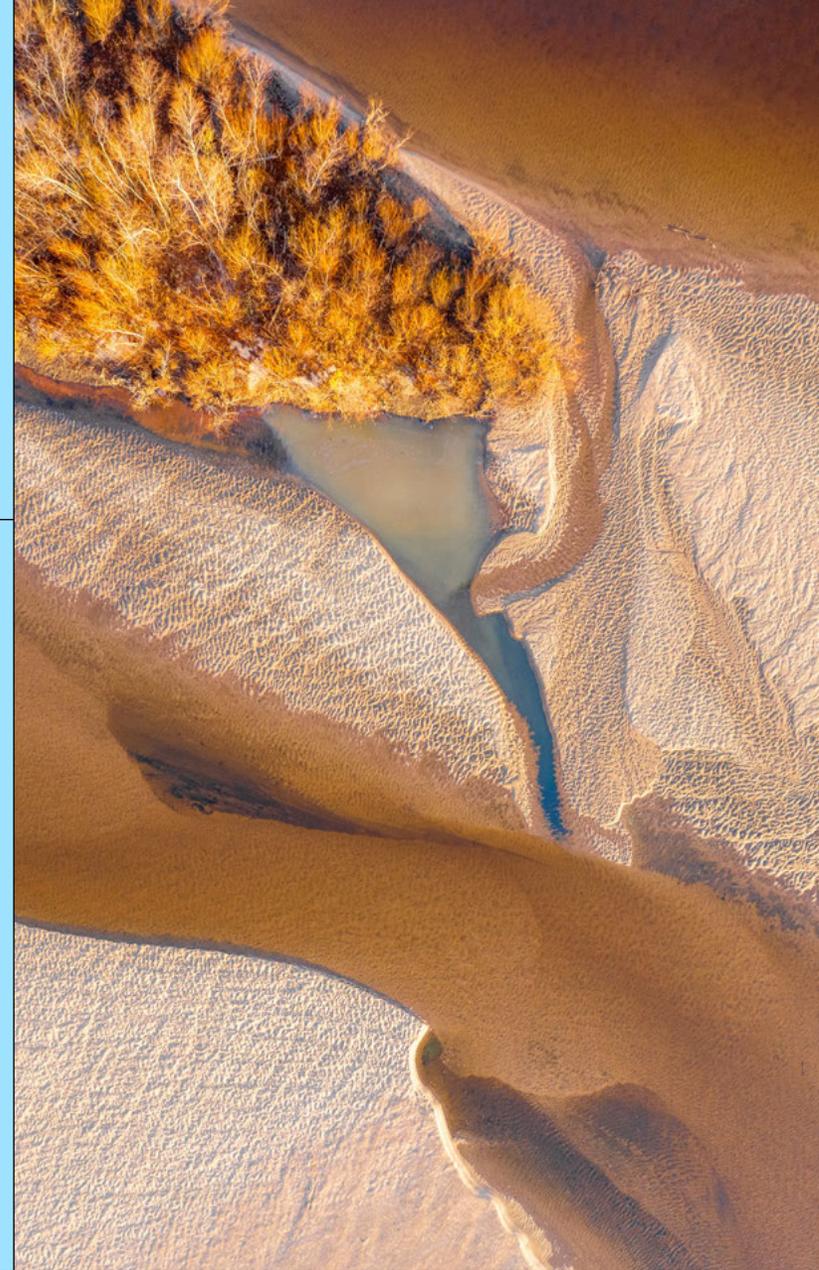
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CONSOLIDATED INCOME STATEMENT

DKK million	Note	2022	2021
Revenue	2.1	6,845	6,225
Other operating income	2.2	61	67
Purchased equipment for contract work		-417	-539
Raw materials and consumables used		-2,398	-1,782
Other external expenses		-1,326	-1,087
Gross profit		2,765	2,884
Staff costs	2.3	-1,809	-1,651
EBITDA		956	1,233
Depreciation, amortization and impairment losses		-348	-330
EBIT before special items		608	903
Special items	2.4	-43	-26
EBIT after special items		565	877
Result of investments in joint ventures and associated companies	3.4	0	132
Financial income	4.4	315	136
Financial expenses	4.4	-187	-101
Profit before tax		693	1,044
Tax	2.5	-126	-164
Profit from continuing operations		567	880
Profit from discontinuing operations	5.8	0	10
Net profit		567	890
Attributable to:			
Owners of the parent company		567	887
Non-controlling interests		0	3
Net profit		567	890
Earnings per share, continuing operations	4.1	1.49	2.31
Earnings per share	4.1	1.49	2.34

CONSOLIDATED STATEMENT OF COMPREHENSIVE INCOME

DKK million	Note	2022	2021
Net profit		567	890
Foreign currency translation adjustment		82	103
Fair value adjustment on cash flow hedges		3	0
Other		0	1
Items that will be reclassified to the income statement		85	104
Fair value adjustment of investments in other enterprises		0	-8
Actuarial adjustments on pension obligations		10	47
Tax on this	2.5	-2	-11
Items that will not be reclassified to the income statement		8	28
Other comprehensive income		93	132
Total comprehensive income		660	1,022
Continuing operations		660	1,012
Discontinuing operations		0	10
Total comprehensive income		660	1,022
Attributable to:			
Owners of the parent company		660	1,018
Non-controlling interests		0	4
Total comprehensive income		660	1,022

CONSOLIDATED BALANCE SHEET

DKK million	Note	2022	2021
Assets			
Intangible assets	3.1	212	184
Property, plant and equipment	3.2	2,327	1,760
Right-of-use assets	3.3	459	498
Deferred tax asset	2.5	7	11
Other non-current assets	3.4	347	320
Non-current assets		3,352	2,773
Inventories	3.5	2,438	1,647
Trade receivables	3.6	1,490	1,232
Contract assets	3.7	293	270
Tax receivable		47	62
Other receivables and prepayments	3.8	289	306
Cash		477	872
Current assets		5,034	4,389
Assets		8,386	7,162

DKK million	Note	2022	2021
Equity and liabilities			
Share capital	4.1	385	379
Share premium	4.1	271	71
Treasury shares	4.1	-151	0
Reserves		197	86
Retained earnings		2,502	2,393
Equity attributed to the owners of the parent company		3,204	2,929
Non-controlling interests		12	12
Total equity		3,216	2,941
Pension obligations	3.9	32	37
Deferred tax	2.5	516	479
Provisions	3.10	211	175
Borrowings	4.2	330	452
Lease liabilities	4.2	445	467
Other payables	3.11	102	105
Non-current liabilities		1,636	1,715
Borrowings	4.2	122	122
Lease liabilities	4.2	60	68
Contract liabilities	3.7	1,923	1,179
Trade payables		953	568
Tax payable		6	7
Other payables	3.11	441	526
Deferred income		29	36
Current liabilities		3,534	2,506
Liabilities		5,170	4,221
Equity and liabilities		8,386	7,162

CONSOLIDATED CASH FLOW STATEMENT

DKK million	Note	2022	2021
EBITDA		956	1,233
Special items	2.4	-26	-26
Adjustments for non-cash items	5.4	62	73
Change in working capital	5.4	21	-707
Interest received, etc.		17	103
Interest paid, etc.		-17	-77
Corporate income tax paid		-70	-99
Cash flows from operating activities		943	500
- of which continuing operations		943	500
Purchase of intangible assets		-80	-65
Purchase of property, plant and equipment		-777	-330
Sale of property, plant and equipment		3	1
Purchase of non-current financial assets		-20	-30
Sale of non-current financial assets		2	0
Dividend received		129	33
Cash flows from investing activities		-743	-391

DKK million	Note	2022	2021
Repayment of borrowings		-122	-123
Installments on lease liabilities		-81	-75
Purchase of treasury shares		-151	0
Received share capital		180	3
Dividend paid		-445	-240
Cash flows from financing activities		-619	-435
Cash flows for the year		-419	-326
Cash and cash equivalents at January 1		872	1,175
Cash flow for the year		-419	-326
Foreign currency translation adjustments		24	23
Cash and cash equivalents at December 31		477	872
Cash		477	872
Cash and cash equivalents at December 31		477	872

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

CONSOLIDATED STATEMENT OF CHANGES IN EQUITY

DKK million	Share capital	Share premium	Foreign currency translation reserve	Reserve for financial assets measured at fair value	Total reserves	Retained earnings	Total	Non-controlling interests	Total equity
Equity at January 1, 2021	379	68	-44	35	-9	1,701	2,139	8	2,147
Net profit	0	0	0	0	0	887	887	3	890
Foreign currency translation adjustment	0	0	102	0	102	0	102	1	103
Fair value adjustment of investments in other enterprises	0	0	0	-8	-8	0	-8	0	-8
Other	0	0	1	0	1	36	37	0	37
Other comprehensive income	0	0	103	-8	95	36	131	1	132
Comprehensive income	0	0	103	-8	95	923	1,018	4	1,022
Capital increase	0	3	0	0	0	0	3	0	3
Dividend paid	0	0	0	0	0	-240	-240	0	-240
Employee Share Program - value of employee services	0	0	0	0	0	4	4	0	4
Share-based payments	0	0	0	0	0	5	5	0	5
Transactions with owners	0	3	0	0	0	-231	-228	0	-228
Equity at December 31, 2021	379	71	59	27	86	2,393	2,929	12	2,941

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1 BASIS OF REPORTING

1.1 Basis of preparation

INTRODUCTION

The financial statements for 2022 comprise the consolidated financial statements of Topsoe A/S and its subsidiaries.

The consolidated financial statements have been prepared in accordance with the International Financial Reporting Standards (IFRS), 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 Board of Directors considered and approved the 2022 Annual Report of Topsoe A/S on March 2, 2023. The Annual Report will be submitted to the shareholders of Topsoe A/S for approval at the Annual General Meeting on April 20, 2023.

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 controlled by Topsoe A/S.

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.

OTHER ACCOUNTING POLICIES

Purchased equipment for contract work

Purchased equipment for contract work comprises hardware etc. related to engineering projects.

Raw materials and consumables used

Raw material and consumables used comprise raw materials and consumables consumed to achieve revenue for the year.

Other external expenses

Other external expenses comprise expenses to external assistance, premises and office expenses, sales and distribution expenses, etc.

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) 1.2 Changes in accounting policies and new standards

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	=	$\frac{\text{Profit from continuing operations}}{\text{Average number of shares}}$

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, 2022 including "IFRS 3 Business Combinations", "IAS 16 Property, plant and equipment" and "IAS 37 Provisions, contingent liabilities and contingent assets" as well as the Annual improvements 2018-2020 regarding IFRS 1, IFRS 9, IAS 41 and IFRS 16.

Topsoe has assessed the effect of the amendments and concluded that all amendments effective for financial years beginning on or after January 1, 2022 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 IASB has issued new or amended standards and interpretations that have not yet become effective and have consequently not been implemented in the consolidated financial statements for 2022. Topsoe expects to adopt the new accounting standards, amendments and interpretations as they become mandatory. The following new amendments could be of relevance to the Group:

- IAS 1, Presentation of Financial Statements and Practice Statement 2: The Amendment clarifies that the disclosures of accounting policies are only required for material line items. However, it is still permitted to disclose the accounting policies for non-significant line items if the

disclosures do not obscure the information provided by the financial statement.

- IAS 8 Accounting Policies, Changes in Accounting Estimates and Errors: The amendment introduces a new definition of accounting estimates: "Accounting estimates are monetary amounts in financial statements that are subject to measurement uncertainty". The new definition emphasizes that accounting estimates involves the utilization of measurement techniques and assumptions. This is made to assist users of the financial statement to distinguish between changes in accounting estimates and changes in accounting policies.

The amendments will be effective for financial years beginning on or after January 1, 2023 and 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.

DKK million	2022	2021
Revenue split on categories and recognition method		
Revenue recognized at a point in time	5,091	4,362
Catalyst revenue	5,091	4,362
Revenue recognized at a point in time	175	192
Revenue recognized over time	1,579	1,671
Technology revenue	1,754	1,863
Total revenue	6,845	6,225
Backlog and previously recognized contract liabilities		
Backlog, of which the majority is expected to be recognized in 2023 (2022)	6,015	3,634
Revenue recognized that was included in the contract liability balance at the beginning of the year	616	905
Revenue per region		
EMEA	2,356	2,215
America	2,918	2,532
Asia Pacific	1,571	1,478
Total revenue	6,845	6,225

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.

In 2022, the Group had revenue exceeding 10% of the total revenue in the following countries:

US DKK 1,986 million (2021: DKK 1,856 million).

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	2022	2021
Other operating income		
Government grants	38	35
Other services	13	28
Other operating income	10	4
Total other operating income	61	67

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	2022	2021
Staff costs		
Wages, salary and other remuneration	1,559	1,404
Share-based payment	2	5
Pension costs - defined contribution plans	149	138
Pension costs - defined benefit plans	5	6
Social security cost and other staff costs	144	127
Total	1,859	1,680
Transferred to assets	-50	-29
Total staff costs	1,809	1,651
Average number of employees	2,242	2,133
Remuneration to Senior Leadership Team and fee to Board of Directors		
Salary	68	49
Share-based payment	2	3
Pension	5	5
Severance pay	4	13
Total remuneration to Senior Leadership Team	79	70
Fee to Board of Directors	9	8
Total remuneration to Senior Leadership Team and Board of Directors	88	78

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	2022	2021
Special items		
Restructuring costs	-10	-26
Loss on debtors	-12	0
Write-down of fixed assets and right-of-use assets	-3	0
Other financial expenses	-18	0
Total special items	-43	-26
Line items impacted, if special items had been recognized in EBIT before special items		
Other external expenses	-17	0
Staff costs	-5	-26
Depreciation, amortization and impairment losses	-3	0
Financial expenses	-18	0
Total special items	-43	-26

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. Non-cash part amounts to DKK 17 million. In 2021, the cost was related to restructuring.

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.

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	2022	2021
Income tax		
Current tax for the year	92	104
Change in deferred tax for the year	41	57
Adjustments to prior years	-7	3
Total income tax recognized in the income statement	126	164
Income tax recognized in other comprehensive income	-2	-11
Total income tax recognized in comprehensive income	124	153
Tax on continuing operations	124	164
Tax on discontinuing operations	0	-11
Total income tax	124	153
Effective tax rate, %		
Danish corporate tax rate	22.0	22.0
Non-deductible expenses	0.4	0.2
Income not subject to tax	-1.5	-2.9
Differences in foreign tax rates	3.0	-0.8
Adjustments relating to prior years	-0.5	0.4
Other adjustments	-5.2	-3.2
Effective tax rate	18.2	15.7

The major impact of the change in effective tax rate from 2021 to 2022 is related to increased deduction on R&D activities implemented by the Danish Government and foreign tax rates.

DKK million	Jan. 1	Foreign currency translation adjustments	Tax for the year	Tax for previous years	Tax on equity	Dec. 31
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 at December 31, 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
Deferred tax, 2021						
Intangible assets and property, plant and equipment	83	3	0	0	0	86
Inventories	19	0	-6	0	0	13
Contract assets	331	1	49	-1	0	380
Provisions	-33	-1	11	-8	11	-20
Other	11	-2	1	-1	0	9
Deferred tax at December 31, 2021	411	1	55	-10	11	468
Recognized as deferred tax asset						-11
Recognized as deferred tax liability						479
Deferred tax at December 31, 2021						468
Of this, due after more than 1 year						328
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, 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

DKK million	Goodwill	Rights	Patents	Software	Intangible assets under construction	Total
Intangible assets, 2021						
Cost at January 1, 2021	23	39	125	205	44	436
Foreign currency translation adjustment	2	0	0	0	0	2
Additions during the year	0	0	24	33	8	65
Disposals during the year	0	0	-22	-20	0	-42
Transfers during the year	0	0	0	44	-44	0
Cost at December 31, 2021	25	39	127	262	8	461
Amortization and impairment losses						
at January 1, 2021	23	17	61	173	0	274
Foreign currency translation adjustment	2	0	0	0	0	2
Amortization for the year	0	5	12	20	0	37
Disposals during the year	0	0	-16	-20	0	-36
Amortization and impairment losses at December 31, 2021	25	22	57	173	0	277
Carrying amount at December 31, 2021	0	17	70	89	8	184
Research and development costs expensed in 2021						571

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 dismantling

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, 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

3.2 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 recover-

able 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, 2021					
Cost at January 1, 2021	798	2,449	1,159	466	4,872
Foreign currency translation adjustment	10	34	6	27	77
Additions during the year	11	27	37	255	330
Disposals during the year	-18	0	-33	0	-51
Transfers during the year	40	55	23	-118	0
Cost at December 31, 2021	841	2,565	1,192	630	5,228
Depreciation and impairment losses at January 1, 2021	470	1,837	947	0	3,254
Foreign currency translation adjustment	6	26	4	0	36
Depreciation for the year	16	139	69	0	224
Disposals during the year	-18	0	-28	0	-46
Depreciation and impairment losses at December 31, 2021	474	2,002	992	0	3,468
Carrying amount at December 31, 2021	367	563	200	630	1,760
Carrying amount of assets used for operational lease	0	0	0	64	64

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-cancelable 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, 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
Right-of-use assets, 2021			
Carrying amount at January 1, 2021	546	9	555
Foreign currency translation adjustment	5	1	6
Additions during the year	10	0	10
Disposals during the year	-5	0	-5
Depreciation for the year	-64	-4	-68
Carrying amount at December 31, 2021	492	6	498

DKK million	2022	2021
Lease information		
Interest expense (included in financial expenses)	22	22
Expense relating to short-term leases (included in other external expenses)	0	0
Expense relating to leases of low-value assets that are not shown above as short-term leases (included in other external expenses)	0	0
Revenue from sub-lease	3	4
Total cash outflow for leases	82	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 associated companies	Investments in joint ventures	Pension asset	Other securities and investments	Other receivables	Total
Non-current assets, 2022						
Cost at January 1, 2022	0	17	40	220	40	317
Foreign currency translation adjustment	0	0	2	0	0	2
Additions during the year	0	8	10	10	0	28
Disposals during the year	0	0	0	0	-2	-2
Cost at December 31, 2022	0	25	52	230	38	345
Value adjustment at January 1, 2022	0	0	0	10	-7	3
Profit/loss for the year	0	0	0	0	0	0
Disposals during the year	0	0	0	0	0	0
Value adjustments for the year	0	0	0	-1	0	-1
Value adjustment at December 31, 2022	0	0	0	9	-7	2
Carrying amount at December 31, 2022	0	25	52	239	31	347

DKK million	Investments in associated companies	Investments in joint ventures	Pension asset	Other securities and investments	Other receivables	Total
Non-current assets, 2021						
Cost at January 1, 2021	17	0	0	214	39	270
Foreign currency translation adjustment	0	0	0	0	1	1
Additions during the year	5	17	40	6	8	76
Disposals during the year	-22	0	0	0	-8	-30
Cost at December 31, 2021	0	17	40	220	40	317
Value adjustment at January 1, 2021	-14	0	0	18	-8	-4
Profit/loss for the year	-6	0	0	0	0	-6
Disposals during the year	20	0	0	0	0	20
Value adjustments for the year	0	0	0	-8	1	-7
Value adjustment at December 31, 2021	0	0	0	10	-7	3
Carrying amount at December 31, 2021	0	17	40	230	33	320

DKK million	2022	2021
Result of investments in joint ventures and associated companies		
Gain from divestment of shares in associated companies	0	137
Share of result of associated companies, net of tax	0	-5
Share of result of joint ventures, net of tax	0	0
Total result of investments in joint ventures and associated companies	0	132

3.4 Other non-current assets (continued)

INVESTMENTS IN JOINT VENTURES:

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

During 2022, the Group has invested DKK 8 million in Shaanxi Yanchang Topsoe Catalytic Technologies Co, Ltd., corresponding to 49% of the share capital. The joint venture is a limited liability company. The company will establish a minor production line.

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.

Based on this, the KAFCO shares have been written down by DKK 0 million (2021: DKK 8 million). The fair value of the investment is DKK 156 million.

Ramagundam Fertilizers and Chemicals Limited, New Delhi, India

The Group has increased the investment in Ramagundam Fertilizers and Chemicals Limited, still 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 (2021: DKK 67 million).

GTLA Holdings LP, Delaware, US

The Group has invested in GTLA Holdings LP, corresponding to 3% of the share capital. The purpose of the company is to develop a project for the construction of a gas-to-liquid plant. The fair value of the investment is DKK 0 million due to a license having been suspended.

Liquid Wind, SE

The Group has in 2022 invested DKK 9 million in Liquid Wind, corresponding to 5% 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 11 million.

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	2022	2021
Inventories		
Raw materials and consumables	911	557
Work in progress	382	225
Finished goods	1,145	865
Inventories at December 31	2,438	1,647
Cost of sales for the year	3,216	2,086
Write-down of inventories		
Impairment at January, 1	127	80
Foreign currency translation adjustment	2	2
Additions during the year	29	101
Reversals during the year	-64	-28
Realized during the year	4	-28
Write-down at December 31	98	127

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, 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
Ageing of trade receivables and expected credit loss, 2021				
Not due	980	0	0	980
1-90 days	197	0	0	197
91-180 days	16	0	0	16
181-360 days	32	17	-5	27
360+ days	26	56	-14	12
At December 31, 2021	1,251		-19	1,232

3.6 Trade receivables (continued)

DKK million	2022	2021
Loss allowance		
Loss allowance at January 1	19	22
Foreign currency translation adjustment	0	1
Additions during the year	26	5
Reversals during the year	0	-4
Realized during the year	-2	-5
Loss allowance at December 31	43	19
Trade receivables due after more than 1 year	11	16

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 and most prudent 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.

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	2022	2021
Contract assets and liabilities		
Contract work in progress	293	270
Contract assets at December 31	293	270
Contract work in progress	1,318	677
Prepayments from customers related to catalysts, etc.	605	502
Contract liabilities at December 31	1,923	1,179
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	6,510	6,542
Payments received on account	-7,535	-6,949
Contract work in progress at December 31	-1,025	-407
Contract work in progress recognized in contract assets	293	270
Contract work in progress recognized in contract liabilities	-1,318	-677
Contract work in progress at December 31	-1,025	-407

3.8 Other receivables and prepayments

ACCOUNTING POLICES

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	2022	2021
Other receivables and prepayments		
Indirect tax receivables	80	77
Derivatives	3	8
Gain from divestment of associated companies	0	140
Other receivables	92	38
Prepayments	114	43
Other receivables and prepayments at December 31	289	306
Agent commission for obtaining contracts		
Agent commission recognized as prepayments	10	8
Agent commission recognized in the income statement during the year.	17	43

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	2022	2021
Net pension obligations		
Present value of pension obligations at January 1	282	306
Foreign currency translation adjustment	14	22
Pension costs	4	4
Calculated interest on obligation	7	7
Actuarial gains and losses, demographic assumption	7	-2
Actuarial gains and losses, financial assumption	-66	-15
Pension paid	-12	-11
Pension paid for settlements	-22	-29
Present value of pension obligations at December 31	214	282
Fair value of pension plan assets at January 1	285	264
Foreign currency translation adjustment	18	22
Calculated interest on pension assets	6	5
Return on plan assets excl. interest on pension assets	-42	30
Paid by the Group	1	4
Pension paid	-12	-11
Pension paid for settlements	-22	-29
Fair value of pension plan assets at December 31	234	285
Net pension obligations/assets at December 31	-20	-3
Pension costs		
Pension costs	4	4
Interest expenses	7	7
Interest income on plan assets	-6	-5
Total pension related to defined benefit recognized in staff costs	5	6
Weighted average duration of the defined benefit obligations (in years)	6.9-10.5	8.3-10.5

Expected defined benefit pension payments by the Group in 2023 amount to DKK 20 million.

3.9 Pension obligations (continued)

Percentage	2022	2021
Composition of plan assets, %		
Shares	66	70
Bonds	28	25
Real estate	4	4
Other	2	1
Composition of plan assets at December 31	100	100
Applied actuarial assumptions, %		
Discount rate	3.2-7.5	1.0-6.5
Future wage increases	2.5-10.0	2.5-10.0
DKK million	2022	2021
Sensitivity analysis of impact on pension obligation		
0.5%-point increase on discount rate	-3	-5
0.5%-point decrease on discount rate	3	5
0.5%-point increase on future wage increase	0	0
0.5%-point decrease on future wage increase	0	0

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.

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, 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.

Provisions, 2021

Provisions at January 1, 2021	163	126	1	290
Provisions during the year	32	94	9	135
Reversals during the year	-77	-6	0	-83
Realized provisions during the year	-4	-163	0	-167
Provisions at December 31, 2021	114	51	10	175

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

3.10 Provisions and contingent liabilities (continued)

DKK million	2022	2021
Ageing of guarantees issued on the Group's behalf for project-related risk		
Less than 1 year	379	406
Between 1 and 5 years	270	179
After 5 years	38	35
Guarantees issued at December 31	687	620

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	2022	2021
Guarantees issued by the Group		
Guarantee issued by the Group in relation to the Employee Share Program, expires 2024	5	7
Guarantees issued by the Group at December 31	5	7

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	2022	2021
Other payables		
Staff-related items	357	434
Other payables	186	197
Other payables at December 31	543	631
Classification of other payables		
Non-current liabilities	102	105
Current liabilities	441	526
Other payables at December 31	543	631

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 intercompany 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	2022	2021
Shares		
Shares at January 1	379,292,344	379,174,902
Capital increase	5,764,485	117,442
Shares as per December 31	385,056,829	379,292,344

The nominal value of each share is DKK 1 each. 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 3,654,382 are treasury shares held by the Group at year-end.

DKK million	2022	2021
Dividend		
Proposed dividend, DKK per share	0.73	1.17
Proposed dividend, DKK million	282	445
Paid dividend relating to prior year, DKK per share	1.19	0.63
Paid dividend relating to prior year, DKK million	454	240

Proposed dividend for 2022 will be considered at the Annual General Meeting on April 20, 2023.

In 2022, a dividend for 2021 of DKK 445 million was paid to shareholders.

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 1.61 at December 31, 2022 (2021: 1.44)

Capital allocation

There is no formal capital allocation or dividend policy. A dividend of 30-50% of net profit is targeted. However, on a yearly basis, the owners will consider the appropriate level of dividend payment based on profitability equity ratio and future capital requirements.

4.1 Equity, dividend and earnings per share (continued)

DKK million	2022	2021
Earnings per share		
Profit from continuing operations, owners of the parent company's share	567	877
Profit from discontinuing operations, owners of the parent company's share	0	10
Net profit, owners of the parent company's share	567	887
Average number of registered shares	379,408,063	379,238,140
Average number of treasury shares	2,361,342	0
Average number of outstanding shares, diluted	381,769,405	379,238,140
Earnings per share, continuing operations	1.49	2.31
Diluted earnings per share, continuing operations	1.49	2.31
Earnings per share, discontinuing operations	0.00	0.03
Diluted earnings per shares, discontinuing operations	0.00	0.03
Earnings per share	1.49	2.34
Diluted earnings per shares	1.49	2.34
Treasury shares		
Opening balance at 1 January	0	0
Purchase of treasury shares	3,888,424	0
Sale of treasury shares	-234,042	0
Balance at 31 December	3,654,382	0

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	Other payables	Borrowings	Lease liabilities	Total
Interest-bearing debt, 2022				
Interest-bearing debt at January 1, 2022	104	574	535	1,213
Value adjustment	0	0	-9	-9
Loans raised	0	0	39	39
Installments	-2	-122	-60	-184
Interest-bearing debt at December 31, 2022	102	452	505	1,059
Of which long-term	102	330	445	877
Interest-bearing debt, 2021				
Interest-bearing debt at January 1, 2021	101	697	585	1,383
Foreign currency translation adjustment	0	0	10	10
Loans raised	8	0	0	8
Installments	-5	-123	-60	-188
Interest-bearing debt at December 31, 2021	104	574	535	1,213

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, 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
Financial liabilities at December 31, 2022	1,596	528	490	2,614	-161	2,453
Maturity and classification of financial liabilities, 2021						
Borrowings	127	345	120	592	-18	574
Lease liabilities	69	222	390	681	-146	535
Trade payables	568	0	0	568	0	568
Other financial liabilities	526	11	94	631	0	631
Financial liabilities measured at amortized cost	1,290	578	604	2,472	-164	2,308
Financial liabilities at December 31, 2021	1,290	578	604	2,472	-164	2,308

4.3 Financial assets and liabilities (continued)

DKK million	Level 1	Level 2	Level 3
Fair value assets, 2022			
Other securities and investments	1	0	238
Derivative	0	3	0
Assets stated at fair value at December 31, 2022	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	2022	2021
Fair value of level 3 assets		
Fair value of level 3 assets at January 1	230	232
Addition	9	6
Write-down recognized in other comprehensive income	-1	-8
Fair value of level 3 assets at December 31	238	230
Available credit facility		
Undrawn credit facility	116	335
Undrawn revolving credit facility	1,200	1,200
Available credit facility at December 31	1,316	1,535

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 50-60 million.

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 2022, the fixed rate portion stood at 65%, while the floating rate portion stood at 35%. For the floating rate portion of our interest-bearing debt at end of 2022, an increase in the interest rate level of 1 percentage point will increase interest expenses by DKK 1.6 million p.a.

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, 2022, the Group considers its maximum credit risk to be DKK 2,412 million (2021: DKK 2,685 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. The target is to maintain a minimum of DKK 500 million in unused committed revolving credit facilities at any time.

4.4 Financial income and expenses

DKK million	2022	2021
Financial income		
Dividend from other investments	129	33
Interest income	10	7
Foreign currency translation adjustment	173	94
Other financial income	3	2
Total financial income	315	136
Financial expenses		
Interest expenses	35	36
Value adjustment of other receivables	0	2
Foreign currency translation adjustment	152	63
Total financial expenses	187	101

Interest expenses include interest on financial liabilities measured at amortized cost of DKK 31 million (2021: 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 counter 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	2022	2021
Performance shares	374,771	0
Granted during the year	0	435,395
Cancelled during the year	-135,896	-60,624
No. of shares at December 31	238,875	374,771

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 Executive Management.

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.

A total of 23 employees held performance shares at December 31, 2022 (2021: 31 employees).

Total costs recognized in 2022 amounted to DKK 3.3 million (2021: DKK 5 million).

The fair value of the performance share scheme at December 31, 2022, is estimated at DKK 10 million (2021: DKK 14 million).

Employee Share Program

The Employee Share Program (ESP) was launched 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 2022, an additional 265 employees (2021: 33 employees) enrolled in the program and 687,022 new shares (2021: 117,442 shares) were issued. The shares issued in 2022 were issued at an average price of DKK 33.1 (2021: DKK 30.5) per share resulting in a discount element of DKK 8.4 (2021: DKK 7.4). Staff costs have been impacted by DKK 2 million (2021: DKK 4 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.

54 employees (2021: 60 employees) are enrolled in the Phantom Program. Staff costs have not been impacted in 2022 nor in 2021.

5.2 Fee to auditors appointed at the general meeting

DKK million	2022	2021
Fee to auditors appointed at the general meeting		
Statutory audit fee	3	2
Other assurance statements	0	0
Tax assistance	2	2
Other assistance	4	1
Total fee to auditors appointed at the general meeting	9	5

5.3 Related parties

MAIN SHAREHOLDERS

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

DKK million	2022	2021
Transactions with parent company		
Management fee received from the parent company	1	1
Receivables from the parent company at December 31	7	1
Related parties		
Companies under common control		
Rent	3	2
Deposit	2	2
Joint venture		
Project revenue	8	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	2022	2021
Adjustments for non-cash items		
Gain and losses from disposal of assets	10	11
Special items, non-cash	-17	0
Gain from divestment of associated companies	0	137
Change in provisions	22	-129
Employee Share Program	4	8
Other adjustments	43	46
Total adjustments for non-cash items	62	73
Change in working capital		
Increase (-) / decrease in inventories	-772	-155
Increase (-) / decrease in trade receivables	-237	-153
Increase / decrease (-) in contract assets and liabilities	711	-281
Increase / decrease (-) in trade payables, etc.	319	-118
Total change in working capital	21	-707

5.5 Commitments

DKK million	2022	2021
Contractual obligations		
Purchase obligations relating to property, plant and equipment and intangible assets	293	15
Lease obligations related to software, IT service and maintenance agreements, running up to 9 years	8	12
Investment obligations related to investing in companies included under non-current assets	3	13
Contractual obligations at December 31	304	40
Ageing of contractual obligations		
Less than 1 year	293	23
Between 1 and 5 years	7	13
After 5 years	4	4
Contractual obligations at December 31	304	40

5.6 Events after the balance sheet date

No events materially affecting the Group's financial position at December 31, 2022 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
Haldor Topsoe America 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
Haldor Topsøe (Beijing) Co., Ltd	China	100%	P, S
Jiangsu JI TRI-Topsoe Joint R&D Center Co, Ltd.	China	60%	R
Topsøe International A/S	Denmark	100%	S
Subcontinent Ammonia Investment Company ApS	Denmark	100%	O
Topsøe Project Investment A/S	Denmark	100%	O
T Ramagundam A/S	Denmark	100%	O
Topsøe Sustainables A/S	Denmark	100%	O
Haldor Topsoe Germany GmbH	Germany	100%	S
Haldor Topsoe India Pvt. Ltd.	India	100%	S, O
Haldor 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
Haldor Topsoe, Inc.	US	100%	P, S
Haldor Topsoe Project Development U.S., Inc.	US	100%	O
Haldor Topsoe LFG Solutions Inc.	US	100%	O
Pacific Coast Fertilizer LLC	US	80%	O
Saturn Ferrostaal Gas Chemicals LLC,	US	100%	O
Haldor Topsoe eCOs Inc.	US	100%	O

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

5.8 Discontinuing operations

ACCOUNTING POLICIES

A discontinuing operation is a component of an entity that has been disposed of or is classified as held for sale and which represents a separate major line of business or geographical area of operations or is part of a single coor-

dated plan to dispose of such a line of business or area of operations. The results of discontinuing operations are presented separately in the income statement.

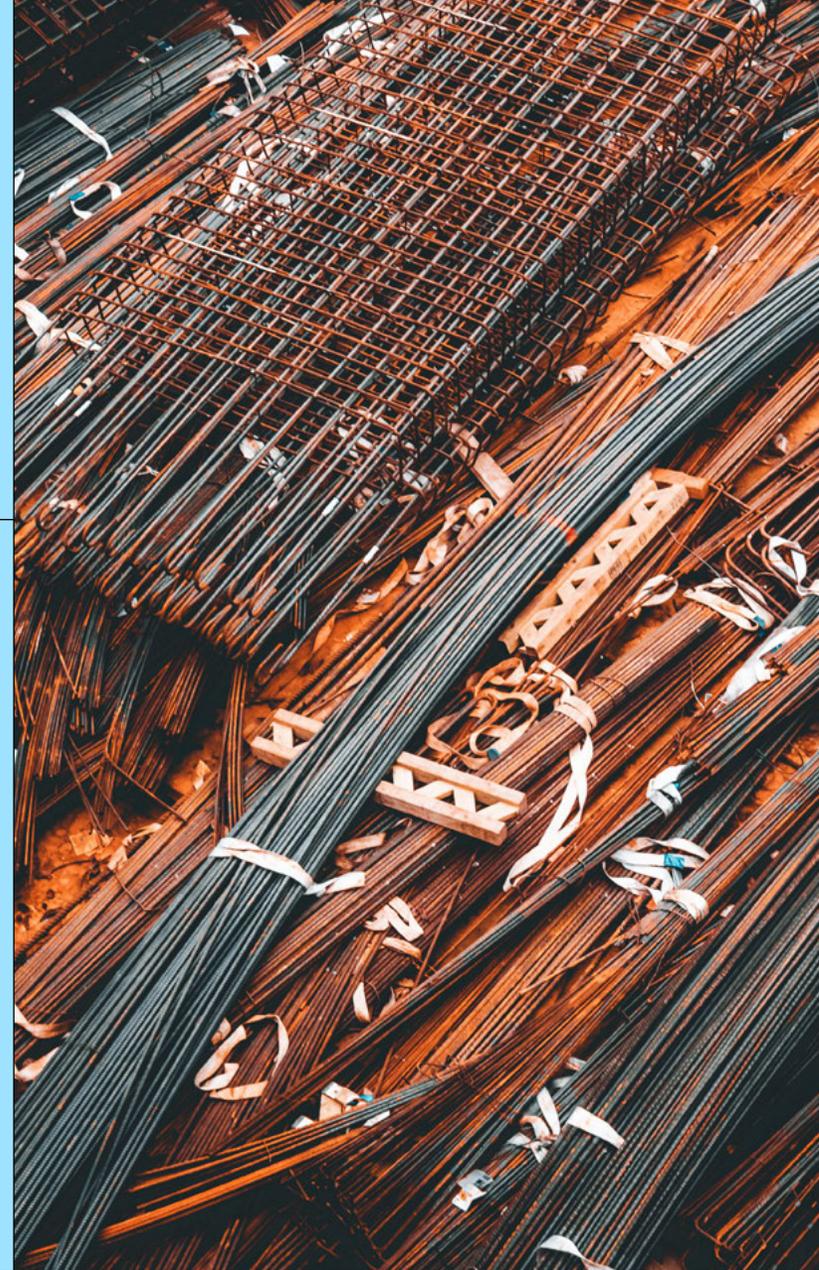
DKK million	2022	2021
Profit from discontinuing operations		
Transaction-related costs	0	-2
Value adjustment of net assets sold	0	0
Profit/loss on sale before income tax	0	-2
Income tax	0	12
Profit from discontinuing operations	0	10

On June 20, 2017, Topsoe announced that it had sold its emissions control business areas. The divestment was finalized on November 30, 2017. The divestment comprised the subsidiaries Haldor Topsoe Catalyst (Tianjin) Co., Ltd., Haldor Topsoe Automotive Catalyst Trading (Tianjin) Co., Ltd. and Haldor Topsoe Catalisadores e Tecnologias do Brasil Ltda. as well as business assets and liabilities in Denmark, the US, and China.

2021 has mainly been impacted by reopened tax assessments.

FINANCIAL STATEMENTS OF TOPSOE A/S

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INCOME STATEMENT OF TOPSOE A/S

DKK million	Note	2022	2021
Revenue	2	6,068	5,375
Change in inventories of finished goods and intermediate products		294	-94
Other operating income		49	53
Purchased equipment for contract work		-531	-513
Raw materials and consumables used		-2,533	-1,517
Other external expenses		-1,440	-1,200
Gross profit		1,907	2,104
Staff costs	3	-1,296	-1,254
Depreciation, amortization and impairment losses		-266	-267
Special items		-18	0
EBIT		327	583
Result of investments in Group enterprises, joint ventures, and associated companies	4	271	390
Financial income	5	178	82
Financial expenses	6	-172	-79
Profit before tax		604	976
Tax		-37	-106
Profit from continuing operations		567	870
Profit from discontinuing operations	26	0	10
Net profit	7	567	880

BALANCE SHEET OF TOPSOE A/S

DKK million	Note	2022	2021
Assets			
Rights		12	17
Patents		86	70
Software		70	88
Intangible assets under construction		44	9
Intangible assets	8	212	184
Land and buildings		283	282
Plant and machinery		359	453
Other fixtures and equipment		132	181
Property, plant and equipment under construction		303	99
Property, plant and equipment	9	1,077	1,015
Right-of-use assets	10	404	445
Investments in Group enterprises		2,002	1,642
Investments in associated companies		0	0
Investments in joint ventures		25	17
Receivables from Group enterprises		30	94
Other securities and investments		6	5
Other receivables		16	17
Investments	11	2,079	1,774
Non-current assets		3,772	3,419

DKK million	Note	2022	2021
Inventories	12	1,650	1,042
Trade receivables		1,197	737
Contract work in progress	13	281	258
Receivables from Group enterprises		480	766
Other receivables		155	301
Tax receivable		9	41
Prepayments		15	32
Receivables		2,137	2,135
Cash		357	224
Current assets		4,144	3,401
Assets		7,916	6,820

BALANCE SHEET OF TOPSOE A/S (continued)

DKK million	Note	2022	2021
Equity and liabilities			
Share capital		385	379
Share premium		271	71
Treasury shares		-151	0
Reserve for unpaid capital		26	0
Net revaluation reserve according to the equity method		653	313
Hedging reserve		3	0
Reserve for development costs		103	99
Reserve for Employee Share Program		17	12
Retained earnings		1,615	1,610
Proposed dividend		282	445
Equity		3,204	2,929
Deferred tax	14	451	463
Provisions	15	211	175
Borrowings	16	330	452
Lease liabilities	16	401	434
Other payables	16	99	102
Non-current liabilities		1,492	1,626

DKK million	Note	2022	2021
Borrowings	16	122	122
Lease liabilities	16	42	45
Deferred income		31	34
Prepayments from customers		501	418
Contract work in progress	13	1,291	590
Trade payables		746	478
Payables to Group enterprises		160	161
Other payables		327	417
Current liabilities		3,220	2,265
Liabilities		4,712	3,891
Equity and liabilities		7,916	6,820

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, 2022	379	71	0	0	313	99	0	12	1,610	445	2,929
Net profit	0	0	0	0	248	0	0	0	37	282	567
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	3	0	-3	0	0
Other adjustments	0	0	0	0	8	0	0	0	1	0	9
Currency translation differences	0	0	0	0	84	0	0	0	0	0	84
Capitalized development projects	0	0	0	0	0	4	0	0	-4	0	0
Net profit and income and expenses recognized under equity	0	0	0	0	340	4	3	0	31	282	660
Capital increase	6	200	0	26	0	0	0	0	-26	0	206
Purchase of own shares	0	0	-157	0	0	0	0	0	0	0	-157
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	3	0	0	3
Share-based payment	0	0	0	0	0	0	0	2	0	0	2
Dividend paid	0	0	0	0	0	0	0	0	0	-445	-445
Transactions with owners	6	200	-151	26	0	0	0	5	-26	-445	-385
Equity at December 31, 2022	385	271	-151	26	653	103	3	17	1,615	282	3,204

NOTES TO THE FINANCIAL STATEMENTS OF TOPSOE A/S

1	Accounting policies	114	14	Deferred tax	120
2	Revenue	114	15	Provisions	120
3	Staff costs	115	16	Non-current liabilities	121
4	Result of investments in Group enterprises, joint ventures, and associated companies	115	17	Share-based payment	121
5	Financial income	115	18	Guarantees	122
6	Financial expenses	116	19	Contractual obligations	122
7	Proposed distribution of profit	116	20	Contingent liabilities	122
8	Intangible assets	116	21	Fee to auditors appointed at the general meeting	122
9	Property, plant and equipment	117	22	Related parties	122
10	Right-of-use assets	117	23	Fair value financial assets and liabilities	123
11	Investments	118	24	Subsequent events	123
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13	Contract work in progress	120	26	Discontinuing operations	123

1 ACCOUNTING POLICIES

BASIS OF PREPARATION

The financial statements for 2022 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

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

The Company has not disclosed the revenue split by segments for competitive reasons, as disclosure of this information is assessed to be potentially harmful to the Company.

3 STAFF COSTS

DKK million	2022	2021
Wages, salary and other remuneration	1,151	1,096
Pension cost	124	118
Social security cost and other staff costs	62	58
Total	1,337	1,272
Transferred to assets	-41	-18
Total staff costs	1,296	1,254
Executive Management salary and pension	29	42
Fee to Board of Directors	9	8
Total remuneration to Executive Management and fee to Board of Directors	38	50
Average number of employees	1,497	1,457

The remuneration to Executive Management for 2021 was impacted by changes in the Executive Management team.

4 RESULT OF INVESTMENTS IN GROUP ENTERPRISES, JOINT VENTURES, AND ASSOCIATED COMPANIES

DKK million	2022	2021
Share of result of Group enterprises, net	276	235
Change in intercompany profit	-5	-4
Share of result of joint ventures and associated companies, net	0	-5
Gain on divestment of associated companies	0	137
Total income from investments in Group enterprises, joint ventures, and associated companies	271	363

5 FINANCIAL INCOME

DKK million	2022	2021
Interest received from Group enterprises	3	0
Interest income	3	1
Foreign currency translation adjustment	170	80
Other financial income	2	1
Total financial income	178	82

6 FINANCIAL EXPENSES

DKK million	2022	2021
Interest expenses	28	30
Foreign currency translation adjustment	143	147
Value adjustments of other investments	0	2
Total financial expenses	172	79

7 PROPOSED DISTRIBUTION OF PROFIT

DKK million	2022	2021
Proposed dividend	282	445
Net revaluation reserve according to the equity method	248	235
Retained earnings	37	200
Total proposed distribution of profit	567	880

8 INTANGIBLE ASSETS

DKK million	Rights	Patents	Software	Intangible assets under construction
Cost at January 1, 2022	40	127	256	9
Additions during the year	0	31	6	42
Disposals during the year	0	-2	-31	0
Transfers during the year	0	0	7	-7
Cost at December 31, 2022	40	156	238	44
Amortization and impairment losses at January 1, 2022	23	57	168	0
Amortization for the year	5	14	31	0
Reversal of amortization and impairment losses on assets sold	0	-1	-31	0
Amortization and impairment losses at December 31, 2022	28	70	168	0
Carrying amount at December 31, 2022	12	86	70	44

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, 2022	574	2,103	1,039	99
Additions during the year	1	0	3	249
Disposals during the year	-2	-22	-34	0
Transfers during the year	16	15	14	-45
Cost at December 31, 2022	589	2,096	1,022	303
Depreciation and impairment losses at January 1, 2022	292	1,650	858	0
Depreciation for the year	15	101	59	0
Reversal of depreciation on assets sold and scrapped	-1	-14	-27	0
Depreciation and impairment losses at December 31, 2022	306	1,737	890	0
Carrying amount at December 31, 2022	283	359	132	303

10 RIGHT-OF-USE ASSETS

DKK million	Land and buildings	Other fixtures and equipment	Right-of-use assets total
Cost at January 1, 2022	580	9	589
Additions during the year	0	0	0
Disposals during the year	-22	-2	-24
Cost at December 31, 2022	558	7	565
Depreciation and impairment losses at January 1, 2022	139	5	144
Depreciation for the year	39	2	41
Reversal of depreciation on assets sold and scrapped	-22	-2	-24
Depreciation and impairment losses at December 31, 2022	156	5	161
Carrying amount at December 31, 2022	402	2	404

11 INVESTMENTS

DKK million	Investments in Group enterprises	Investments in associated companies	Investments in joint ventures	Receivables from Group enterprises	Other securities and investments	Other receivables
Cost at January 1, 2022	306	0	17	96	38	26
Additions during the year	20	0	8	0	1	0
Disposals during the year	0	0	0	-65	0	-1
Cost at December 31, 2022	326	0	25	31	39	25
Value adjustment at January 1, 2022	1.336	0	0	-2	-33	-7
Foreign currency adjustments	84	0	0	1	0	0
Dividend	-23	0	0	0	0	0
Net profit for the year	271	0	0	0	0	0
Other adjustments	8	0	0	0	0	0
Value adjustment at December 31, 2022	1,676	0	0	-1	-33	-7
Carrying amount at December 31, 2022	2,002	0	25	30	6	18
Of this less than 1 year						2

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 will establish a minor production line.

Other securities and investments:

GTLA Holdings LP, Delaware, USA

Topsoe A/S has invested in GTLA Holdings LP, corresponding to 3% of the share capital. The purpose of the company is to develop a project for the construction of a gas-to-liquid plant. The fair value of the investment is DKK 0 million due to a license having currently been suspended.

Investments in Group enterprises:

Company	Registered office	Voting and ownership share
Haldor Topsoe America 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%
Haldor Topsøe (Beijing) Co., Ltd	Beijing, China	100%
Jiangsu JITRI-Topsoe Joint R&D Center Co. Ltd.	Suzhou, China	60%
Topsøe International A/S	Lyngby, Denmark	100%
Subcontinent Ammonia Investment Company ApS	Lyngby, Denmark	100%
Topsøe Project Investment A/S	Lyngby, Denmark	100%
T Ramagundam A/S	Lyngby, Denmark	100%
Topsøe Sustainables A/S	Lyngby, Denmark	100%
Haldor Topsoe Germany GmbH	Essen, Germany	100%
Haldor Topsoe India Pvt. Ltd.	New Delhi, India	100%
Haldor 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%
Haldor Topsoe, Inc.	Houston, US	100%
Haldor Topsoe Project Development U.S. Inc.	Houston, US	100%
Haldor Topsoe LFG Solutions Inc.	Houston, US	100%
Pacific Coast Fertilizer LLC	Seattle, US	80%
Saturn Ferrostaal Gas Chemicals LLC	Wilmington, US	100%
Haldor Topsoe eCOs Inc.	Wilmington, US	100%

12 INVENTORIES

DKK million	2022	2021
Raw materials and consumables	678	355
Work in progress	240	192
Finished goods	732	495
Inventories at December 31	1,650	1,042

13 CONTRACT WORK IN PROGRESS

DKK million	2022	2021
Selling price of work performed at the balance sheet date	5,644	5,931
Payments received on account	-6,654	-6,263
Contract work in progress at December 31	-1,010	-332
Contract work in progress recognized in assets	281	258
Contract work in progress recognized in liabilities	-1,291	-590
Contract work in progress at December 31	-1,010	-332

14 DEFERRED TAX

DKK million	2022	2021
Deferred tax at January 1	463	409
Tax for the year	-12	54
Deferred tax at December 31	451	463
Intangible assets and property, plant and equipment	23	63
Inventories	20	23
Work in progress	415	380
Provisions	-27	-23
Other	20	20
Deferred tax at December 31	451	463

15 PROVISIONS

DKK million	2022	2021
Warranty provision for technology projects and catalysts	201	165
Other provisions	10	10
Provisions at December 31	211	175

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

16 NON-CURRENT LIABILITIES

DKK million	2022	2021
Borrowings		
After 5 years	58	118
Between 1 and 5 years	272	334
More than 1 year	330	452
Less than 1 year	122	122
Borrowings at December 31	452	574
Lease liabilities		
More than 1 year	401	434
Less than 1 year	42	45
Lease liabilities at December 31	443	479
Other payables		
More than 1 year	99	102
Less than 1 year	0	1
Other payables at December 31	99	103

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

17 SHARE-BASED PAYMENT

Performance Share Units

No. of shares	2022	2021
Performance shares		
No. of shares at January 1	374,771	0
Granted during the year	0	435,395
Cancelled during the year	154,857	60,624
No. of shares at December 31	219,914	374,771

Employee Share Program

The Group launched an Employee Share Program (ESP) 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 2022, an additional 265 employees (2021: 33 employees) enrolled and 687,022 new shares (2021: 117,442 new shares) were issued. The new shares in 2022 were issued at an average price of DKK 33.1 (2021: DKK 30.5) per share resulting in a discount element of DKK 8.4 (2021: DKK 7.4). Staff costs have been impacted by DKK 2 million in 2022 (2021: DKK 4 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.

54 employees (2021: 60 employees) have enrolled in the Phantom Program. Staff expenses have not been impacted in 2022 nor in 2021.

18 GUARANTEES

DKK million	2022	2021
Guarantees issued by banks and credit insurance institutions on the Company's behalf for contract work, etc.	620	592
Parent company guarantees issued by the Company for certain obligations in subsidiaries	67	28
Guarantees issued by the Company in relation to the Employee Share Program	5	7

19 CONTRACTUAL OBLIGATIONS

DKK million	2022	2021
Less than 1 year	289	14
Between 1 and 5 years	0	2
Contractual obligations at December 31	289	16

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, 2022	1	0	5
Value adjustment recognized in the income statement	0	0	0
Derivatives			
Fair value at December 31, 2022	0	3	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, 2022, 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.

26 DISCONTINUING OPERATIONS

DKK million	2022	2021
Value adjustment of net assets sold	0	0
Transaction-related costs	0	-2
Loss before income tax	0	-2
Income tax	0	12
Profit from discontinuing operations	0	10

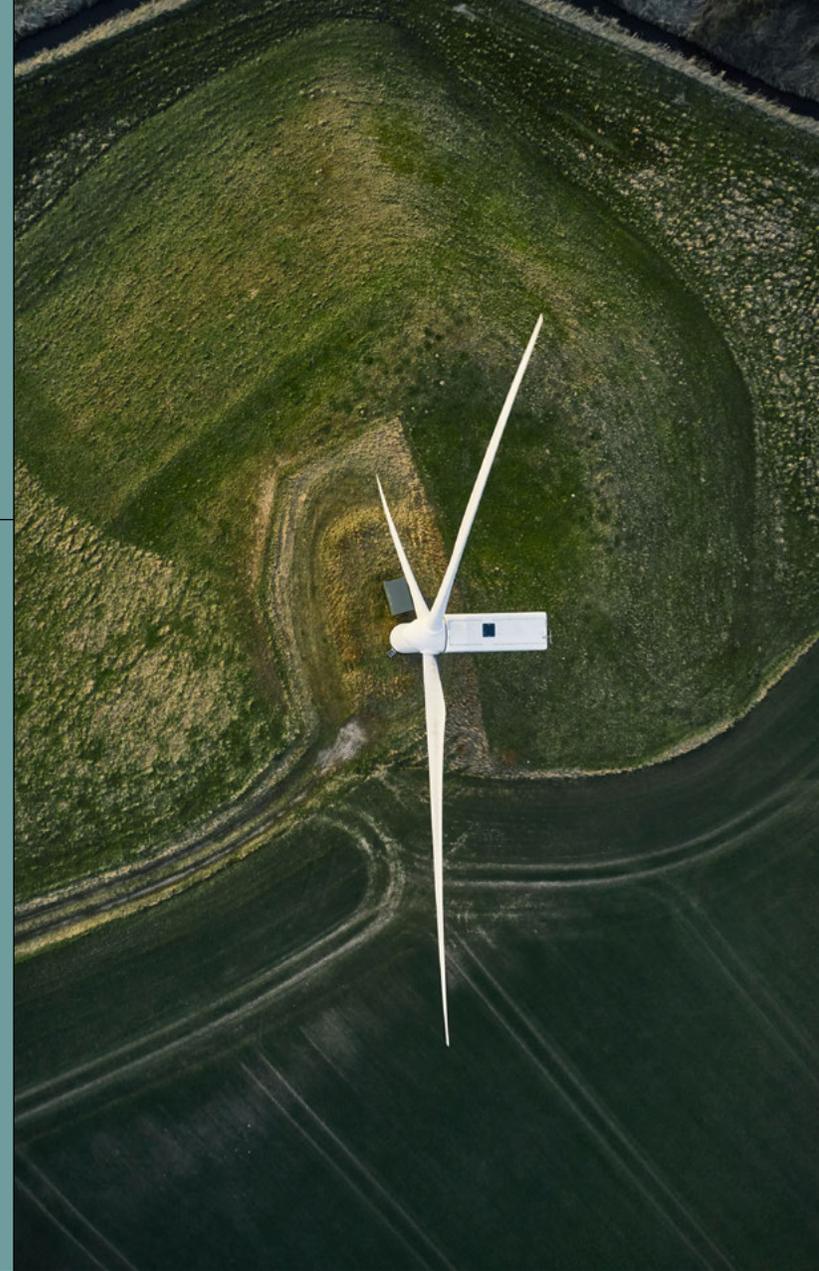
On June 20, 2017, Topsoe announced that it had sold its emissions control business areas. The divestment was finalized on November 30, 2017. The divestment comprised the subsidiaries Haldor Topsøe Catalyst (Tianjin) Co., Ltd., Haldor Topsøe Automotive Catalyst Trading (Tianjin) Co., Ltd. and

Haldor Topsoe Catalisadores e Tecnologias do Brasil Ltda. as well as business assets and liabilities in Denmark, the US, and China.

2021 was mainly impacted by reopened tax assessments.

STATEMENT OF ENVIRONMENTAL, SOCIAL AND GOVERNANCE (ESG) PERFORMANCE

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1.4	Governance performance	129



1 NOTES TO THE CONSOLIDATED ESG STATEMENT

1.1 Basis of preparation

GENERAL REPORTING AND STANDARDS

The consolidated ESG statement covers relevant and significant environmental, social and governance activities for the 2022 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. Unless otherwise stated, sustainability/ESG data include consolidated data from Topsoe A/S and subsidiaries controlled by Topsoe.

Data boundaries for environmental performance: Information and data presented in this report cover Topsoe A/S and subsidiaries controlled by Topsoe. Information and data related to energy consumption and greenhouse gas (GHG) emissions are reported for all Topsoe sites including operations, R&D, and regional offices. All other environmental performance data represent our Danish and US operations only.

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	
Business model	p. 12 How we create value pp. 15-38
Content of policies for sustainability, relevant procedures and due diligence processes, results and KPIs	Climate and environment pp. 26-29 Social matters pp. 34-38 Respect for human rights p. 36 Anti-corruption and bribery pp. 42-43
Key risks	pp. 51-55
Section 99b	
Target figure for under-represented gender in the Board of Directors	p. 129
Policy to improve the under-represented gender balance at management level	p. 37
Section 99d	
Data ethics	p. 43

1.2 Environmental performance

1.2.1 CUSTOMER CARBON EMISSION REDUCTION

	2022	2021	2020	2019
Customer carbon emission reduction	16.5	N/A	N/A	N/A

In 2022, we have enabled our customers to reduce carbon missions by 16.5 million tonnes CO₂e with the technologie provided by Topsoe.

ACCOUNTING POLICY

Customer carbon emission reduction consists of Topsoe's carbon reduction technologies within renewable fuels (HVO), Renewable fuels co-processing (blend of HVO and fossil feed-stock) and Blue technologies.

The calculation of avoided emissions enabled by Topsoe's licensing technology to produce renewable fuels which displaces a fossil reference fuel from the market and avoided emissions enabled by Topsoe's specialized catalysts that is used as blending in some vegetable oil to the fossil oil (typically diesel), and whereby the blended renewable fuel displaces a fossil reference fuel from the market, are emission savings based on the guranteed performance of the technologies or catalysts compared to the fuels it displaces.

A project is included in the calculation when Final Investment Decision (FID) has been made by the customer. The amount is calculated by the minimum agreed yield and recognized in the year FID has been made.

1.2.2 ENERGY CONSUMPTION (TJ)

	2022	2021	2020	2019
Energy consumption (TJ) - natural gas and electricity	1,188	959	1,143	984

Total energy consumption was 1,188 TJ in 2022, compared to 959 TJ in 2021, covering natural gas, electricity and district heating.

Reduction in production activities in 2021, caused by COVID-19 impacts, was the main reason for lower energy consumption in 2021 compared to 2022 where our production has been running almost all year.

Due to the uncertainty of gas supply from Russia, we have focused our energy efforts on having an alternative solution for gas supply. At our production site in Denmark, we have established an LNG and LPG facility to ensure gas supply in case gas supply is limited or stopped.

ACCOUNTING POLICY

Total energy consumed by our production sites, R&D, administrative locations, and regional offices. Data is obtained from invoices and readings of meters at production sites.

1.2.3 GHG EMISSIONS – SCOPE 1 & 2

	2022	2021	2020	2019
GHG emissions - scope 1, 2 - Market-based (1,000 tCO ₂ e)	115	125	154	164

GHG emissions - scope 1 (1,000 tCO ₂ e)	105	94	121	120
GHG emissions - scope 2 - Location-based (1,000 tCO ₂ e)	13	14	16	27
GHG emissions - scope 2 - Market-based (1,000 tCO ₂ e)	10	33	35	44

In 2022, our total GHG emissions (scope 1 and 2, market-based) amounted to 114,911 tCO₂e, which is a decrease of 8.2% compared to 125,149 in 2021 and 25% compared to 154,062 tCO₂e in 2020. We achieved the 25% reduction by supplementing with the purchase of renewable electricity certificates.

In 2022, our scope 1 emissions decreased by 12% compared to our baseline year 2020, which corresponds to the decrease in production volume in 2022 compared to volume in 2020.

Our scope 2 emissions (location-based) have been reduced by 23% between 2022 and 2020. This is primarily due to lower emission factor for electricity in Denmark, which is caused by higher proportion of renewable energy. In 2022, the average proportion of renewable energy was 81% in Denmark.

ACCOUNTING POLICY

Carbon dioxide equivalent, i.e. CO₂e, is the metric used to compare the emissions from greenhouse gas emissions on the basis of their global warming potential. Total CO₂e has been measured for scope 1 and 2 in accordance with the Greenhouse Gas Protocol, using an operational control principle. Location and market-based emission factors are provided for scope 2 emissions.

1.2.4 GHG EMISSIONS – SCOPE 3

tCO ₂ e	2022	2021	2020
Purchased goods and services	472,046	386,552	375,156
Fuel- and energy-related emissions	8,846	7,904	7,695
Upstream transportation and distribution	14,379	3,264	8,517
Waste generated in operations	391	477	9,199
Business travel	2,131	210	3,225
Employee commuting	3,168	3,456	3,341
Downstream transportation and distribution	14,331	11,224	8,063
Use of sold products	2,583	2,059	2,289
End-of-life treatment of sold products	503	1,299	1,837
Investments	65,829	11,494	12,505

* Categories 2, 8, 10, 13 and 14 have been left out due to the fact that we have no activities in them.

2022 has been impacted by price increases in our sector impacting our spends negatively compared to 2021.

1.2 Environmental performance (continued)

1.2.5 PRODUCTS TO MARKET

	2022	2021	2020	2019
Products to market (1,000 tonnes)	79	77	91	84

Our products to market increased from 77 in 2021 to 79 in 2022.

ACCOUNTING POLICY

Products to market account for all catalysts, alumina and potassium nitrate sold within a calendar year. It excludes hardware, engineering services and licensed products.

1.2.6 WATER CONSUMPTION

	2022	2021	2020	2019
Water consumption (1,000 m ³)	278	205	222	263

Danish and US operational water consumption was 278,370 m³ in 2022, compared to 205,452 m³ in 2021 (35% increase). Both our production sites experienced an increase in water consumption due to lower production volumes in 2021, caused by the COVID-19 situation. Our Danish production consumes water from both a utility provider and ground water pumped from our own wells. The latter covers the majority of our operational requirements.

ACCOUNTING POLICY

Water sources include municipal water supply, ground water or water from Topsoe's own well. Data on water consumption

is obtained from invoiced data from our providers and from readings of meters at production sites.

1.2.7 WASTE (TOTAL, HAZARDOUS, NON-HAZARDOUS)

	2022	2021	2020	2019
Waste total (tonnes)	3,518	3,877	4,641	5,021
Waste total hazardous (tonnes)	2,631	2,846	3,085	3,477
Waste total non-hazardous (tonnes)	887	1,032	1,556	1,542
Waste recovered total (%)	92	82	85	90

During 2022, Topsoe generated 3,518 tonnes of operational waste, compared to 3,877 tonnes in 2021, representing a gross reduction of 9%. Danish and US operations realized net reductions of 8% (286 tonnes) and 18% (73 tonnes), respectively.

Despite the fact that production volume has increased in 2022 compared to 2021, we have been able to reduce our amount of waste.

Just like last year, our Danish production has further reduced the amount of waste to landfill - both in terms of hazardous and non-hazardous waste, corresponding to a reductions of 95% and 78% respectively

Our US production has reduced the amount of non-hazardous waste to landfill by 34%. The vast majority of this waste is instead sent for incineration with energy recovery.

ACCOUNTING POLICY

Total waste covers both hazardous and non-hazardous waste. US waste data is collected from the annual waste tracking of invoices with attached waste manifests and Danish waste data is collected from invoices from third parties. Hazardous waste has properties that make it dangerous or capable of having a harmful effect on human health or the environment. Non-hazardous waste causes no harm to human health or the environment.

1.2.8 ENVIRONMENTAL NON-COMPLIANCES, SPILLS & RELEASES

	2022	2021	2020	2019
Environmental non-compliances (number)	25	22	26	42
Spills - major (number)	0	0	1	0
Spills - minor (number)	89	149	413	358
Releases - major (number)	1	1	2	1
Releases - minor (number)	14	21	18	21

In 2022, we reported a total of 25 non-compliances to environmental authorities (15 in Denmark and 10 in the US), compared to 22 in 2021.

We had one major release of 91 kg alumina, which was caused during offloading of alumina at our US production site.

We had a total of 14 minor releases (6 in Denmark and 8 in US), compared to 21 in 2021.

ACCOUNTING POLICY

Non-compliances include breaches of regulatory terms and conditions specified in local environmental permits, where separate notification to the environmental authorities is required, or where a notice of violation is received from the environmental authorities.

Spills are defined as contained environmental incidents which are not emitted to land, air or water. Releases are defined as environmental incidents which result in a substance being emitted to land, air or water. Minor or major spills and releases are defined in compliance with local operational permits, the nature and amount of the referenced substance. Incidents which exceed predefined thresholds will determine the categorization.

1.3 Social performance

1.3.1 EMPLOYEE TURNOVER

In 2022, we saw an increase in employee turnover to 10.6% compared to 8.7% in 2021.

We attribute this increase to the organizational restructuring in 2020, our new strategic direction, and the general high demand for highly skilled workers in today's labor market.

ACCOUNTING POLICY

The percentage of employees who retire or resign from Topsoe in the course of one calendar year.

1.3.2 EMPLOYEE ENGAGEMENT SCORE

	2022	2021	2020	2019
Employee engagement score (%)	76	69	73	63

In 2022, we conducted two surveys, compared to three surveys in 2021, to give the organization more time to act on the insights between surveys. All surveys had very high response rates of more than 85%. The final – and most comprehensive – engagement survey was completed in November and showed an employee engagement of 76%, One percentage point above our target of 75%. Topsoe's purpose, vision, and the new strategy launched in August are perceived as highly motivating by employees, who also take great pride in working for Topsoe. In total, we received 3,574 (2,913 in the May 2022 survey) comments and suggestions from employees on how to improve engagement and well-being, and these serve as input for initiatives and decisions in the time to come.

ACCOUNTING POLICY

Consolidated engagement score from our internal engagement survey, Topsoe Voices, covering all Topsoe employees

with more than two months of seniority, excluding student assistants. A participation rate of more than 75–80% is needed for data to be representative. Shared PCs are made available for employees with no/limited access to a Topsoe system via a PC.

1.3.3 EMPLOYEE SAFETY

	2022	2021	2020	2019
Total recordable incident frequency (TRIF) per 200,000 working hours – employees	0.58	0.69	0.90	1.29
Fatalities – employees (number)	0	0	0	0

TRIF and fatalities

By the end of 2022, the total recordable incident frequency (TRIF) per 200,000 working hours for employees was 0.58, which is a significant improvement compared to 0.7 in 2021 and 0.90 in 2020, and in line with our target for the year of 0.6. Based on 2022 data, the main injuries were 0. Our long-term target for a safety is safety TRIF of 0.4 for employees and contractors

ACCOUNTING POLICY

Total recordable incident frequency (TRIF) is defined as: Number of injuries (fatalities, lost time accidents, restricted work cases, medical cases) divided by total number of hours worked by all employees and multiplied by 200,000. Hours worked refers to actual working hours as reported by employees. Covers Topsoe's employees, including temporary workers. Excludes employees diagnosed with COVID-19.

1.3.3 CONTRACTOR SAFETY

	2022	2021	2020	2019
Total recordable incident frequency (TRIF) per 200,000 working hours – contractors	3.2	N/A	N/A	N/A
Fatalities – contractors (number)	0	0	0	0

TRIF and fatalities

By the end of 2022, the total recordable incident frequency (TRIF) per 200,000 working hours for contractors was 3.2.

ACCOUNTING POLICY

Total recordable incident frequency (TRIF) is defined as: Number of injuries (fatalities, lost time accidents, restricted work cases, medical cases) divided by total number of hours worked by all contractors and multiplied by 200,000. Hours worked refers to actual working hours as reported by contractors. Covers Topsoe's employees, including temporary workers. Excludes employees diagnosed with COVID-19.

1.3.4 GENDER DIVERSITY

	2022	2021	2020	2019
Gender – all employees – male/female (%)	76/24	75/25	74/26	73/27

By the end of 2022, the gender distribution among employees was 24% women and 76% men, compared to 25% and 75% in 2021.

We keep having focus on gender diversity and strive to create an inclusive and diverse workplace.

ACCOUNTING POLICY

Calculated as the percentage of headcount based on a yearly average by the end of the calendar year. The headcounts figure does not include student workers or senior employees on part-time agreements.

1.3.5 DONATIONS SPEND

	2022	2021	2020	2019
Donations spend (DKK million)	8.6	5.2	5.0	3.3

In addition to our on-going global and local donations and community development activities, we made an extraordinary donation to the UN Refugee Agency, UNHCR, of DKK 3.8 million in support of Ukraine.

ACCOUNTING POLICY

Annual realized spend related to global and local philanthropic purposes.

1.4 Governance performance

1.4.1 GENDER DIVERSITY

	2022	2021	2020	2019
Gender – Board of directors	67/33	87/13	87/13	86/14
Gender – Senior Leadership Team – male/female (%)	78/22	78/22	67/33	60/40
Gender – managers – male/female (%)	75/25	75/25	78/22	78/22

Topsoe's Board of Directors consists of 12 members including four employee-elected board members. As of December 2022, the shareholder-elected board members comprised one female and seven male members, unchanged from the year before. Given that there were also no changes to the Board composition following the re-election at the Annual General Meeting in 2022, our target of two female board members by 2024 has not been met. The Board continues to focus on this target when evaluating its composition, competencies and potential future candidates. When including the employee-elected board members, four members were female, and eight members were male.

With respect to gender representation among Managers, 2022, saw a negative development in the share of women, as this decreased to 23% down from 25% in 2021. In the Senior Leadership Team, a change during 2022 shifted the gender balance to 38% women, compared to 22% in 2021.

ACCOUNTING POLICY

Calculated as the percentage of headcounts based on a yearly average by the end of the calendar year. Management positions cover all positions including and above team leader level.

For the Senior Leadership Team, the number is calculated as the percentage of each gender out of the total number of members at year-end. For the Board of Directors, the number is calculated as the percentage of each gender out of the total number of shareholder-elected members at year-end.

1.4.1 CODE OF CONDUCT TRAINING

	2022	2021	2020	2019
Code of Conduct training – completion rate (%)	95	98	88	77

In 2022, the e-learning was completed by 95% of Topsoe employees by year-end, close to our annual target of 100% completion.

ACCOUNTING POLICY

Refers to the completion rate for Board of Directors and employees by the end of the calendar year, as a percentage of all employees/Board members in scope. For employees, it includes all permanent and temporary operators, technicians, students and office-based employees globally. Employees with limited access to Topsoe systems via a PC are trained face-to-face, and retroactively documented.

1.4.2 COMPLIANCE HOTLINE – REPORTS

	2022	2021	2020	2019
Compliance Hotline – reports (number)	0	0	0	0

ACCOUNTING POLICY

The number of reports submitted via Topsoe's Compliance Hotline (link: <https://topsoe.whistleblownetwork.net/>) which were 1) within the scope of reportable issues and 2) pointed out a concern, or allegation, which was true, and needed to be corrected.

1.4.3 TOPSOE COMPLIANCE DUE DILIGENCE SCREENINGS OF THIRD PARTIES

	2022	2021	2020	2019
Topsoe compliance due diligence screenings of third parties (number)	309	600	437	376

To minimize Topsoe's exposure to penalties for breaches committed by third party, Topsoe conducts due diligence assessments of its business partners, using a risk-based approach. This due diligence includes screening against lists of sanctioned parties and parties subject to asset freezes, corruption risk assessments, and reputational risk exposure to any potential unlawful or unethical behavior.

In 2022, we conducted risk-based due diligence on a total of 309 third parties. The assessments conducted resulted in risk-mitigating actions as appropriate, up to and including rejection of potential business partners and cessation of interactions with other business partners in certain cases. The number of third parties reviewed does not indicate the type of assessment done or the number of times each counterparty was assessed. Of particular note in 2022, the imposition of comprehensive sanctions against Russia and Belarus led us to conduct a considerable volume of detailed and, in some instances, repeated due diligence assessments.

ACCOUNTING POLICY

The number of completed compliance due diligence screenings performed by Topsoe on relevant third parties during the reporting year. Compliance due diligence screening is required for third parties from or involving certain countries and for certain third-party types in accordance with internal Topsoe policies.

1.4.4 SUPPLIER CODE OF CONDUCT IMPLEMENTATION

	2022	2021	2020	2019
Supplier Code of Conduct implementation (%)	86	70	43	-

By the end of 2022, 86% of targeted suppliers had signed our Code or equivalent, compared to 70% in 2021. Our ambition is to achieve 90% implementation of the Code in 2022 on a redefined supplier scope based on spend.

ACCOUNTING POLICY

Refers to the percentage of all relevant suppliers who have accepted to adhere to the Topsoe Supplier Code of Conduct or their own Code of equivalent standard. A relevant supplier is one that we currently source from, where the annual spend is above DKK 10,000, and where we have been able to influence the choice of supplier for the purchase order.

1.4 Governance performance (continued)

1.4.5 TUNGSTEN SMELTERS CONFORMANT WITH RMAP

	2022	2021	2020	2019
Tungsten smelters conformant with RMAP (%)	100	100	-	-

We have during 2022 had 100% of our Tungsten smelters conformant with RMAP.

ACCOUNTING POLICY

Percentage of tungsten smelters in Topsoe's supply chain that are conformant with the Responsible Minerals Assurance Process (RMAP) for the reporting year.

1.4.6 NEW COMMERCIALIZED SOLUTIONS

	2022	2021	2020	2019
New commercialized solutions (number)	13	17	13	14

In 2022, a total of 13 new commercialized solutions were brought to market compared to 17 in 2021.

ACCOUNTING POLICY

New solutions offered to customers covering all product categories in Topsoe's commercial portfolio: catalysts, technology, combination of catalysts and technology, hardware and service. Not related to sales.

1.4.7 PATENTS

	2022	2021	2020	2019
Issued patents per year (number)	469	402	489	323
Patent applications published	64	58	58	51
Green patents - published patents per year in EPO (%)	48	45	48	47

In 2022, we published a total of 64 patents of which 48% were green patents.

ACCOUNTING POLICY

Issued patents per year refers to new patents granted by national and regional patent authorities during one calendar year. Data is extracted from Topsoe's internal IP management system.

Green patents per year is defined as patent applications in the EPO data that have received a CDC patent classification code starting with Y02, including all subclasses. These classes are allocated by the patent authorities, i.e. EPO. Patent applications are published 18 months after their filing date. 'Published' is defined as earliest publication date for the patent family. Data is extracted from EPO's patent register.

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 2022 of Topsoe A/S.

The consolidated financial statements have been prepared in accordance with International Financial Reporting Standards as adopted by the EU (IFRS), and the financial statements of the parent company have been prepared in accordance with the Danish Financial Statements Act.

In our opinion, the parent company financial statements and the consolidated financial statements give a true and fair view of the financial position at December 31, 2022 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 2022 in accordance with the applied accounting policies.

In our opinion, the Management's review includes a true and fair account 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 2, 2023

Registered Executive Management

Roeland Baan
President and Chief Executive Officer

Morten Holm Christiansen
Interim Chief Financial Officer

Elena Scaltritti
Chief Commercial Officer

Board of Directors

Jeppe Christiansen
Chairman

Jakob Haldor Topsøe
Vice Chairman

Benoit Valentin
Vice Chairman

Jan Kreibaum
Member

Jens Kehlet Nørskov
Member

Jørgen Huno Rasmussen
Member

Rohit Sobti
Member

Christina Teng Topsøe
Member

Anders Broe Bendtsen
Employee representative

Christina Borch
Employee representative

Line Holten Kollin
Employee representative

Lis Ibsen
Employee representative

INDEPENDENT AUDITOR'S REPORT

To the Shareholders of Topsoe A/S

Opinion

In our opinion, the Consolidated Financial Statements (pages 70-123) give a true and fair view of the Group's financial position at December 31, 2022 and of the results of the Group's operations and cash flows for the financial year January 1 to December 31, 2022 in accordance with International Financial Reporting Standards as adopted by the EU and further requirements in the Danish Financial Statements Act.

Moreover, in our opinion, the Parent Company Financial Statements give a true and fair view of the Parent Company's financial position at December 31, 2022 and of the results of the Parent Company's operations for the financial year January 1 to December 31, 2022 in accordance with the Danish Financial Statements Act.

We have audited the Consolidated Financial Statements and the Parent Company Financial Statements of Haldor Topsoe A/S for the financial year January 1 - December 31, 2022, which comprise income statement, balance sheet, statement of changes in equity and notes, including a summary of significant accounting policies, 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 4-68)

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 Management's 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 International Financial Reporting 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 judgment and

maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances,

but not for the purpose of expressing an opinion on the effectiveness of the 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.

Copenhagen, March 2, 2023

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



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