

HALDOR TOPSØE 

# Sustainability Report

2020



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This Sustainability Report covers relevant and significant environmental, social and governance activities for the 2020 calendar year for Haldor Topsoe A/S, complementing Topsoe's Annual Report 2020. It also serves as a supplement to our statutory statement on social responsibility and underrepresented gender in accordance with sections 99a and 99b of the Danish Financial Statements Act.

This report is Topsoe's first annual Communication on Progress to the UN Global Compact.

Visit [topsoe.com](https://topsoe.com) for previous reports and learn more about our company.

Contact us via [sustainability@topsoe.com](mailto:sustainability@topsoe.com)

COMMUNICATION ON PROGRESS

UN GLOBAL COMPACT

This is our **Communication on Progress** in implementing the Ten Principles of the **United Nations Global Compact** and supporting broader UN goals.

We welcome feedback on its contents.

## CEO LETTER

# Good performance in a challenging year

2020 was both a challenging and transformative year - for the world and for Topsoe. Through it all, we were able to deliver strong financial results in line with our expectations for the year and position sustainability at the core of the company.



“With our recent commitment to the Science Based Targets initiative, **we are determined to significantly reduce greenhouse gas emissions across our value chain during the coming decade.**”

With our overarching purpose defined as ‘perfecting chemistry for a better world’, we have established a clear vision: To be recognized as the global leader in carbon emission reduction technologies by 2024. To ensure that we have the right combination of skills and capabilities to deliver on our vision, we implemented a new organizational structure in the second half of the year.

More than ever before, companies have to show leadership by being part of the solution and not part of the problem. Topsoe has been addressing global challenges such as acid rain, ineffective use of fossil resources and air pollution through innovative chemistry for more than 80 years. Now, we focus on one of the world’s most pressing issues, the climate challenge.

While we are committed to contributing positively to the UN Sustainable Development Goals, we are also committed to reducing our potential negative impact on the goals. In May 2020, Topsoe became a signatory to the UN Global Compact and is aligning actions with the Ten Principles on human rights, labor, environment and anti-corruption.

In Topsoe, we will not compromise on safety, and we wholeheartedly embrace the concept of ‘Zero Harm’. Excellence in Health, Safety & Environment is our license to operate, and our employees must come home as safe and sound, as when they left for work. Over the last years, we have seen a significant improvement in the number of incidents. However, to be in the top quartile of our industry, we still have some way to go. For this reason, the Health, Safety & Environment department was reinforced with new leadership reporting to the CEO. In 2021 we will be taking significant steps to renew and step up our approach to safety.

With our recent commitment to the Science Based Targets initiative, we are determined to significantly reduce greenhouse gas emissions across our value chain during the coming decade.

The COVID-19 pandemic has influenced Topsoe’s business and changed our usual business routines. Our focus has been on safeguarding the health, safety, and well-being of Topsoe employees, while delivering upon our promises to customers across the globe. I am extremely proud of how we have weathered the COVID-19 pandemic, whilst dealing with a profound transformation of the company.

None of the achievements of the past year would have been possible without the strong support of our major contributors.

Firstly, I want to thank our customers and partners for your trust and dedication in a year that offered more challenges and changes than usual. We are proud that you have once again chosen Topsoe’s world-leading technologies to support your business objectives.

A special thanks has to go to my colleagues, Topsoe’s amazing employees, who have gone beyond expectations to deliver this year’s good results in extraordinarily difficult circumstances. It is truly proof of your exceptional dedication.

**ROELAND BAAN**

President & Chief Executive Officer

# Haldor Topsoe at a glance

Topsoe is a world-leading provider of energy-efficient technologies, catalysts, services, and hardware to produce essential chemicals and fuels.

For 80 years, we have been perfecting chemistry to help the chemical and refining industries produce more, while using the least possible energy and resources. Today, it is our vision to lead the global transition of these industries into the renewable future and reduce carbon emissions.



#1

in ammonia

#1

in renewable diesel

2,268

employees

8%

of revenue reinvested in R&amp;D

6,179

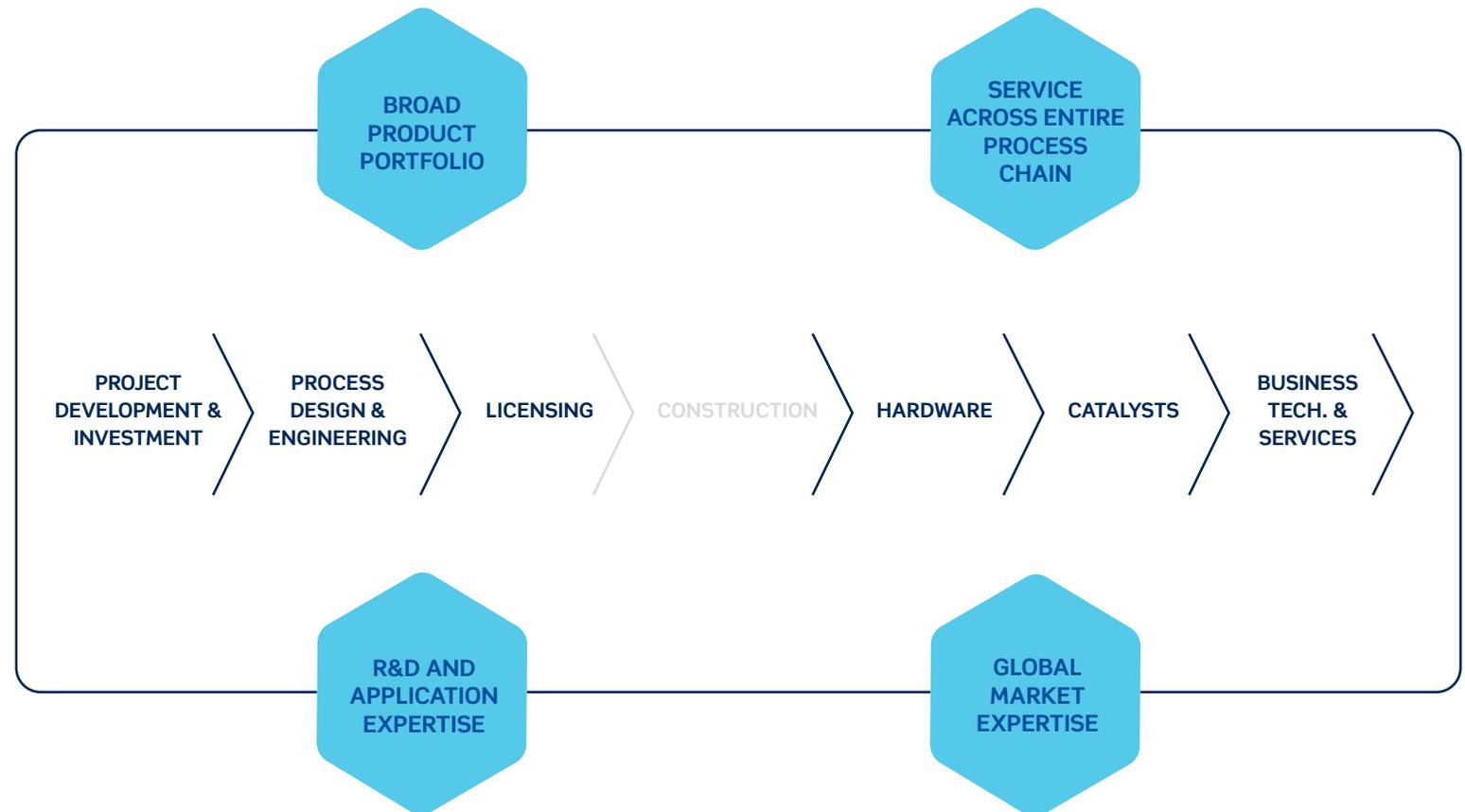
mDKK revenue

853

mDKK EBIT before special items

# Business model

Topsoe has a solution-focused business model covering the full value chain, based on unique chemical engineering competences.



➤ TOPSOE OFFERINGS

➤ CONSTRUCTION SERVICES ARE DELIVERED BY WORLD-CLASS ENGINEERING, PROCUREMENT & CONSTRUCTION COMPANIES (EPC).



# Perfecting chemistry for a better world

## Perfecting chemistry for a better world

Chemistry is behind almost any product or fuel that defines the way people live today, and it will be just as important in shaping the future. Led by our purpose – Perfecting chemistry for a better world – we provide our customers with world-leading technologies which enable them to produce essential chemicals and fuels in an energy-efficient way and support their successful transition to renewable energy.

The UN Sustainable Development Goals have provided a global roadmap toward sustainable development and created a space for governments and businesses to contribute to solving major global challenges. Topsoe's strategy and targets focus on the five goals where we can have the biggest positive impact at scale through our operations, products and solutions, or where we aim to minimize our negative impact.

Partnerships and alliances with academia, customers, peers and suppliers are important levers to achieve our vision of becoming the global leader in carbon emission reduction technologies by 2024.

### Vision

To be recognized as the global leader in carbon emission reduction technologies by 2024

## MEANINGFUL INNOVATION



## RESPONSIBLE BUSINESS

### Workplace

We are committed to ensuring that Topsoe is a great place to work

#### 2021 targets

- Total recordable incident frequency of 0.7 per 200,000 working hours
- 75% in annual employee engagement score

### Production

We are committed to minimizing our environmental impacts

#### 2021 targets

- 15% reduction in total greenhouse gas (GHG) emissions (on a like-for-like basis, 2019 as baseline)
- Set long-term science-based GHG reduction targets

## Sustainability highlights



UN Global Compact Signatory



New 2024 vision



Commitment to setting science-based targets

# Our approach to sustainability

Topsoe is committed to act responsibly by making unique scientific contributions toward solving global challenges, while balancing the economic, social, environmental, and ethical aspects of our value chain.

### Accelerating climate action

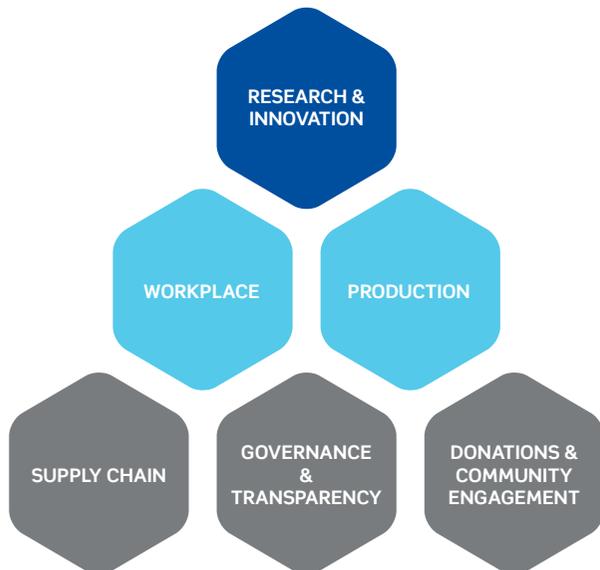
With Topsoe's new vision to be recognized as the global leader in carbon emission reduction technologies by 2024, we have stepped up our ambition level to help mitigate climate change. Topsoe has always been driven by solving global challenges. Perfecting chemistry for a better world is what we do. Now we are zooming in on one pressing global issue - climate change - in a more focused way than ever before.

We will invest more in low-carbon and carbon free solutions enabling us to support customers in minimizing their environmental footprint. At the same time, we will also do more to reduce our own footprint and we have begun the process of setting science-based targets.

**Our sustainability framework**

Topsoe’s sustainability framework summarizes the fundamental elements of our business, and the areas in society where we have the greatest impact along our value chain. Through this framework, we define ambitions and ensure continuous development of our environmental, social, and governance efforts across our global operations. Our performance and progress against each of these priorities are outlined in the following chapters of this report.

In 2021, we will intensify our efforts to further incorporate sustainability into our planning, processes and activities across the organization and make sure that all employees are enabled to take an active part in executing on Topsoe’s sustainability targets and activities.



**Aligning to international standards**

As a general principle, we align our sustainability efforts to international standards and guidelines such as the UN Global Compact, UN Sustainable Development Goals, ISO, Responsible Care®, and the Greenhouse Gas Protocol. We do this to have a strong sustainability management approach and to ensure transparency in what we do.

In May 2020, Topsoe became a signatory to the UN Global Compact and is committed to align the company’s activities to its Ten Principles.

Every year, we document our sustainability efforts externally through the EcoVadis platform at the request of select customers. In December, Topsoe was recognized with a silver rating from EcoVadis.

**Governance**

Topsoe’s Senior Leadership Team has overall responsibility for sustainability targets and performance, while the company’s sustainability activities are driven by the business.

The Compliance & Sustainability Committee oversees the implementation of Topsoe’s Code of Conduct, including sustainability issues, as well as risks, progress and accountability for both compliance and sustainability. The Committee meets twice a year and consists of the CEO, CFO, Chief Commercial Officer, Chief Strategy & Innovation Officer, Chief Communications & Brand Officer, Chief Compliance Officer, and is chaired by the Group General Counsel. The Board of Directors receives regular updates and also approves Topsoe’s Sustainability Report.

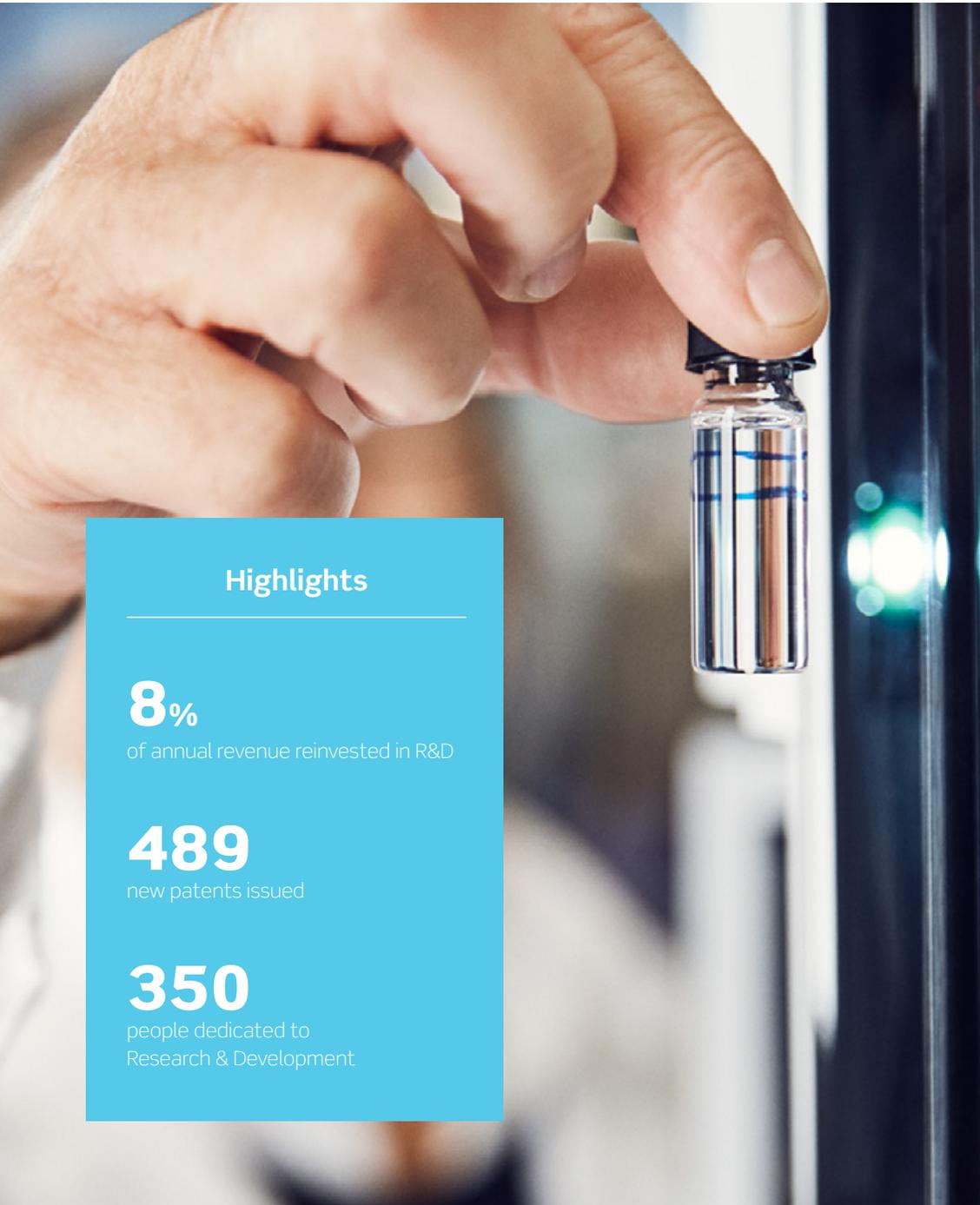
In November 2020, the Sustainability team moved from Global Legal Affairs to Global Strategy & Innovation. The team will take a more proactive and strategic role in supporting business strategies and plans, and in measuring product sustainability.

**UN Sustainable Development Goals**

Topsoe’s business activities have many direct and indirect impacts on the 17 UN Sustainable Development Goals.

During 2019-2020, we made an extensive mapping of how our solutions and operations impact the global goals, covering both the desired and unwanted impacts.

[SEE PAGE 35 FOR THE FULL OVERVIEW](#)



## Highlights

**8%**

of annual revenue reinvested in R&D

**489**

new patents issued

**350**

people dedicated to  
Research & Development

# Research & innovation

## Our vision

To be recognized as the global leader in carbon emission reduction technologies by 2024

Topsoe's new 2024 vision is based on an extremely strong scientific foundation and a deep-rooted dedication to making a positive difference in the world by delivering energy-efficient solutions for producing chemicals and fuels.

Eighty years of innovation has established Topsoe as the global market leader in conventional technologies to produce essential chemicals such as ammonia, methanol, and hydrogen. While the traditional applications of these chemicals are here to stay, the chemicals are also seen as some of the most promising carbon-neutral fuels of the future, if produced from renewable sources such as electricity or waste biomass.

In the refinery industry, Topsoe has long been known for its world-leading catalysts to produce ultra-low sulfur diesel that minimizes sulfur emissions to prevent acid rain. Topsoe is also the global leader within technologies to produce renewable diesel from biomass and waste instead of fossil fuels. On top of that, we are developing other technologies that utilize biomass to reduce carbon emissions.

Thanks to decades of exceptional research and development, Topsoe is in a unique position to enable and accelerate the transition to renewable energy. We are determined to build on this unmatched platform and invest in developing technologies for a future with reduced carbon emissions from chemicals and fuels.

# Decarbonizing industry is essential to combat climate change

For the world to fulfil the goals of the Paris Agreement and keep global warming below 1.5°C, decarbonization of industry is necessary. Today, the industrial sector accounts for around 20% of the global energy-related greenhouse gas (GHG) emissions (IRENA 2018).

Improving energy efficiency remains an effective way to lower GHG emissions, but bringing emissions closer to zero will require a combination of technologies, innovation breakthroughs and collaborative contributions from industry, research institutions, investors, policy makers and regulators. In other words, decarbonizing industry is challenging and

complex. It will take time and require significant investments for existing industrial sites to adopt low-carbon processes and technologies. Furthermore, a policy and regulatory framework is crucial to stimulate the necessary investments and support market development for new technologies and related technical and economic infrastructure.

Some technologies are readily available, while others remain to be matured and proven at the required scale. Topsoe is at the forefront of developing solutions that can drive significant reductions in GHG emissions as well as help reduce society's dependency on fossil fuels.

## Power-to-X

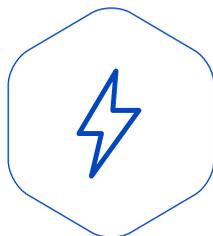
Using renewable electricity from e.g. wind to produce products such as hydrogen, methanol, ammonia, gasoline and diesel.

## Bio-to-X

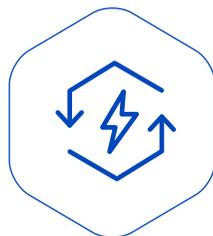
Utilizing renewable feedstocks such as biomass including waste oils and plant waste as well as plastic waste to produce renewable fuels such as diesel and jet as well as renewable naphtha to make plastics.

In this report, we will focus on Power-to-X and Bio-to-X solutions, both of which play an important role toward achieving a low-carbon or carbon-free production of fuels and chemicals – commodities that the world will depend on for many years to come.

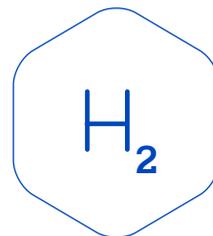
## Decarbonization options for industry



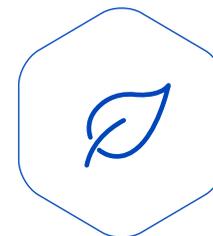
**Energy efficiency improvements**



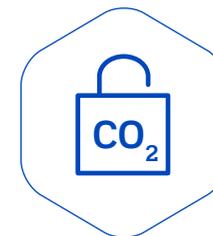
**Electrification of heat (eSMR and Power-to-X)**



**Hydrogen made with zero-carbon electricity as fuel/feedstock (Power-to-X)**



**Biomass as fuel/feedstock (Bio-to-X)**



**Carbon capture and storage (CCS) or utilization (CCU)**

Topsoe's pipeline and portfolio cover all of the above decarbonization options

# One step closer toward electrified production of fuels and chemicals

**POWER-TO-X** Electrolysis technologies play a central role in utilizing renewable electricity for the production of fuels and chemicals with a low-carbon footprint, such as hydrogen and ammonia. To meet the future needs for industrial decarbonization globally, electrolysis technologies must be matured and become available and proven on an industrial scale.

Topsoe is at the forefront of commercializing and industrially scaling up the solid oxide electrolysis cell (SOEC) technology. In October 2020, Topsoe shipped the world's first unsubsidized SOEC plant to a customer in the US. The plant will soon start converting CO<sub>2</sub> into useful chemicals – a major milestone toward proving scalability. SOEC is the most efficient electrolysis technology for making hydrogen which makes it the best technology from a climate perspective.

When renewable electricity is used in electrolysis, the production of fuels and chemicals can be decoupled from fossil resources and CO<sub>2</sub> emissions, paving the way for an energy system based entirely on renewable energy and resources.

Green ammonia, for example, can be produced from air, water, and renewable electricity and become a highly attractive fuel for decarbonizing shipping.

“As I see it, the biggest potential in electrification lies in the fact that more than 25% of today's energy mix cannot easily be electrified [for example maritime, airplane and heavy-duty truck transportation]. A large share must go through electrolysis to be transformed to hydrogen, ammonia, methanol, and other sustainable fuels. This transformation process holds very interesting opportunities for a company like ours,” says Kim Grøn Knudsen, Chief Strategy & Innovation Officer.

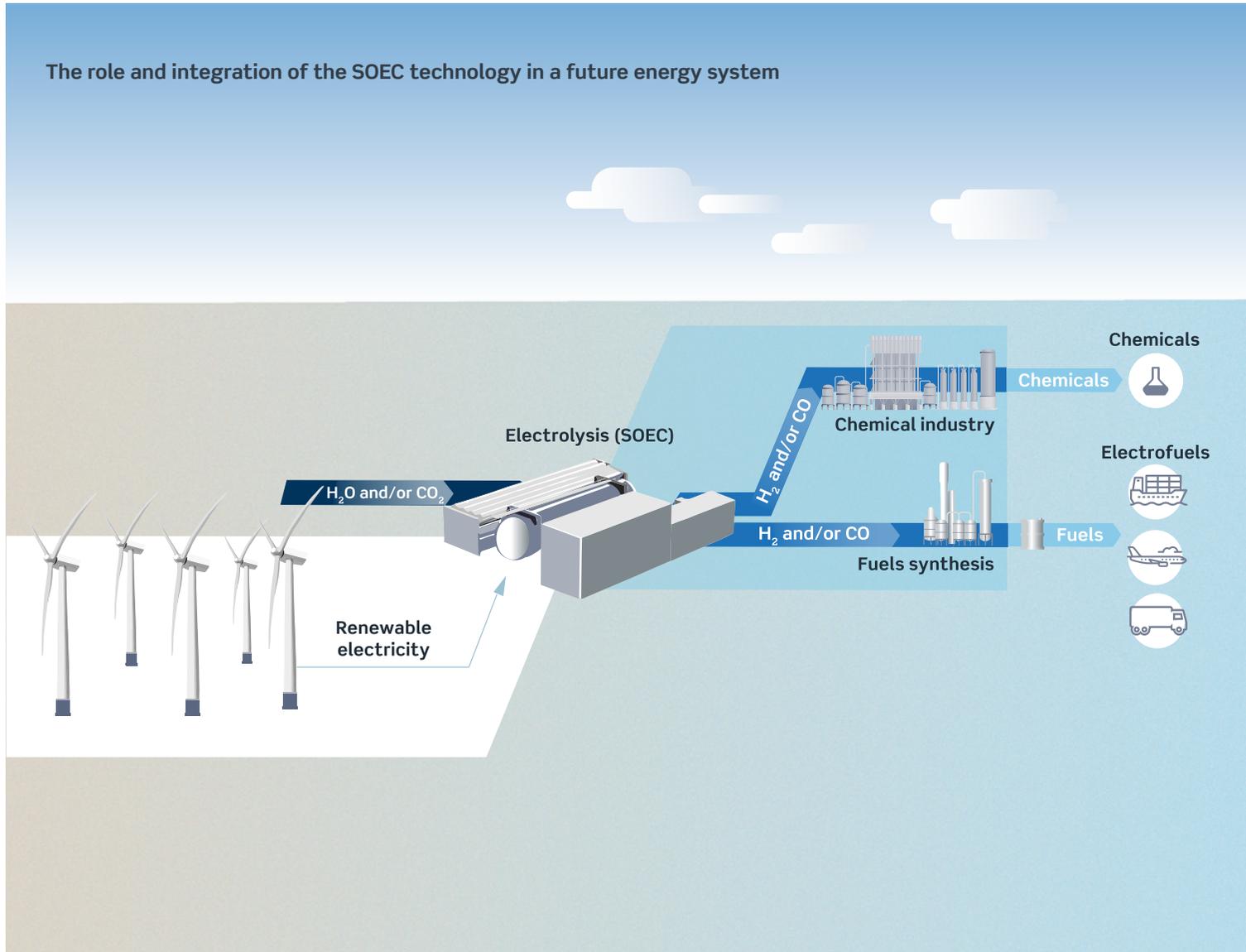
## Publication in Science

In October 2020, an article in Science 'Recent advances in solid oxide cell technology for electrolysis' describes key developments in electrolysis within the past 15 years and suggests that SOEC is now ready for wider industrial adoption. Topsoe researchers are among the lead authors of the article.

🔗 [Read the Science publication here](#)



## The role and integration of the SOEC technology in a future energy system



## Danish companies team up for ambitious fuel project in Denmark

The Green Fuels for Denmark project aims to develop a groundbreaking hydrogen and sustainable fuel facility based on electrolysis in the Greater Copenhagen Area. Announced in August 2020, Topsoe has joined Ørsted, Copenhagen Airport, A.P. Moller – Maersk, DSV Panalpina, DFDS, SAS, Nel, and Everfuel, which together cover the whole value chain for renewable hydrogen and sustainable fuels. Topsoe will contribute with know-how about technologies that convert captured CO<sub>2</sub> into sustainable methanol and jet fuel using hydrogen from electrolysis of water.

🔗 [Read the full article here](#)

## Green ammonia as marine fuel

In August 2020, Alfa Laval, Hafnia, Haldor Topsoe, Vestas, and Siemens Gamesa issued the report 'Ammonfuel – an industrial view of ammonia as a marine fuel', providing a comprehensive overview of the applicability, scalability, cost and sustainability of ammonia as a marine fuel.

🔗 [Read the full article here](#)



## The role of renewable fuels in the green transition

**BIO-TO-X** A growing pressure on lowering the world's greenhouse gas emissions and replacing conventional fuels has contributed to the rise of a broad range of alternative fuels. So-called renewable fuels or bio-fuels are produced from a vast variety of feedstocks such as vegetable oil, tallow oil and waste from sugar production or agriculture.

Some of these fuels can be used in existing engines without any modifications needed. Renewable fuels such as renewable diesel and jet fuel can help achieve significant near-term reductions in greenhouse gas emissions, especially within heavy, long-haul transport, i.e. road transport and aviation.

According to the International Energy Agency (IEA), 5% of today's global energy consumption is provided by renewable sources. The IEA estimates that this will rise to 25% by 2060. Globally, there is a general push for increasing renewable energy use within the transport sector. Sustainability concerns related to the 'food versus fuel' debate and issues around land use are likely to limit the use of certain feedstocks in the future as a result of additional or updated regulations. However, many still consider renewable fuels the best medium-term solution to sustainable fuels.

The green transition will take time and the climate emergency calls for urgent action here and now. Renewable diesel and jet fuel are examples of commercially viable alternatives to fossil fuels that can make a difference today. We believe that a mix of solutions will be required and that these solutions can and should co-exist and complement each other in the race toward decarbonizing the transport sector.



## Producing chemicals from sugars

**BIO-TO-X** Advancing catalytic technologies to produce bio-based chemicals and making them a commercially attractive option is an essential step on the way to a more sustainable future.

Monoethylene glycol (MEG) is a raw material for polyethylene terephthalate (PET), which has numerous applications and is an essential feedstock in sectors such as textiles and packaging, especially beverage bottles. Currently, MEG is predominantly made from fossil-based feedstocks, such as naphtha, gas, or coal.

In 2017, Topsoe and Braskem partnered around a shared mission of producing bio-based MEG from sugar. A demonstration unit was started up in 2019, and in November 2020, the first production was achieved. Topsoe delivers a packaged solution for this project with Braskem, including process design, engineering, catalyst, and technology.

In our sugar-to-chemical process we can use both edible feedstocks (first generation) based on starch and sugar, and non-edible feedstocks (second generation) based on cellulosic materials, such as wheat straw or wood.

## Scientific leadership & partnerships

Topsoe actively contributes to knowledge sharing in the scientific research community through presentations at conferences, participation in panel debates and scientific networks, as well as through articles in scientific publications.

We collaborate with numerous universities and research institutes globally, and sponsor research projects, chair professorships and PhD student grants. These long-term relationships keep us up to date on frontier research, and we co-develop important areas of interest at universities.



# 1,690

Since 1950, Topsoe has contributed to 1,690 publications and has an overall Topsoe H-index of 149.



### Employee engagement score

**73%**

The annual engagement score for 2020 was up by 10 percentage points compared to 2019.

## Workplace

We are committed to ensuring a safe, healthy, and attractive workplace that offers good working conditions and equal treatment of all of our employees. In other words; we want Topsoe to be a great place to work.

**Employee engagement & well-being**

Global employee engagement and well-being surveys, called Topsoe Voices, are established feedback tools, which we use to actively involve employees in shaping the workplace at Topsoe. Following the results of the annual engagement survey in May 2019, focus has been on increasing employee engagement and well-being.

We have introduced short, frequent well-being surveys throughout 2019-2020, and in January 2020, we launched a well-being talk as part of Topsoe’s new performance leadership set-up (TopsoeTALKS). The well-being score increased from 70% in August 2019 to 77% in May 2020.

The Senior Leadership Team took steps to become more visible and approachable. In June, employees had the opportunity to provide input to the new CEO on what to change and what not to change in the company. Furthermore, we launched a new company purpose and a vision for 2024, which provides a clear direction for Topsoe.

Between May 2019 and August 2020, we saw a clear improvement on engagement, despite the impact of COVID-19. In August 2020, the annual employee engagement score was 73%, up by 10 percentage points compared to May 2019, which is on par with the median benchmark of industry peers. More than 150 employees participated in discussions of the survey results and actions at virtual Topsoe Voices Summits, hosted by the Senior Leadership Team.

The second half of 2020 turned out to be somewhat turbulent for Topsoe employees. To ensure we have the right competencies and capabilities we need to deliver on our new vision, we made a comprehensive reorganization which included changes to top management, redundancies, and changes in employees’ roles and responsibilities. This created uncertainty and to some extent also unclarity about roles and responsibilities.

To facilitate the transformation in the best possible way, the Senior Leadership Team put increased emphasis on communication to the top 60 leaders and hosted recurring Q&A sessions for employees. The Senior Leadership Team will conduct monthly townhall meetings for all employees during 2021.

In the midst of the reorganization, the COVID-19 pandemic once again reinforced the need for working from home, and these factors combined clearly affected employee well-being, as evidenced by a 9 percentage point drop in the well-being score in December 2020 (68%) compared to May 2020 (77%).

More than 2,200 comments and suggestions from employees on how to improve well-being serve as important input for initiatives and decisions in the time to come.

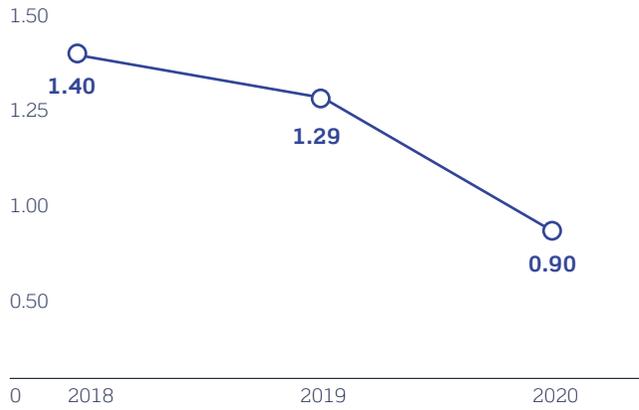
**OUR VALUES**



**Science**  
Our passion for science and innovation strengthens our business



**TOTAL RECORDABLE INCIDENT FREQUENCY**



— Total recordable incident frequency (TRIF) per 200,000 working hours

**Health & safety**

In Topsoe, we will not compromise on safety and we aspire towards 'Zero Harm'. Excellence in health & safety is our license to operate, and our employees must come home as safe and sound, as when they left for work.

Our health, safety and environmental (HSE) management system is based on international standards such as ISO45001 and RC14001, which include defined procedures, regular risk assessments, internal spot checks, monitoring and reporting. We have a strong focus on preventing and mitigating risk through training, Zero Harm walks, and registration of near misses. We have local HSE managers at our production and R&D sites spearheading the efforts on HSE excellence.

In 2020, we began implementing a new procedure for health and safety risk assessment, which will be fully completed in 2021. We also took an important step toward increasing travel security for our employees. A new travel security policy and procedure define integrated processes for health and safety issues during travel and visits to customer and supplier sites.

By the end of 2020, the total recordable incident frequency (TRIF) was 0.9, which is an improvement compared to 1.29 in 2019 and 1.40 in 2018. Our goal is to achieve a TRIF of 0.7 by the end of 2021. Based on 2020 data, the main accident hazards were related to the use of chemicals and the main injuries were head injuries. More than 210 leaders participated in virtual Zero Harm training and 982 Manager Zero Harm walks were registered on top of our regular safety walks.

Over the last years, we have seen a significant improvement in safety at Topsoe. However, to be in the top quartile of our industry, we still have some way to go. For this reason, the Health, Safety & Environment department was in November 2020 reinforced with new leadership reporting to the CEO.

Focus areas for 2021 and beyond include proactive risk assessment, creating a learning culture and enabling every employee to act as a Zero Harm leader.

**COVID-19 impact**

In addition to our ongoing health, safety and well-being efforts, the COVID-19 pandemic has demanded our constant attention throughout 2020. Our focus has first and foremost been on ensuring the health, safety and well-being of our employees and their families while still upholding our normal business operations.

We have taken numerous actions to prevent and limit the spreading of COVID-19 in the workplace. People have been asked to work from home for longer periods of time. We have provided protective equipment and disinfection kits for those who have had to come to work because they cannot do their job from home. Employees in Denmark have been offered a flu vaccine to avoid putting further strain on the healthcare system during flu season. Where possible, we have also developed and deployed remote assistance for customers in order to limit employee travel to customer sites. In situations where it has been necessary for employees to travel to customers' sites, we have developed a new strong assessment tool that identifies the level of risk and needed precautions. We have introduced new offerings to employees such as virtual meetings with ergonomic experts, online exercise programs and training in conducting virtual meetings. The productivity that we experienced while working from home led us to introduce more flexibility around how we work at Topsoe, and consequently a new global policy on flexible work was introduced in June 2020.

By the end of 2020, 88 employees had been diagnosed with COVID-19 globally, of whom only four are assessed to relate to the workplace.

### Human & labor rights

We are committed to meeting our responsibility to respect international human and labor rights, as defined in the United Nation’s 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. We strive to avoid causing any adverse impacts on international human and labor rights in relation to our employees, customers, or other stakeholders.

We are committed to ensuring the health and safety of our employees, subcontractors working at our sites, and the immediate community near our production sites. We ensure good and fair working conditions in our operations.

In 2020, we continued the work on our human rights impact assessment and aligned it to the UN Guiding Principles on Business and Human Rights. We updated the Topsoe Code of Conduct with a clearer reference to our human rights commitments, particularly within areas such as labor rights and conflict minerals. While our Code of Conduct sets the overall standard for our business conduct, our respect for human and labor rights is addressed in more detail in various company policies covering: fair and equal treatment, non-discrimination, health and safety, diversity, freedom of association, acceptable working hours, and remuneration. In 2021, human rights aspects will be included in mandatory e-learning for employees.

With the implementation of our Supplier Code of Conduct with key suppliers in 2020, suppliers have been made aware of our requirements relating to human and labor rights and the existence of our grievance mechanism, Topsoe’s Compliance Hotline.

The Compliance & Business Assurance team conducts annual compliance assessments related to human rights compliance. Human rights issues are monitored by the Compliance & Sustainability Committee.

### DIVERSITY

2020	Men	Women
<b>Board of Directors</b>	87%	13%
<b>Senior Leadership Team</b>	67%	33%
<b>Managers</b>	78%	22%
<b>Employees</b>	74%	26%

### Diversity

Topsoe – like peers – is challenged by a typical underrepresentation of women in the technology and engineering sectors. Our diversity policy seeks to increase gender diversity at all management levels.

Topsoe’s diversity policy is available here:

[topsoe.com/about/sustainability/workplace/diversity](https://topsoe.com/about/sustainability/workplace/diversity)

By the end of 2020, the gender split among Topsoe employees was 26% female and 74% male compared to 27% female and 73% male in 2019. Among managers, the split was 22% female and 78% male, unchanged from 2019 and 2018. In the Senior Leadership Team, which has changed during 2020, the split is 33% female and 67% male, compared to 40% female and 60% male in 2019.

We did not reach our target of 30% women in management positions in 2020, partly because we have not been good enough at attracting women in our recruitment processes but also influenced by the reorganization and layoffs that took place in the second half of 2020. Nevertheless, our ambition remains 30% women in management positions.

Topsoe’s Board of Directors has eight members, not counting employee representatives. There is one female and seven male board members. The Board has set a target of two female board members by 2024 and will continue to focus on this target when evaluating the Board’s composition, competencies, and potential future candidates.

### Employee development

In January 2020, we rolled out a new and flexible approach to facilitating conversations and feedback between managers and employees about priorities, progress, well-being, and development, called TopsoeTALKS.

Our annual organizational and talent review was concluded in February 2020. This ensures that we identify talents and create a pipeline for critical specialist and leadership roles across the organization.

We introduced new training to managers and employees to help cope with the challenges brought about by COVID-19 as well as the transformation that Topsoe is undergoing. New offerings to employees included a development toolbox that inspires different approaches to personal and professional development and optional training on

‘Effective online meetings’. We continued our mandatory training for new leaders and introduced voluntary courses on ‘Transformational leadership’ and ‘Virtual leadership’.

In 2021, we will implement a new performance management system to facilitate focus, clear priorities, accountability as well as employee development and rewards.

In January 2020, we rolled out a new and flexible approach to **facilitating conversations and feedback between managers and employees** about priorities, progress, well-being, and development, called TopsoeTALKS.

## Progress 2020

- Total recordable incident frequency was 0.9 compared to 1.29 in 2019
- Engagement score is up by 10 percentage points compared to 2019
- Well-being score is down by 9 percentage points from May 2020 to December 2020
- Gender split among managers is unchanged from 2019 and 2018, but lower female representation among employees and Senior Leadership Team
- New policies covering travel security and flexible work
- Successful handling of the COVID-19 pandemic. Limited virus spread in the workplace.

## Priorities 2021

- Continued focus on building a strong health & safety culture and reducing incidents through proactive risk assessment and learnings
- Actions aiming at increasing employee engagement and well-being
- Introduction of new performance management system
- Inclusion of human rights aspects in mandatory e-learning for employees
- Publishing progress statement on UK Modern Slavery Act at [www.topsoe.com](http://www.topsoe.com)
- Continued monitoring of COVID-19 developments

# Production

The production of catalysts is associated with extensive use of raw materials, energy, and water and also generates significant amounts of emissions and waste which can potentially affect the environment and people's health.

We acknowledge these impacts, and we are committed to limiting them through responsible production. Our aim is that our operations are safe for employees, business partners, customers, communities and the environment. We apply precautionary management actions to mitigate and remedy potential adverse implications. When it comes to minimizing the environmental impacts of our production, our focus over the years has been on improving energy efficiency, reducing air pollutants, limiting noise, utilizing waste streams and using surplus production heat to provide district heating.

Key progress in 2020 include overall reduction of in water consumption by 13% and energy-savings of 7,211 MWh in our production in Denmark.

It is a high priority for us that all our operations are fully compliant with chemical and environmental regulations in all the jurisdictions where we operate or sell our products. We continuously monitor relevant regulations related to chemicals (e.g. EU REACH, Korea REACH, Turkey REACH and BREXIT) as well as relevant environmental regulations to identify any changes that might affect our operations and require changes to our internal processes.

## Highlights



Energy-savings  
of 7,211 MWh  
in Denmark



13% overall  
reduction in water  
consumption

From November 2020, the global Health, Safety and Environment (HSE) department reports directly to the CEO. The Compliance & Sustainability Committee oversees strategic projects and long-term targets to minimize the company's environmental footprint.

**Management systems**

Our production sites systematically work to meet relevant environmental regulations and other stakeholder requirements and manage environmental risks through procedures and processes, regular risk assessments and internal spot checks. The work is supported by an international third-party certified environmental management system, ISO14001, for our production site in Denmark. Preparations for a similar management system under the American Chemistry Council's Responsible Care (RC) program is underway at our production site in Bayport. Upon achieving certification of the RC14001 management system, the two management systems at the Danish and US production sites will be well aligned. We have local HSE managers at both production sites.

Certifications are available here:

[topsoe.com/about/sustainability/production](https://topsoe.com/about/sustainability/production)

**Environmental management**

**Energy**

Topsoe's total energy consumption covering natural gas and electricity from both production sites was 1,084 TJ in 2020, compared to 984 TJ in 2019. This increase in energy consumption reflects an increase in production volumes. A mandatory energy audit of our production site in Frederikssund, Denmark, was completed in March 2020. The audit report concluded that we have improved the site's energy efficiency by 15% since 2015.

In 2020, we achieved further energy-savings of 7,211 MWh, equivalent to the heat consumed annually by 387 single-family households.

Surplus heat generated at our production sites is generally used internally to provide heating for other processes at the sites. But our production site in Frederikssund, Denmark, has also delivered surplus heat to the district heating plant since 2013. In this way, we contribute to lowering the carbon emissions of the local community. In 2020, we delivered 40,793 MWh of surplus heat to the local district heating plant, which is enough to meet the annual need of 2,253 single-family households in the Frederikssund area.

**Greenhouse gas emissions**

Historically, our main tactic to reduce CO<sub>2</sub> emissions has been to improve the energy efficiency of our production. We recognize that we can do more, which is why we have committed to setting long-term targets for reducing greenhouse gas (GHG) emissions in our value chain in line with the Science Based Targets initiative; a collaboration between CDP, World Resources Institute, WWF, and the United Nations Global Compact.

In 2020, we have calculated our direct and indirect GHG emissions for scope 1 and 2 in accordance with the Greenhouse Gas Protocol. This is the first time we disclose full scope 1 and 2 emissions. Data disclosed in 2019 reflected the emissions that we are required to report to the authorities.

In 2020, our total GHG emissions (scope 1 and 2, market-based) amounted to 148,225 metric tons of CO<sub>2</sub> equivalents, a significant decrease of 9.86% compared to 164,437 metric tons of CO<sub>2</sub> equivalents in 2019. This is driven by energy-savings in our production as well as variations in production mix.

**Topsoe's production sites**

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**Denmark**

575 PEOPLE

37,000 TONS  
catalysts and alumina

37,000 TONS  
of potassium nitrate (derivative product)

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**US**

114 PEOPLE

13,000 TONS  
catalysts

**Essential to product safety** is ensuring that customers and others handling our products have the full safety information they need.

Our short-term target is to reduce GHG emissions by 15% in 2021 on a like-for-like basis and with 2019 as baseline year. Meanwhile, we will work on defining our long-term reduction targets and prepare for validation by the Science Based Targets initiative. We recognize that our environmental impact extends beyond the boundaries of our direct operational control, and we will start mapping our scope 3 emissions in 2021.

#### Water

In 2020, we reduced our water consumption by 13%, mainly driven by improved water efficiency through the installation of new water filters at the production site in Frederikssund, Denmark. Topsoe's total water consumption from both production sites was 242,201 m<sup>3</sup> in 2020, compared to 278,442 m<sup>3</sup> in 2019.

Our production site in Frederikssund, Denmark, uses water from municipal water supply, ground water and water from our own well, whereas our production site in Bayport, US, only uses water from the municipal water supply.

#### Waste

Topsoe generated 6,040 tons of waste in 2020, compared to 5,883 tons in 2019. Topsoe makes continuous efforts to reduce the volumes of waste, including hazardous waste, both by optimizing production processes and by reusing waste products. All waste streams are evaluated for possible internal or external recycling and alternatively, if recycling is not possible, authorized disposal. In all cases, the waste is transported and processed by authorized contractors to ensure it is handled in an efficient, safe and compliant manner.

#### Chemical & product safety management

Topsoe imports, manufactures and uses a multitude of chemicals at its production sites, many of which are considered hazardous chemicals and may pose a risk to people and the environment if not handled with care.

Since 1994, we have maintained ISO9001 certification for our production to ensure that our catalysts always meet or exceed the expectations of our customers. Working with quality means continually optimizing our business operations as part of our professional management system. Our efforts to prevent spills fall under our global HSE governance and procedures.

Essential to product safety is ensuring that customers and others handling our products have all the information they need to understand and mitigate the chemical risk associated with the use of Topsoe's products.

For this reason, our products are accompanied by Safety Data Sheets and they can also be requested via [topsoe.com/sds-request](https://topsoe.com/sds-request)

#### Product life-cycle management

Catalysts play an important role in improving the efficiency of various chemical processes. However, at the end of service lifetime, catalysts often end up as landfill, possibly with prior extraction of valuable metals. At Topsoe, we wish to contribute to a more sustainable utilization of catalysts. In 2020, we initiated FullCircle™ as a concept to achieve a more sustainable approach to catalyst handling.

So far, we have identified several outlets for improved sustainability both for spent catalysts and waste from our production facilities. In 2021, we will involve external partners and build regulatory experience to gradually bring the solutions to the market.

### Adaptation to climate change

Extreme weather conditions and natural disasters can affect our operations if causing damage to our production sites. We seek to mitigate these risks and strengthen our resilience to climate impacts and weather conditions through various preventative measures. We always have well-trained emergency response teams ready to handle potential impacts.

Our production site in the US faced several storms in 2020. The only hurricane that caused concern was hurricane Laura that brought heavy rain and wind gusts of 45 miles per hour. Evacuation procedures were followed, and no significant damage occurred to our production facilities.

As a preventative measure, we finalized the construction of a dike to protect production facilities in Denmark against flooding in 2020.

### COVID-19 impact

The pandemic has not caused any major disruption to our production capacity in 2020. We have been able to run our production almost as usual and produce the same volumes as in previous years.

We have experienced some efficiency losses in the production due to COVID-19 restrictions and precautions at work as well as challenges from remote working and employees having to balance both work and kids at home.

However, these inefficiencies have almost been counterbalanced by employees showing adaptability and flexibility to support Topsoe in getting through this pandemic in the best possible manner. This is obviously not a sustainable situation for the longer term, and we are taking cross-organizational action to find the best way to support the individual.

## Progress 2020

- 13% overall reduction in water consumption
- Finalization of Topsoe's GHG emission baseline for scope 1 and 2
- Energy-saving of 7,211 MWh in our production in Denmark
- 40,793 MWh of surplus heat from production used for district heating in Denmark
- Dike established to protect production facilities against flooding in Denmark
- New global procedure on environmental risk assessment.

## Priorities 2021

- Update global environmental policy
- Develop climate action plan and set long-term science-based targets
- Analyze the environmental footprint of Topsoe's products and solutions (life-cycle assessments)
- Continue preparations for RC14001 certification of our production site in the US
- Increase recycling of hazardous waste.



# 46%

of key suppliers are committed to Topsoe's Supplier Code of Conduct or equivalent standard.

## Supply chain

Topsoe buys raw materials and proprietary equipment from a global network of more than 600 trusted suppliers.

We pursue a responsible and balanced approach to our supply base and seek to integrate commercial, risk, and quality aspects as well as social, environmental, and ethical responsibility. We focus on supply chain management and responsible procurement of minerals and define our standards within for instance our Topsoe Supplier Code of Conduct and our Conflict Minerals Policy.

Over the past couple of years, we have strengthened our responsible procurement approach with the implementation of global policies and procedures, and in 2020, with the implementation of our Supplier Code of Conduct for key suppliers. We are also working on updating our supplier management process which will include a new approach to risk assessment and supplier onboarding.

Governance related to procurement activities is currently being revisited in light of the reorganization.

To create the best foundation for building strong business ties and long-standing relationships with our suppliers, **we require our suppliers to commit to our standards of responsible business conduct.**

**COVID-19 impact**

While COVID-19 has naturally challenged our supply chain at times, we have been able to continue our operations more or less as usual. We have experienced inconveniences such as the close-down of certain suppliers' production facilities in Europe for a shorter period of time during the first half of 2020. However, we have not experienced any major disruptions such as e.g. supply failures. When it comes to supplier audits, i.e. both for onboarding of new suppliers and quality controls, we have managed to perform these remotely.

**Supplier Code of Conduct**

To create the best foundation for building strong business ties and long-standing relationships with our suppliers, we expect our suppliers to commit to our standards of responsible business conduct. Crucial to this is Topsoe's Supplier Code of Conduct, which outlines what we expect from our suppliers when it comes to human rights and labor standards, health & safety, environment as well as ethics and integrity.

In 2020, we began implementing the Code with key suppliers, both new and existing. Targeted suppliers have been identified based on product categories (i.e. raw materials and proprietary equipment) and on spend. Suppliers are asked to sign our Supplier Code of Conduct, and all those who have responded have accepted to adhere to our Code or their own Code of equivalent standard. In case of suppliers not accepting our Code or failing to comply with our Code, we will seek to resolve this through dialog.

By the end of 2020, 46% of targeted suppliers had signed our Code or equivalent. Implementation continues in 2021.

Topsoe's Supplier Code of Conduct is available at [topsoe.com/about/sustainability/supply-chain](https://topsoe.com/about/sustainability/supply-chain)



**Supplier Code of Conduct**

Topsoe's Supplier Code of Conduct builds upon the Ten Principles of the UN Global Compact, the UN Guiding Principles on Business and Human Rights, the conventions of the International Labour Organization (ILO) in addition to the global chemical industry's Responsible Care

**Conflict minerals**

Topsoe is committed to responsible sourcing of conflict minerals (tin, tungsten, tantalum, and gold – generally referred to as 3TG) in the company’s supply chain and to comply with applicable requirements, such as the EU Conflict Mineral Regulation, which came into effect on January 1, 2021.

To the extent that Topsoe purchases materials that contain 3TG minerals from our suppliers, we require that our suppliers declare that they comply with the above regulations and follow the business standards for smelters and importers, specifically the Responsible Minerals Initiative.

In order to support customers in fulfilling their disclosure obligations, Topsoe also responds to all enquiries made by customers to clarify whether the products they have purchased contain 3TG.

While the production of some of Topsoe’s catalysts requires 3TG for the product’s functionality, Topsoe’s sustainability policy,

which includes respecting human rights, prohibits Topsoe from taking part in any activities or from purchasing any supplies which involve human rights violations in conflict-affected areas. Consequently, Topsoe has no direct sourcing activities in conflict-affected areas.

Topsoe’s Conflict Minerals Policy is available at [topsoe.com/about/sustainability/supply-chain](https://topsoe.com/about/sustainability/supply-chain)

**Chemical compliance**

Topsoe has a well-functioning management system ensuring that all chemicals imported by the company are received, maintained, and documented in compliance with applicable international and national regulations and requirements, thus facilitating a high level of protection for human health and the environment. To maintain ongoing compliance, we have implemented systems and procedures for validating the registrations of inbound chemicals.



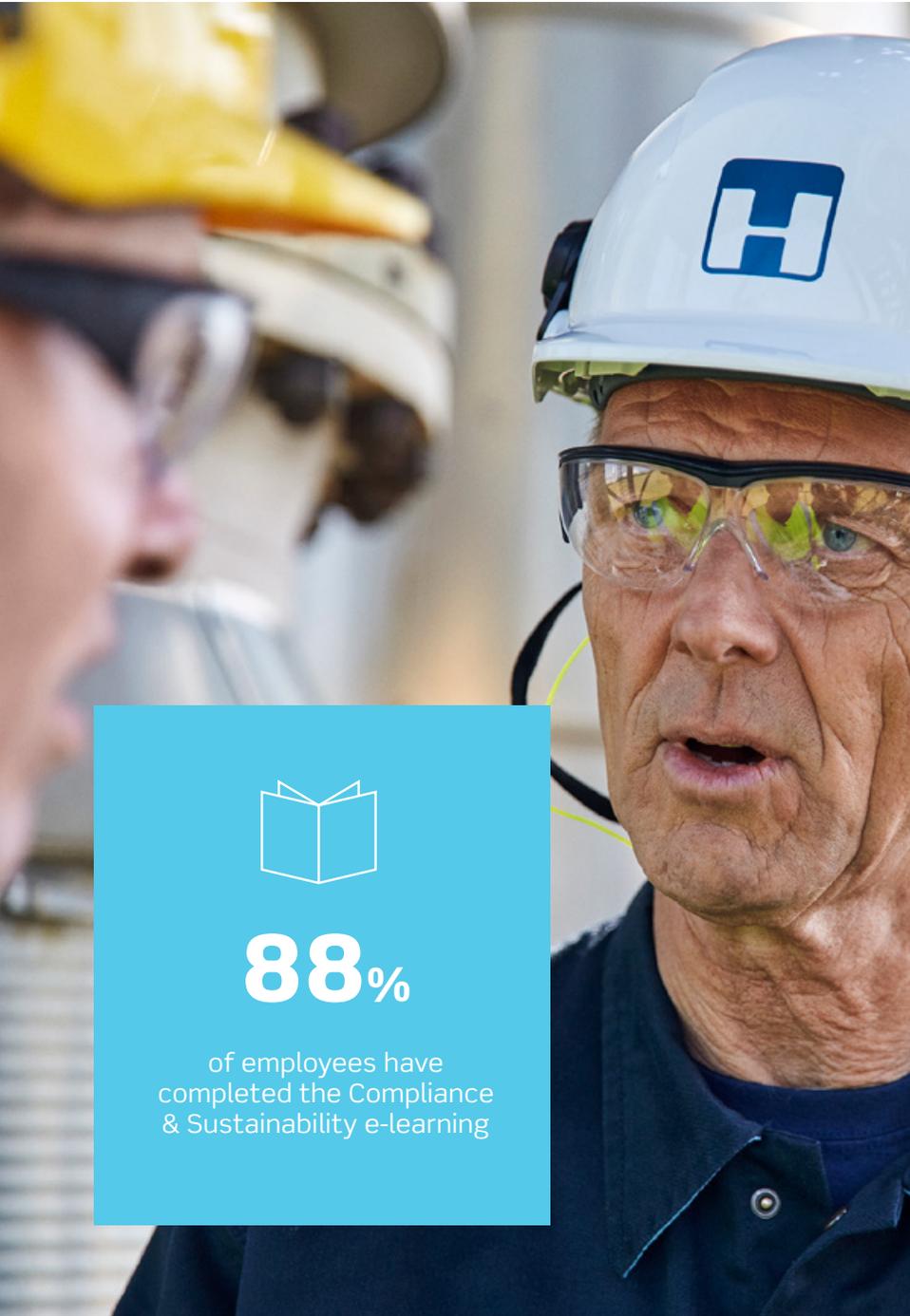
**Conflict minerals** - tin, tungsten, tantalum, and gold - generally referred to as 3TG. Some Topsoe products contain tungsten.

**Progress 2020**

- Topsoe’s Supplier Code of Conduct implemented with 46% of key suppliers
- Supplier risk assessment framework initiated, but delayed due to COVID-19 and other business-critical priorities.

**Priorities 2021**

- ➔ Continue implementation of Topsoe’s Supplier Code of Conduct
- ➔ Continue work on supplier risk assessment framework
- ➔ Update Conflict Minerals Policy.



# 88%

of employees have completed the Compliance & Sustainability e-learning

# Governance & transparency

Topsoe is committed to perform its activities in a compliant, transparent, and responsible way. External regulations and business-related expectations are monitored and implemented through the Topsoe Code of Conduct and related policies, procedures, processes, and training.

Acting responsibly in all aspects of our business is a fundamental value at Topsoe. We lead our company based on good governance practices and have implemented business structures to ensure that our customers, owners, and business partners can always trust us. We reinforce this with compliance training for all employees. An update of Topsoe's Code of Conduct was initiated in 2020, and it will be launched to all employees in the first quarter of 2021.

Senior management is responsible for ensuring compliance with relevant requirements and the Compliance & Business Assurance team conducts internal, annual assessments.

Topsoe's Compliance & Sustainability Committee oversees the portfolio of critical requirements and related risks, with regular reporting to the Board of Directors and

the Audit Committee. The Committee also monitors compliant and ethical business conduct and oversees matters related to the Topsoe Code of Conduct, e-learning, anti-corruption, trade, competition, and data privacy.

## Code of Conduct

Topsoe's Code of Conduct and underlying policies put our company values into action and set standards for our behavior by outlining the requirements and processes that employees must comply with in their daily work.

Our Code of Conduct has been implemented throughout the organization, through e-learning, policies, and processes relating to anti-corruption, anti-money laundering, economic sanctions, competition law, health & safety, and other business critical issues.

Topsoe employees receive Code of Conduct training as part of our global Compliance & Sustainability e-learning course. The training includes modules on anti-corruption (hospitality, gifts and entertainment), confidentiality, and conflicts of interest. In 2020, the share of employees that had completed the e-learning increased to 88%. Our target is 90%.

Topsoe's Code of Conduct is available at

➔ [topsoe.com/code-of-conduct](https://topsoe.com/code-of-conduct)

### Compliance Hotline

Topsoe's global Compliance Hotline (whistleblower solution) provides employees and external stakeholders with a channel for reporting concerns of unethical or unlawful behavior, also anonymously if desired. Generally and historically, internal concerns are reported openly and directly to colleagues responsible for the relevant areas rather than through the Hotline. Hotline reports are handled by the Chief Compliance Officer and the Group General Counsel and managed according to complexity and severity as described in our compliance investigation procedure. Status on Hotline reports is reported to the Compliance & Sustainability Committee, to the Audit Committee and to the Board of Directors annually or on an ad-hoc basis.

The Compliance Hotline is available at

➔ [topsoe.com/Compliance-Hotline](https://topsoe.com/Compliance-Hotline)

### Anti-corruption & fair competition

Topsoe's global operations are exposed to the risk of encountering corruption. We are committed to always working against any kind of corruption, bribery, fraud, and anti-competitive behavior. We have policies in place for giving and receiving hospitality, gifts, and entertainment, and our third-party assurance and due diligence processes support the continuing lawful conduct of our business and operations.

With the implementation of our Supplier Code of Conduct with key suppliers in 2020, we have further emphasized our standpoint on zero corruption and other business-critical requirements toward our suppliers. Our employees are trained in anti-corruption and anti-bribery as part of our mandatory e-learning course to help them identify and withstand corruptive behavior. A new e-learning course focused on Competition Law and a revised policy will be launched in 2021.

### Global trade dynamics

Economic sanctions continued to impact global trade during the year. Topsoe continuously monitors and adjusts its compliance program in accordance with applicable EU, US, and UN regulations with special focus on export licenses for dual-use items and restrictions or prohibitions on commercial dealings with sanctioned countries and parties.

The main efforts during 2020 were to gather learnings and establish business standards that facilitate smooth collaboration and transactions between business partners and financial institutions. We recorded two minor incidents relating to export controls performance, which were corrected by providing clear instructions, e.g. to the supplier in question, to avoid similar situations in future.

### Third-party assurance & due diligence

To minimize the risks that may occur when collaborating with third parties, Topsoe performs compliance due diligence and reputational risk assessments of third parties. This includes checking third parties against economic sanctions as well as analyzing potential unlawful behavior ranging from human rights violations over corruption to tax evasion risks.

In 2020, we optimized our digitized approach to performing compliance due diligence, and through this improved the robustness of business-critical controls. We also launched an

e-learning course on Trade Compliance relevant to around 400 colleagues who are responsible for business partner relations, for driving business critical activities along our value chain, or for supporting business-enabling processes.

### Data privacy & protection of information

Digitalization brings a world of opportunities for new ways of working, but also represents challenges when it comes to treatment and protection of data. The privacy of individuals is important to us, and we are continuously adapting our processes to comply with all privacy regulations that apply to our business.

In 2020, we developed a new Information Security Roadmap for 2020-2022, simulated hacker tests on our core infrastructure and services, and guided our employees on how to handle various cybersecurity risks. In 2021, we will introduce a comprehensive Information Security Framework, which e.g. includes an Information Security Policy, cyber security campaigns and continuous security monitoring.

### Crisis management & emergency response system

Our crisis management and emergency response systems are constructed to be scalable and applicable to any kind of crisis, accident or disaster. The aim is to limit the impact on people, the environment, and other assets as well as the company's reputation and external stakeholders. Business continuity aspects are built into our crisis management system.

The COVID-19 pandemic has demanded our constant attention throughout 2020. In February, we established a two-tiered task force to ensure alignment across all levels of the organization: One tier comprising senior management representatives focused on globally applicable aspects including harmonized response; the second tier comprising an operational team of employee representatives from Safety, IT,

Facility, Communication, Travel and HR. Throughout the year, the task force has met weekly, and sometimes daily, to closely monitor the situation and its impact on our operations, to define mitigating actions and to ensure clear communication and guidance to employees.

The COVID-19 pandemic has shown that our crisis management and emergency response system is functioning well and is suited for tackling a major crisis and the disturbances that follow. The learnings we gained from participating in the Danish national crisis management exercise in 2019 have been extremely useful in helping Topsoe to this level of preparedness.

### Responsible tax

Topsoe is committed to contributing to the further development of the communities in which the company operates. A responsible tax approach is an integral part of that. Topsoe's tax policy applies to all group companies and is approved by the Board of Directors.

In 2020, Topsoe paid DKK 120 million in tax globally, of which DKK 26 million is related to residual tax for 2019. We expect to have a tax refund of DKK 40 million for 2020. The tax refund is primarily due to increased write-off on R&D cost in Denmark

Topsoe has a responsible, transparent and consistent approach to all tax matters. We always do our utmost to comply with tax legislation in the countries in which we operate, by following both the letter and the intention of the law. Topsoe is committed

to maintaining a cooperative and long-term relationship with the tax authorities through an open and transparent dialog, where possible through officially established procedures and channels.

We pay taxes where value is created, and we do not use contrived or abnormal tax structures that are intended for tax avoidance, which have no commercial substance, or which do not meet the spirit of local or international tax law. When establishing subsidiaries and branches, Topsoe will consider this based on the business opportunities that represent themselves. Topsoe does not use tax havens, where the business activities are elsewhere, in order to gain tax benefits.

Topsoe makes best efforts to secure that the tax position in the company reflects the business reality of the transaction. We submit country-by-country reporting and transfer pricing documentation in accordance with the laws in the countries where we are present.

Topsoe's tax policy is available at [topsoe.com/about/sustainability/governance-transparency](https://topsoe.com/about/sustainability/governance-transparency)

## Progress 2020

- Topsoe Code of Conduct updated to include environment, tax, information security and human rights
- 88% of employees completed mandatory Compliance & Sustainability e-learning (our end of year target was 90%)
- Two non-substantiated cases reported via Topsoe's Compliance Hotline
- Successful COVID-19 response and management
- New e-learning course on Trade Compliance

## Priorities 2021

- ➡ Roll-out updated Compliance & Sustainability e-learning
- ➡ Roll-out new e-learning course on Competition Law
- ➡ Launch new Information Security Framework.



## COVID-19 support

Topsoe took several steps to support children affected by COVID-19 during 2020. We made contributions to UNICEF for humanitarian assistance related to COVID-19 in China (May) and Iran (December).

In December, we became a **UNICEF COVID-19 Emergency Partner** to further support global relief efforts, among others assisting in getting children back into school under safe conditions.

# Donations & community engagement

Through partnerships, Topsoe aims to empower the next generation in attaining the possibility to create a socially, environmentally, and economically sustainable future for themselves, their families and society at large.

Every year, **Topsoe allocates 0.1% of its revenue** to donations and community development activities.

We strive to reduce the share of children growing up under vulnerable circumstances with limited or no access to quality education, both globally and in the communities where we operate. A good example is a project in the Sundarbans region of India, where Topsoe has supported access to education for more than 450 children annually since 2011.

In 2020, we implemented a more robust donations framework to ensure maximum impact for the children we support. This involved reviewing existing partnerships, exploring new partnerships and changing our governance structure. Previously, donations were governed by Topsoe's Donation Committee, comprising one member from Topsoe's Board of Directors, one member of the Topsøe family as well as members of Topsoe's senior management. Today, donations are overseen by Topsoe's Compliance & Sustainability Committee.

Going forward, we will pursue more partnerships with civil societies to support children affected by disasters and emergencies, often as a consequence of climate change.

#### GLOBAL

### Holiday donation to Save the Children

In December 2020, Topsoe made its first annual Holiday donation on behalf of its employees to **Save the Children**. The donation will contribute to the work of their Global Child Emergency Fund that works both reactively and proactively to mitigate the adverse impacts of climate change on the most vulnerable children.

#### ARGENTINA

### Improving living standards of children in Buenos Aires

In 2020, Topsoe's office in Buenos Aires, Argentina, supported the local non-profit organization, **Ayres de Esperanza**, in providing 150 children with psychological and educational support. Despite COVID-19 quarantine, the community center remained open and continued to provide educational assistance and care-packages to ensure health and nutrition of low-income families.



Photo credit: Jonathan Hyams / Save the Children

#### DENMARK

### Public-private partnership in municipality of Topsoe's headquarters

In 2012, Topsoe was one of eight founding members of **Science City Lyngby**; a public-private network in the municipality where Topsoe's headquarters are located. The vision of Science City Lyngby is to make the municipality one of Europe's leading knowledge and university cities with the best conditions for education, research, business, and start-ups. Topsoe leads the Education Network that works to establish a robust educational sector, designed to align with the needs of business, especially within STEM (Science, Technology, Engineering, Mathematics).

# Stakeholder dialog

At Topsoe, we understand how everything we do can affect people's health and well-being as well as the environment. We strive to openly communicate about our activities, and we engage in constructive dialog with employees, customers, governments, authorities, communities, media and other important stakeholders.

Topsoe is a member of several trade associations at global, regional and national level: Catalyst Europe, the American Chemical Council, the Confederation of Danish Industry, among others.

Topsoe acts as advisor to the Danish Government through several platforms:

Since 2018, Topsoe has contributed to the continuous development of STEM (Science, Technology, Engineering, and Mathematics) education in Denmark through our participation in TeknologipagtRådet (the Technology Pact Council).

During 2019-2020, Topsoe has participated in the Danish Government's climate partnerships to help define initiatives to reach the national ambition of 70% reduction in CO<sub>2</sub> emissions by 2030. Topsoe is a member of four partnerships: 1) Energy and utilities, 2) Waste, water and circular economy, 3) Marine transport, and 4) Energy-intensive industry. In January 2020, Topsoe also participated in a hearing on Power-to-X technologies arranged by the Danish Government's Climate, Energy, and Utilities Committee.

In countries where we have manufacturing, we have an ongoing dialog with environmental and other supervisory authorities, e.g. the Danish and US Environmental Protection Agencies.

Our production site in Frederikssund, Denmark, is located adjacent to a residential area, and we proactively engage in dialog with neighbors. In general, we receive very few substantiated complaints on an annual basis, and we take great pride in nurturing the relationship with our neighbors.

Our production site in Bayport, Houston is located in an industrial area. However, it is still important for us to contribute to the local community, and we do so through active participation in the Local Chambers of Commerce, East Harris County Manufacturers Association (EHCMA), Houston Ship Channel Security District, Association of Bayport Companies (ABC), Channel Industries Mutual Aid (CIMA), Local Emergency Planning Committee (LEPC) and Bay Area Community Advisory Panel (BAYCAP) which include other member manufacturing facilities and representatives from the area neighborhoods, school systems and members of the regulatory community as well.





## How Topsoe impacts the UN Sustainable Development Goals

Topsoe's business activities have many direct and indirect impacts on the 17 UN Sustainable Development Goals.



## UN SDG



## Materiality



## Solutions



## Operations



High

Topsoe is the global leader in energy-efficient technologies to produce clean transportation fuels as well as essential chemicals such as ammonia. Topsoe is at the forefront of developing solutions that can drive significant reductions in greenhouse gas (GHG) emissions for industry as well as help reduce society's dependency on fossil fuels.

Topsoe's catalyst production is energy-intensive and generates greenhouse gas (GHG) emissions. Topsoe is in the process of defining a long-term GHG reduction target for the company. We take preventative measures to protect our production facilities against extreme weather conditions and natural disasters.



High

Topsoe has long been known for its world-leading catalysts to produce ultra-low sulfur diesel that minimizes sulfur emissions to prevent acid rain. Other Topsoe solutions reduce air pollution by minimizing or eliminating other air emissions such as SOx and NOx.

Topsoe's operations involve health and safety risks for employees, suppliers, customers, contractors and communities through exposure to hazardous chemicals, products and emissions. Through our Zero Harm framework, we seek to prevent and mitigate health, safety and well-being risks. All Topsoe products are handled, stored, registered, and labelled according to international standards such as EU REACH. We have processes and systems in place to monitor and manage our environmental footprint, incl. emissions control and prevention of environmental incidents such as spills.



High

Topsoe's technologies contribute to a more sustainable production of fuels and chemicals by enabling the use of renewable feedstocks and energy sources, improving energy efficiency and reducing air emissions.

Topsoe is committed to minimizing the environmental impacts of its production. Topsoe is also committed to ensuring that its products are effective, safe and cost-efficient and that they are produced and marketed in a responsible manner. We conduct our business in a compliant, responsible and transparent way, and we expect the same of key suppliers. We align our actions with the Ten Principles of the UN Global Compact and report on our non-financial performance every year.



High

Topsoe's technologies enable energy-efficient production of essential chemicals and fuels and support the transition to renewable energy. Topsoe is the global leader within technologies to produce renewable diesel from biomass and waste instead of fossil fuels. On top of that, we are developing other technologies that utilize biomass to reduce carbon emissions.

Catalyst production is associated with significant use of energy and we continuously strive to improve the energy efficiency of our production.



High

In the refinery industry, Topsoe has long been known for its world-leading catalysts to produce ultra-low sulfur diesel that minimizes sulfur emissions to prevent acid rain.

Topsoe's catalyst production generates air emissions with potential negative impact on the local environment, climate as well as the residential areas in proximity of our production sites. We have processes and systems in place to monitor and manage our environmental footprint, incl. emissions control and prevention of environmental incidents such as spills.



## UN SDG



## Materiality



## Solutions



## Operations



## High

Topsoe's 80 years of investment in research and development enables us to provide new, innovative solutions and technologies that increase the efficiency and sustainability of the chemical and fuel industries.

Every year, Topsoe reinvests 8-10% of its revenue in research and development. We actively contribute to knowledge generation and sharing through collaboration with universities and research institutions.



## Medium

Topsoe's operations depend on water and also generate discharges into wastewater. We manage and reduce our water consumption, recycle and re-use where possible within our production processes, and clean wastewater before discharge to prevent potential water contamination.



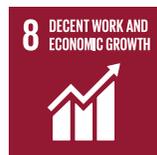
## Medium

We have processes and systems in place to monitor and manage our environmental footprint incl. emissions control and prevention of environmental incidents such as spills.



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## Medium

Topsoe contributes directly and indirectly to economic and community development around the world through employment, taxes as well as decent and fair working conditions. We work intensively to ensure that Topsoe is a safe and healthy place to work. We respect human and labor rights and strive to uphold these in our global operations. Our Supplier Code of Conduct specifies our requirements toward suppliers in relation to human and labor rights.



## Medium

Topsoe conducts its business based on compliance with relevant laws and regulations, high integrity, and ethical standards. We refrain from all forms of bribery, fraud, corruption and anti-competitive behavior. We have a Compliance Hotline for reporting of misconduct or concerns. We conduct periodic due diligence of customers, suppliers and other third parties. We demand that our suppliers of raw materials declare adherence to business standards for smelters and importers, specifically the Responsible Minerals Initiative, and that they comply with applicable regulations. We seek to contribute to effective, accountable and transparent tax institutions at all levels.



UN SDG



Materiality



Solutions



Operations



Medium

Topsoe's global donations are designed to support vulnerable children in achieving better living standards and getting access to quality education. Topsoe also funds university grants and scholarships and makes contributions towards quality education within STEM (Science, Technology, Engineering and Mathematics) in primary and secondary schools.



Medium

Topsoe participates in public-private partnerships, partnerships with peers and a wide range of research partnerships to ensure innovation progress and sustainable development of industry.

Topsoe engages a broad community of stakeholders through memberships, networks, collaborations with associations, organizations, other companies, universities and research and educational institutions, and participates in various working groups, consortia, hearings, and advisory panels.



Low

Topsoe aims to eliminate all forms of discrimination guided by our values, the Topsoe Spirit, our Code of Conduct and underlying policies, and we expect the same of our suppliers.



Low

Topsoe aims to eliminate all forms of discrimination guided by our values, the Topsoe Spirit, our Code of Conduct and underlying policies.



Low

Our catalysts and technologies are used globally in the production of ammonia for fertilizers, which is critical for the world's food production.

We contribute directly and indirectly to economic and community development around the world through employment and taxes.



Low

We contribute directly and indirectly to economic and community development around the world through employment and taxes.

# Sustainability performance data

	2020	2019	2018
<b>Research &amp; innovation</b>			
R&D spend (% of revenue)	8.3	8.0	9.0
New commercialized solutions	11	15	14
New issued patents	489	323	294
<b>Workplace</b>			
Average number of employees	2,268	2,238	2,246
Employee engagement score (%)	73	63	-
Employee turnover (%)	12.7	7	-
Total recordable incident frequency (TRIF) per 200,000 working hours	0.90	1.29	1.40
Fatalities	0	0	0
Gender – all employees – male/female (%)	74/26	73/27	72/28
Gender – Senior Leadership Team – male/female (%)	67/33	60/40	-
Gender – managers – male/female (%)	78/22	78/22	78/22
Gender – Board of Directors – male/female (%)	87/13	86/14	83/17

	2020	2019	2018
<b>Production</b>			
Energy consumption - natural gas and electricity (TJ)	1,084	984	-
Water consumption (m3)	242,201	278,442	-
Direct greenhouse gas emissions – scope 1 – Total (tons CO <sub>2</sub> e)	115,573	120,475	-
Indirect greenhouse gas emissions – scope 2 – Market-based (tons CO <sub>2</sub> e)	32,652	43,961	-
Indirect greenhouse gas emissions – scope 2 – Location-based (tons CO <sub>2</sub> e)	18,090	26,855	-
Waste (tons)	6,040	5,883	-
Spills (major)	3	1	-
Environmental non-conformities	23	23	-
<b>Supply chain</b>			
Suppliers committed to Topsoe's Supplier Code of Conduct (%)	46	-	-
<b>Governance &amp; transparency</b>			
Code of Conduct training – employee completion rate (%)	88	77	-
Compliance Hotline – number of substantiated reports	0	0	0

## Financial performance data (DKK million)

	2020	2019	2018
Revenue	6,179	5,897	5,617
EBITDA	1,178	1,125	1,036
EBIT before special items	853	806	780
Net profit	480	714	491
Tax	114	224	185

# Accounting policies & indicator definitions

## R&D spend

Accounting policy is described in the audited Annual Report 2020 of Haldor Topsoe A/S.

## New commercialized solutions

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

## New issued patents

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.

## Average number of employees

Reported as full-time equivalents (FTEs) based on a yearly average.

## Employee engagement score

Consolidated engagement score from our internal employee engagement survey, Topsoe Voices.

## Employee turnover

The percentage of employees who leave Topsoe voluntarily, due to dismissal or retirement or if their temporary contract ends in the course of one calendar year.

## Total Recordable Incident Frequency (TRIF)

Total recordable incident frequency 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 number of employees diagnosed with COVID-19. TRIF is replacing reporting on lost time accidents and lost time accident frequency per one million working hours which were used to measure safety during previous years' reporting.

## Diversity

Calculated as the percentage of headcounts based on a yearly average by the end of the calendar year. Management positions include all positions at or above team leader level.

## Energy consumption

Data is obtained from invoiced data from our utility providers and readings of meters at production plants.

## Water consumption

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 plants.

## Greenhouse gas emissions (direct and indirect)

CO<sub>2</sub>e is a metric used to compare greenhouse gas (GHG) emissions on the basis of their global warming potential. Total CO<sub>2</sub>e have been measured for scope 1 and 2 in accordance with the Greenhouse Gas Protocol using an operational control principle.

## Waste

Covers both hazardous and non-hazardous waste. Data is collected from the Annual Waste Tracking of invoices with attached waste manifests in the US and from invoices from third parties in Denmark.

## Spills

Includes spills that are considered major and require filing with environmental authorities.

## Environmental non-conformities

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

## Code of Conduct training - employee completion rate

Refers to the participation rate for employees who have completed Topsoe's Compliance & Sustainability e-learning by the end of the calendar year, as a percentage of all employees.

## Compliance Hotline - number of substantiated reports

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.

## Financial performance data

Accounting policies are described in the audited Annual Report 2020 of Haldor Topsoe A/S.

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