

◆ NOBIAN
**SUSTAINABILITY
REPORT 2021**

**GROW GREENER
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Dear Reader,

Welcome to the very first Nobian Annual Sustainability Report! It makes me incredibly proud to present it in our first year as a stand-alone company. By doing so, we are building on a strong history lasting more than 100 years, during which we have become an industry leader in salt, essential chemicals and

energy solutions. At Nobian, sustainability is at the heart of everything we do, and our commitment is as firm as ever.

It is our ambition to become one of the most sustainable chemical companies in Europe. In 2040 we will be climate neutral, with 100% renewable energy. To keep us accountable to this pledge, we have made these targets an integral part of our financing framework. To further realize our ambitions, we will keep investing in developing green products, strengthen our production of green hydrogen, work on underground energy storage solutions and honor our safety mission by ensuring everyone returns home safely, every day.

Creating positive impact through sustainability is of course not something we can do alone. That is why we passionately believe we can *grow* and become *greener* by working *together* with strong partners, such as knowledge-based institutions, tech startups and other innovative organizations. By combining our cutting-edge products and competencies with smart cooperation and innovation, we believe we can deliver the green solutions of tomorrow.

Testimony to this commitment, and a true milestone for our company, is the successful creation of 'The Hydrogen Chemistry Company' (HyCC), which we launched together with Macquarie's Green Investment Group. This new joint venture will deliver safe, reliable and affordable green hydrogen solutions to help decarbonize large industries.

Last year was a challenging one for our industry, with record high energy prices, unseen volatility and increased risks. I want to thank our employees for truly living our values – Care, Excellence, Ownership and Safety – and showing their engagement with sustainability, our communities, customers and our partners throughout this year. These challenges however, also provide us with opportunities. They emphasize the need to keep reducing emissions and to increase the use of renewable energy. At Nobian, we are committed to delivering on our ambition to be an industry leader in sustainability.



Enjoy reading this report!

Michael Koenig
Chief Executive Officer
Nobian

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Introduction

Chemistry you can count on

This is Nobian When it comes to producing salt, essential chemicals and energy, Nobian is a European market leader. We provide products and chemicals that are indispensable to modern society and everyday life. Salt and electrochemistry are connected to two thirds of all chemical production and our products serve a wide range of markets from construction, cleaning, aluminum, paper and insulation to pharmaceuticals, water treatment, plastics, paints and batteries.

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Our company

Nobian runs modern production sites in the Netherlands, Germany, and Denmark and has some 1,600 employees. Nobian is a leading supplier of industrial salt in Europe and we operate the two largest vacuum salt plants in the world. Our heritage in salt production dates back more than a century to 1918.

Our diverse workforce is dedicated to ensuring we produce today's essential products to improve our lives in the future. Our business enables added value through integrated chemical clusters in Rotterdam, Delfzijl, Frankfurt and Bitterfeld. What we do is essential to chemical companies in both the Netherlands and throughout Europe.

Sustainability

We know we can make a meaningful contribution when it comes to protecting our planet. We believe the future belongs to those who dare challenge the status quo and, as part of this, we have developed our Grow Greener Together program – a full Environmental, Social, and Governance (ESG) program with clear and ambitious targets.

We have a strong ambition to become one of the most sustainable chemical companies in Europe and to be climate neutral in 2040, with 100% renewable energy. Nobian will continue to help society Grow Greener Together, using our 100-plus years of experience to provide green energy solutions and produce materials that are essential for energy transition and sustainability.



We want to lead by example. The ambitions that drive us to deliver on our targets are deeply rooted in our company culture and values. We take care of each other while we build lasting connections with our partners, our customers and society.

Energy transition

We are uniquely positioned to play a key role in energy transition. We source, use, produce and store energy, and will continue to do so in the future. Our salt mining enables the safe and reliable underground storage of green energy; salt caverns are essential for storing hydrogen and to help create the necessary infrastructure for society's hydrogen ambitions.

Green hydrogen is a key ingredient in the decarbonization of key industries such as aviation, steel, chemicals, and refineries, as well as transportation. Nobian is currently the largest producer of green hydrogen from chlor-alkali electrolysis in the Netherlands. We are involved in the scaling of safe, reliable, and affordable green hydrogen solutions through our joint venture with Macquarie's Green Investment Group (GIG), the Hydrogen Chemistry Company (HyCC).

Our destination

This is our first sustainability report. It explains our ESG program and sets out our ambitions and performance to date, illustrated with concrete examples of what we've achieved, what we're doing and the plans we have. We are proud of what we've achieved, but we realize that we cannot rest on our laurels – we're committed to finding new ways to up our game. This is how we strive to 'Grow Greener Together' every day.

This is Nobian!



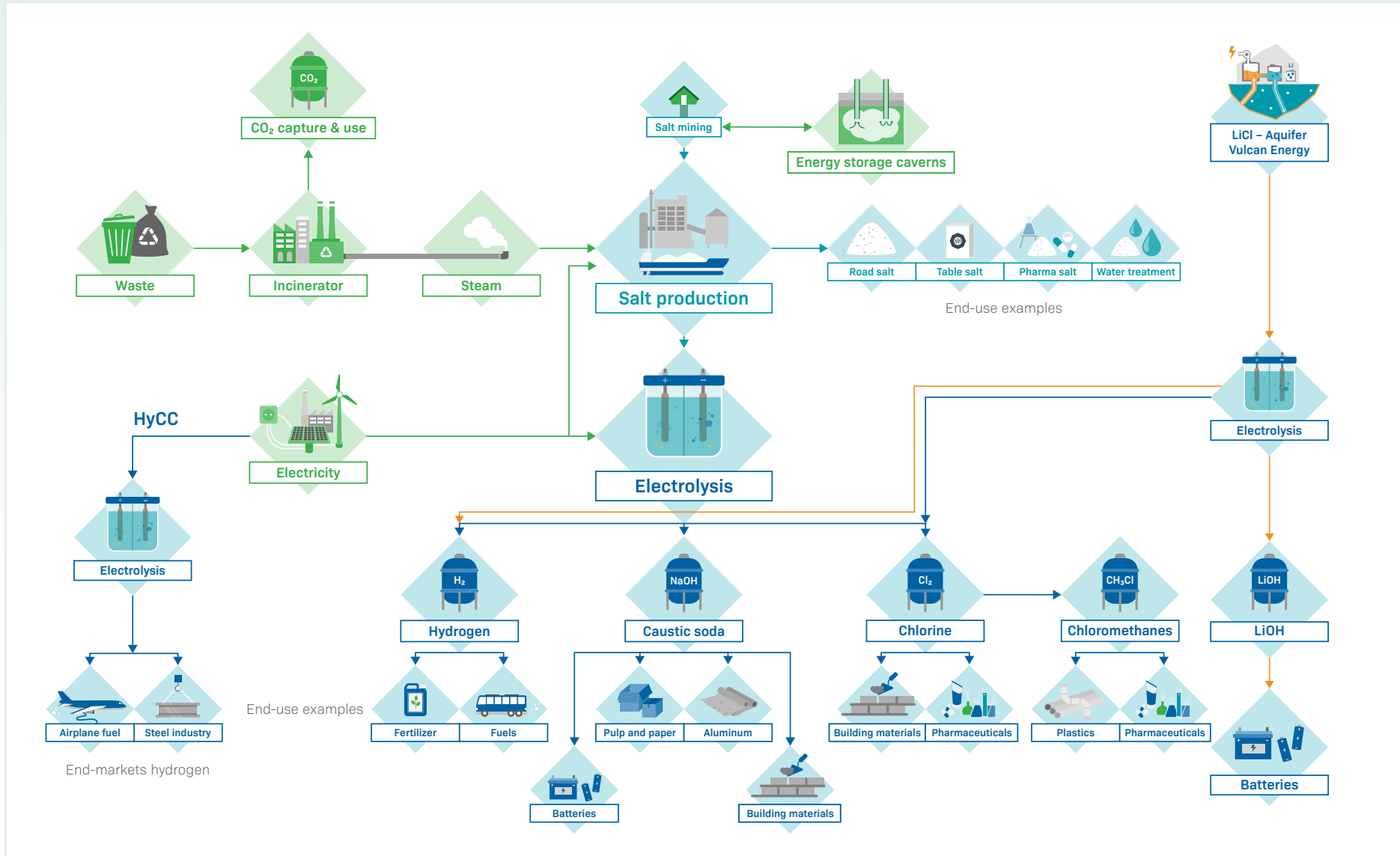


FIGURE 1.1: Nobian's products and value chain

Our approach to a sustainable future

Our ambition is to become *one of the most sustainable chemical companies in Europe*. We're determined to deliver on our climate targets ahead of the Paris Agreement goals. We want to help our customers reduce their carbon footprint with our green products, accelerate growth in new, impactful markets and engage meaningfully with our people and communities. To help us achieve all this we've developed a comprehensive sustainability program, *Grow Greener Together*, which was officially launched in March 2022.

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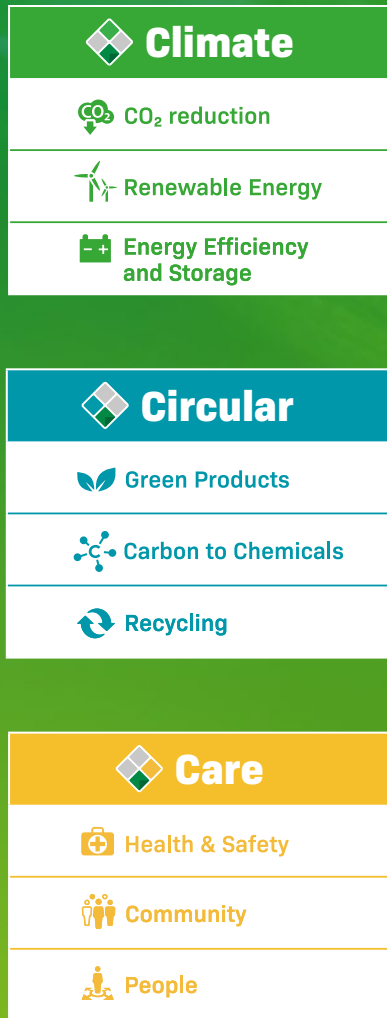


FIGURE 2.1: The three pillars of Grow Greener Together

2.1. Grow Greener Together

Our Grow Greener Together program is founded on three pillars and aligns with the UN Sustainable Development Goals where we feel we can make the biggest impact. Each pillar consists of three focus areas, each of which has tangible key performance indicators (KPIs) and targets. We've outlined all these in the following three chapters.

We want to be a leading partner in the transition to a sustainable economy and Grow Greener Together will be an integral part of making it happen. Together with our customers, industry partners and governmental and non-governmental organizations, we believe this change is entirely possible.

We have aligned our pillars with the UN Sustainable Development Goals based on where we can make the biggest impact. The selected goals where we can make the biggest impact can be found in the next section.

It's important to lead by example, so our ambitions and plans are and will be independently verified and we'll be transparent in reporting our progress. We're aiming high from the outset by joining three internationally recognized standards; in 2022, our sustainability management system and performance will be validated through our participation in Ecovadis¹, the Carbon Disclosure Program (CDP)² and Science Based Targets (SBTi)³. Our sustainability report and ESG data complies with the Sustainability Accounting Standards Board (SASB)⁴ and DNV⁵ is our auditor.



¹ <https://ecovadis.com/>

² <https://www.cdp.net/>

³ <https://sciencebasedtargets.org/>

⁴ <https://www.sasb.org/>

⁵ <https://www.dnv.com/assurance>

2.2. UN Sustainability Development Goals

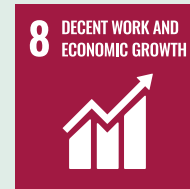
Through our values and plans, we believe our company can contribute to the prosperity and well-being of a more sustainable society. We support all UN Sustainable Development Goals (SDGs), with the following six being those where we feel we can contribute most.⁶



Human health and safety are at the heart of our operations and one of our top priorities. We strive for zero pollution to ensure our operations have the minimum impact on our workplace, the environment and our surroundings. We actively engage with the communities around our production facilities, sharing our knowledge and supporting social initiatives.



As an energy intensive company, we want to lead when it comes to energy transition in our industry. Our unique processes and know-how allow us to produce green hydrogen and enable renewable energy storage. We actively participate in the development of new wind parks, help to stabilize the power grid and reduce energy consumption. We're doing all we can to keep energy available and affordable.



We firmly believe business performance and sustainability go hand in hand. To this end, we invest in renewable energy and green products that can deliver sustainable growth. We also work hard to empower our employees and create a high-performing, diverse and inclusive workplace that reflects our values and the nature of our company.



Ensuring we reach our sustainability targets needs innovation and new ways of working. As well as collaborating with our partners throughout the value chain to develop and commercialize pioneering solutions, we're investing in state-of-the-art technologies for renewable energy storage, the battery industry and new chemistry to make the cement industry more sustainable.



As a chemical company, we contribute to a circular economy for our own production as well as downstream in the value chain. We invest in exploring ways to convert CO₂ to useful chemicals and work continuously to become more efficient by re-using waste and energy streams from both our own production processes and those of our customers.



Climate action is about more than reducing our CO₂ emissions. We're also committed to investing in circular chemistry to convert CO₂ into useful chemicals for our own production, as well as working with others to reduce their carbon footprint. We believe in leading by example and our actions clearly demonstrate our commitment to reducing greenhouse gases.

FIGURE 2.2: UN Sustainable Development Goals (SDGs) where we can make the biggest impact

⁶ Not part of DNV assurance.

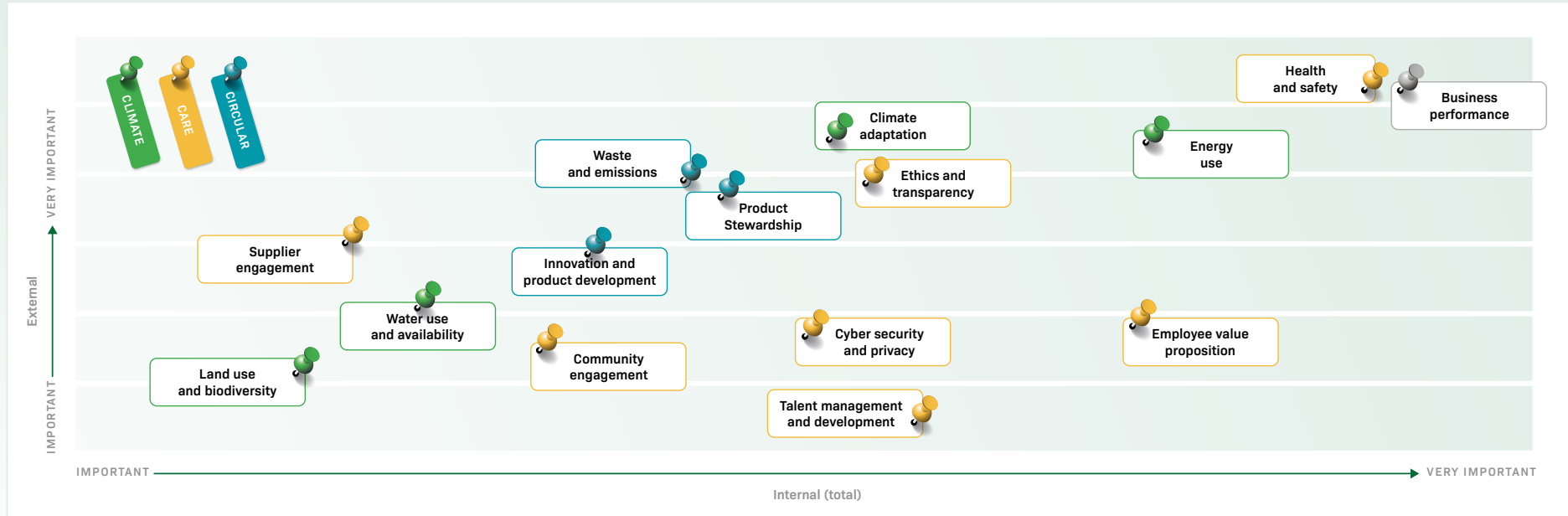


FIGURE 2.3: Materiality assessment

2.3. Stakeholder and materiality assessment

To identify the environmental, social and governance (ESG) issues that are most important to our stakeholders, we carried out a materiality assessment in the second half of 2021.⁷ This involved an online survey with selected customers, members of senior management

and young, up-and-coming talent from across the business. A number of in-depth follow-up interviews were held with some respondents so we could gain an even deeper understanding of the topic they felt were most important.

The list of topics that featured in the survey was compiled through research into sector issues, media reporting, non-governmental organization

(NGO) reports, and international corporate social responsibility (CSR) frameworks and standards. The results, which you can see in figure 2.3, helped us define the pillars and focus areas of our sustainability approach, including KPIs and target setting, partnerships and engagement programs. In some cases the leadership team has decided to give higher priority to specific topics, such as community engagement.

⁷ Materiality assessment not part of assurance by DNV.

Climate Change and our Environmental Footprint

As an energy-intensive company we have a natural focus on reducing our CO₂ emissions, increasing our renewable energy share and becoming more energy-efficient. We have been doing this for years; we've cut our emissions by 40% since 1990 and increased our renewable energy share by 35% over the same period. But it's not enough – so we've set ourselves even more ambitious targets. By 2040, we want to be carbon neutral – ahead of the Paris Agreement goals.

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◆ Climate

CO₂ reduction

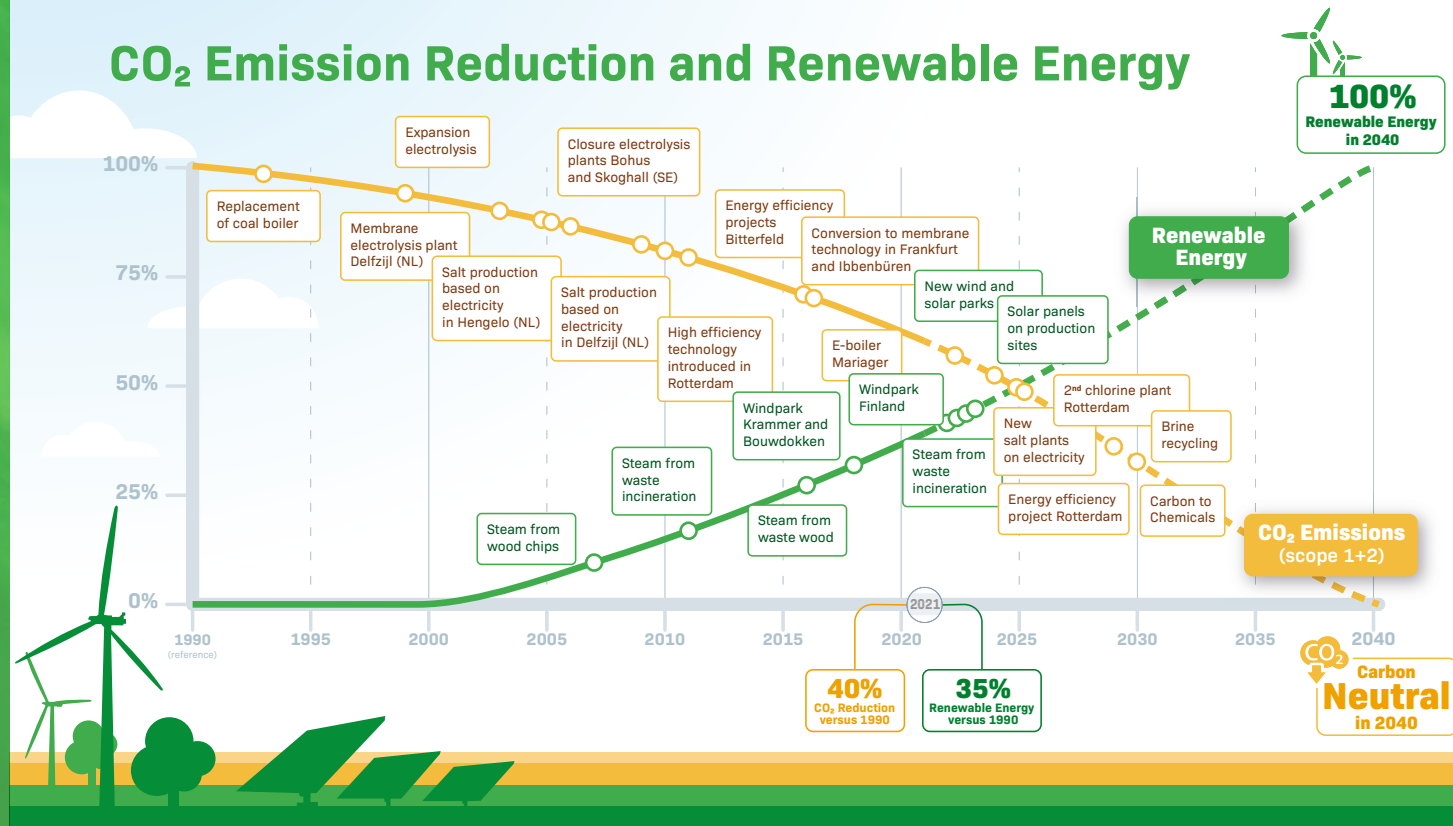
- 25% reduction of carbon emissions between 2020 and 2025
- 50% reduction in carbon emissions by 2030 (70% compared to 1990)
- Carbon neutral by 2040

Renewable Energy

- 50% share of renewable energy by 2025
- 66% share of renewable energy by 2030
- 100% renewable energy by 2040

Energy Efficiency and Storage

- Execute a strong energy efficiency program
- Develop salt caverns for renewable energy storage. First one ready for use by 2026
- Have 25% of electricity based production capacity available for grid stabilization by 2023



The very nature of what we do means we play a vital role in the energy transition process. You can see what we've done so far, along with our plans for the future, in the infographic. We can help stabilize the power grid by increasing or reducing our electricity

consumption, according to the availability of renewable energy. We're also involved in several innovative projects for large-scale renewable energy storage. Figure 3.1 shows the most important KPIs for our Climate pillar.

FIGURE 3.1: Climate KPIs and targets



3.1. Reduction of greenhouse gas emissions

The carbon emissions produced by companies, both in their own operations and the wider value chain, are categorized into 'scopes'. Our main source of Scope 1 emissions – greenhouse gases (GHGs) we produce ourselves – is fuel combustion that generates steam and power in our boilers and combined heat and power (CHP) plants.

Our Scope 1 emissions increased in 2021, mostly due to restarting the Delesto 2 power plant in Delfzijl, the Netherlands, in 2020. The plant is an efficient gas-fueled 350 MW combined cycle gas turbine (CCGT) plant. It produces electricity with a lower carbon footprint compared to the Dutch grid and helps to balance the grid in a volatile energy market.

The Nobian CO₂ footprint for power generation is lower than the average public grid value due to the use of highly efficient gas-based CHP installations at our Delfzijl and Hengelo sites in the Netherlands and Mariager in Denmark. The CO₂ footprint for the steam we generate ourselves is also relatively lower due to the use of steam generated from waste wood in Mariager and our highly efficient combined heat and power plants.

Case study: Renewable steam

Our steam-driven salt plants use multi-effect evaporation technology, which means incoming heat cascades down and is reused four to five times. We've diversified when it comes to our sources of steam to further reduce the carbon footprint of our products. At our salt plant in Mariager, a significant amount of steam is generated by a wood chip boiler, fired with local forestry residues. In Hengelo and Delfzijl, a significant part of the steam is supplied by nearby biomass and waste incineration plants. By collaborating with neighboring sustainable, low-carbon plants, we can jointly reduce our CO₂ footprints.

We have undertaken several projects aimed at reducing our Scope 1 heat generation footprint, such as significantly increasing our heat intake from waste incineration and biomass combustion in both Delfzijl and Hengelo.

Case studies:

E-Flex

Growing volumes of wind and solar energy mean electricity supplies fluctuate, but the power grid should be balanced 24/7. We've partnered with Vattenfall, a leading European energy company, to enable adjustment of chlorine production at our Rotterdam plant depending on how much renewable power is available. This is a fully automated process carried out in real time, and it allows us to add 40MW of controllable production to the power grid.

The plans from countries to increase the power supply from wind and solar installations over the next few years means an ever-greater need for flexible power production. At the same time, fossil fuel power plants will be phased out.

Mariager's electric steam boiler

In 2021 we decided to install a new electric boiler at our Mariager site in Denmark. As well as increasing the plant's steam generation assets, this allows us to further diversify our steam portfolio and reduce its carbon footprint. The new boiler will run on excess wind power and means we can contribute to the stability of the local grid. The installation of the boiler is scheduled for 2022.

3.2. Renewable energy

Some of the steam and electricity needed for our products is generated on site through our CHPs. However, we also buy significant amounts of energy. To reduce the carbon footprint of our external energy purchases, we've initiated and developed power purchase agreements (PPAs) in consortia for specific wind parks in the Netherlands and Finland. The objective is to secure more in the near future to achieve our target of 50% renewable energy by 2025.

In 2021, we partnered with several energy companies to purchase local guarantees of origin from specific biomass projects, enabling our partners to run their renewable power plants in a profitable way and to keep flexible capacity on the grid.

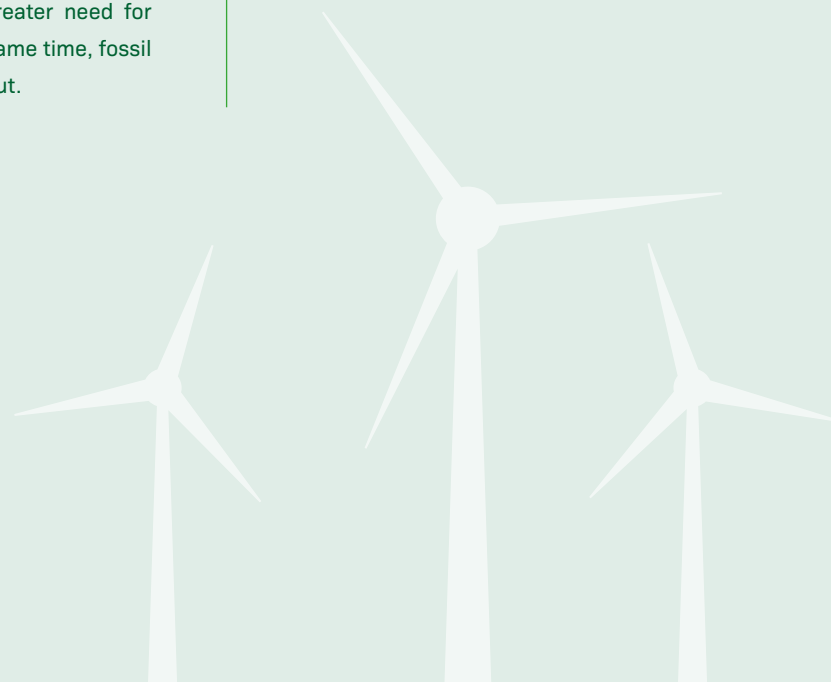




PHOTO: Windpark Krammer

3.3. Energy efficiency and storage

Energy efficiency

We strive for maximum energy efficiency at all our production sites. Our processes are energy-intensive, so we use state of the art manufacturing technologies to optimize the use of energy. We're continually updating our energy efficiency program with new ideas and developments. Examples from 2021 include an extra preheater in Hengelo, a more energy-efficient method of soda dosing in Delfzijl and using state-of-the-art technologies for chloromethane production in Frankfurt.

Renewable energy storage in salt caverns

Renewable energy production like wind and solar requires large-scale storage solutions. At moments when there is a surplus of wind and solar energy, the challenge is to store it so it can be used to balance actual supply and consumption at those times when the sun doesn't shine and the wind doesn't blow. This ensures a stable supply every hour, every day of every year.

Renewable energy can be converted into different carriers like green hydrogen and compressed air, which can both be stored; underground salt caverns are considered the most promising solution, both technically and economically⁹.

⁹ Large-scale compressed hydrogen storage as part of renewable electricity storage systems, International Journal of Hydrogen Energy 46 (2021).



PHOTO: Brine purification

Case studies:

Solid soda dosing at the Delfzijl salt plant

One way we've improved energy efficiency at our Delfzijl salt plant is through an innovative solution whereby solid - rather than dissolved - soda ash is added to the brine during purification.

This removes unwanted elements before the water is evaporated to produce salt. By adding the soda as a dry product, less water is needed in the process. This means less evaporation, resulting in significant energy saving. This new process, developed by the Nobian technology team, was made possible by a multimillion-euro investment.

New heat exchangers in the Hengelo salt plant

Operations at our salt production site Hengelo salt site are based on multi-effect evaporation technology. Heat is re-used up to five times in order to minimize heat consumption. This means effective heat integration is key, so the plant is equipped with many heat exchangers.

As part of our ongoing process analysis, we realized we could significantly improve energy efficiency at Hengelo by adding two new heat exchangers. These are large devices, more than ten meters long and made from materials specifically able to withstand the aggressive environment of a salt plant. COVID-19 made the manufacture and installation of these heat exchangers even more challenging, but now they're in place.

Compressed air energy storage (CAES) technology is already being used successfully in Germany and the United States and allows stored compressed air to be converted back into electricity when energy supply is low.

Hydrogen is increasingly important in the energy market, playing a key role in the decarbonization of our industry and the drive to achieve net-zero targets by 2050. Green hydrogen is made through electrolysis of water using renewable electricity. It can be used for mobility, energy, or as a raw material for new forms of green chemistry.

Our vast knowledge and experience of salt mining, coupled with our salt concession rights and salt manufacturing assets in the Netherlands and Denmark, means we're very well positioned to develop salt caverns for energy storage.

In Zuidwending, we've already developed a number of caverns for natural gas storage on behalf of energy network operator Gasunie. We're planning to do the same with renewable energy, developing suitable caverns for hydrogen storage to act as a buffer for demand in the Netherlands and Europe.

In addition, we're working with Corre Energy to develop caverns for CAES. Once ready, Corre Energy will operate the caverns and supply renewable energy to the market.

Case study:

Underground hydrogen storage

We're developing salt caverns specifically designed to store renewable energy such as compressed air or green hydrogen. Together with energy network operator Gasunie, we're planning four salt caverns at Zuidwending, in the province of Groningen in The Netherlands. They'll be used to store green hydrogen and will act as a buffer supply for Gasunie's planned national hydrogen pipeline network.

The hydrogen will be produced using electricity from wind parks on the Dutch coast, then transported to Zuidwending for storage via pipelines. The caverns will act as a 'lung' and enable the entire energy system in both the Netherlands and Europe to achieve their ambitious sustainability targets.

They'll be developed in the same way as for our regular solution salt mining – they'll just be smaller. Around the same size as the Eiffel Tower in Paris, the caverns will start at a depth of around 1000m and descend for a further 300m. The brine generated during development will be transported to our salt plant in Delfzijl, where we produce high-



@ Gasunie

purity salt for the chemical industry. This gives the project a dual purpose – both salt production and renewable energy storage.

The hydrogen storage caverns are expected to become operational between 2026 and 2030. Our role is to develop them safely, facilitating the transition to renewable energy, and ensuring Gasunie has the storage capacity they need.

Circular Economy and Green Products

Our products position us right at the start of the chemical value chain. Our portfolio starts with high-purity vacuum salt and, from there, we produce chlorine, caustic soda and hydrogen, as well as other derivatives such as chloromethanes, hydrochloric acid and ferric chloride. Key areas where they are then used include the production of aluminum, pulp and paper, polyvinyl chloride, polyurethanes, epoxy resins and steel.

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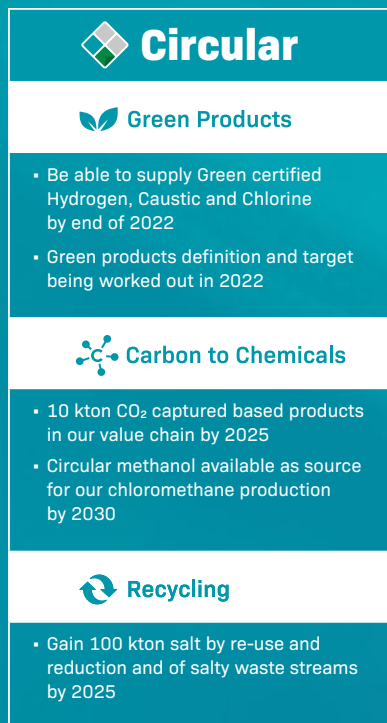


FIGURE 4.1: Circular KPIs and targets

Salt, chlorine, caustic soda and hydrogen production is energy intensive by nature. With our Grow Greener Together program we can provide significant impact in reducing the carbon footprint of our customers. Next to this many of our plants are located in clusters with our customers, enabling us to recycle waste streams and enhance circular processes.

4.1. Green products

An essential part of our approach to sustainability is our ambition to continually expand the number of green products in our portfolio. It's important to us that what we produce has the lowest possible impact on the environment and supports sustainable value chains. To this end, we're currently formulating a comprehensive definition of what makes our products green, using the harmonized Chemical Industry Methodology for Portfolio Sustainability Assessments (PSA), created by the World Business Council for Sustainable Development. Once we have formulated the definition of green products, we will start measuring the revenue from these products and report on it in our next year's sustainability report.

An integral part of our move towards greener products is the supply of certified green hydrogen, caustic soda and chlorine made by using only

renewable energy. Our aim is for all our hydrogen-producing sites to be certified under the CertifHy program⁹. Our Delfzijl, Rotterdam and Bitterfeld plants are already certified as green hydrogen suppliers, and we are in the process of obtaining chlorine and caustic soda certification for production sites in Rotterdam, Frankfurt and Delfzijl under the ISCC+¹⁰ scheme.

In addition, we're supporting the development of new value chains that drive sustainable use and reduce the global carbon footprint. Examples include the application of our caustic in battery production and working to reduce the carbon footprint of cement. We're also investigating how we can expand our electrolysis expertise through initiatives such as our recent collaboration with Vulcan Energy, to use the process to produce lithium hydroxide.

4.2. Carbon to chemicals

We use raw materials to produce our products. In our chloromethanes production, the main carbon-containing ingredient is methanol – which is why we're actively seeking sustainable sources with a low carbon footprint.

⁹ <https://www.certifyhy.eu/references/>

¹⁰ <https://www.iscc-system.org/certificates/valid-certificates/>

Case study:

Vulcan Energy lithium hydroxide

We connected with Vulcan Energy in 2021 as we were seeking collaboration opportunities in the fast-growing battery market. We now have an agreement to assess the feasibility of producing a key ingredient, lithium hydroxide, from lithium chloride in Germany. This partnership, the first of its kind for us, will see us facilitating an electrolysis and crystallization demo-plant at our site in Frankfurt, close to Vulcan Energy's geothermal-lithium reservoirs. It's due to become operational in Q4 2022 and will be run jointly by us and Vulcan Energy. We'll also be discussing chlorine and hydrogen offtakes, byproducts of the electrolysis process, and jointly assessing the feasibility of a commercial lithium plant.



We're also looking at ways to produce low carbon methanol from CO₂ and hydrogen, for instance from waste incineration and steel plants. To that extent, we're active participants in consortia that develop processes for generating low carbon methanol, such as the Carbon2Chem consortium in Germany (ThyssenKrupp, Clariant, Universities) and the CarbonCycleMeOH consortium in Bitterfeld. We're also working with Photanol, a circular carbon chemicals production platform company which is developing a photosynthesis technology that takes in CO₂ and converts it to chemicals using cyanobacteria and light.

4.3. Recycling

To 'close the loop' and create a circular value chain, it's important to recycle our products. That's why we're developing technology that not only enables us to recycle our own salty waste streams but also supports our customers to make their processes circular in turn.

The chlorine we provide to our customers is often re-released to become hydrochloric acid or, when neutralized with caustic, sodium chloride. Rather than disposing the sodium chloride, we're investigating how it can be recycled into our

Case study:

Germany's first green hydrogen supplier

As of July 2021, our chlor-alkali plant at the Bitterfeld-Wolfen Chemical Park became the first in Germany to successfully supply certified green hydrogen to a leading international customer. As well as reducing our customers' carbon footprint, this means we're increasing sustainability throughout the value chain.

Chlorine, caustic soda and hydrogen are produced simultaneously in chlor-alkali membrane electrolysis. Producing green hydrogen with renewable energy results in a carbon footprint that's 90% lower compared to conventional production through fossil fuels.

Leading certification schemes state green hydrogen must be produced solely by using renewable energy and there are strict conditions for calculating its carbon footprint. Our green hydrogen complies with the leading TÜV Süd CMS 70 Standard. The Bitterfeld site can produce up to 2,700 tons of green hydrogen annually and, going forward,



we're aiming to use 100% of the hydrogen that results from chlor-alkali production in our efforts to prevent emissions and add value.

Our two production sites in the Netherlands are already certified and producing green hydrogen. The remaining two chlor-alkali sites in Germany will follow soon.

electrolysis operations. It's easier said than done – the salt needs to be of exceptional purity. We're now looking at how we can purify salty waste streams and determining the level at which they're acceptable in our operations. One example of this is our involvement in the EU-funded Water Mining project, in which we are a consortium partner.

4.4. Product stewardship

We recognize we have a role to play in the drive towards a greener, more sustainable society. This goes beyond simply manufacturing greener products. We support the aims of the European Green Deal and the EU Chemical Strategy for Sustainability¹¹, as well as the further development of chemicals management legislation around the world.

Along with our joint ventures, CF Carbons and Neolyse, we have adopted an approach of product stewardship at both company and site level. By considering product safety and sustainability throughout the value chain, we're not only supporting regulatory compliance, but we're also helping to develop safer, more sustainable solutions for our customers and for society.

Risk assessment for safe use

We handle approximately 1600 different chemical products at our production sites, including raw materials.

Of these, 22 products are sold in various grades and used throughout the world, all of which have undergone a thorough hazard and risk assessment in line with current REACH¹² standards and, where applicable, EU Biocides law¹³. The risk assessments analyze any exposure to workers, consumers and the environment. Any measures needed are communicated through safety data sheets and packaging labels according to legal requirements. In addition, we have customer brochures which include our products' technical properties and best practice guidelines for safe handling, as well as information about regulatory compliance and associated certificates.

All products are carefully managed to ensure they are used safely at our sites and by our customers, conforming to applicable regional, national and international regulations and safety recommendations of our industry associations. This covers areas such as safe transport as well as controlled waste disposal and recycling.



¹¹ For more information: https://ec.europa.eu/environment/strategy/chemicals-strategy_en
¹² For more information: <https://www.echa.europa.eu/web/guest/regulations/reach/understanding-reach>
¹³ Regulation (EC) No 528/2012 concerning the placing on the market and use of biocidal products (BPR). See here for more information: <https://echa.europa.eu/regulations/biocidal-products-regulation/understanding-bpr>



Our comprehensive management system is ISO 9001, 14001, 45001 certified. It is designed to protect the environment and the health and safety of employees, contractors and residents from any adverse impact of chemicals and emissions, as well as other hazards arising from the operation of chemical production plants and associated logistics. This is in accordance with the European Chemical Industry Council's (Cefic) *Responsible Care*[®] program. Internal and external site audits are performed regularly to assess safety levels, systems and processes, and to highlight any necessary improvements.

Supply Chain Safety

Before we supply an industrial customer for the first time, we carry out a first-delivery check to ensure products can be safely received and refilled. We also offer safety training for their personnel.

We are committed to monitoring and investigating incidents at our own sites, reporting to our industry associations, and improving safety along the supply chain in accordance with Cefic's SQAS program¹⁴.

To ensure professional incident management and clean-up along the supply chain, we've also put an emergency response system in place that comprises incident support on a global scale at levels 1, 2 and 3.

In 2021, there were three road distribution incidents by third parties where a limited amount of our products was released. However, we're delighted to report there were no consequences for either any people or the environment.

¹⁴ <https://www.sqas.org/>

Care for people and communities

We're committed to caring for both people and the environment. We demonstrate this by being sensitive partners to our communities, our customers and our stakeholders. We're inclusive and respectful at all times, championing and supporting our very diverse teams.

We go the extra mile to engage and empower the people at the heart of our company and we strive to ensure everyone returns home safely every day.

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FIGURE 5.1: Care KPIs and targets

We work continuously to provide a safe and healthy working environment, with zero accidents, for our employees, contractors and neighbors. We value the strong relationships we have with our local communities and our production sites proactively engage with municipalities, residents, authorities and local interest groups to stimulate open dialogue and inform them about our activities and operations. We believe it's not just the destination that matters, but also how we get there.

5.1. Health and safety

Safety is one of our core values. We strive to deliver leading performance when it comes to health, safety, environment and security (HSE&S). We work continuously to improve across these areas for the benefit of our employees, contractors, customers, neighbors and the planet, and our goal is to achieve zero injuries, waste and harm. We're proud to be a top-quartile performer in people and process safety, and we've significantly reduced the number of people and process safety incidents.

We understand the key to improving safety performance lies in establishing robust processes that are reviewed regularly to find areas for improvement. We need to ensure our employees have the knowledge and skills to apply them

◆ NOBIAN

Life-Saving Rules

Golden Principle: Stop work if conditions or behaviors are unsafe

- PERMIT:** Work with a valid work permit when required
- LOCKOUT/TAGOUT:** Check equipment is isolated before work begins
- FALL PROTECTION:** Use fall protection when working at height
- AUTHORIZATION:** Obtain authorization before disabling safety equipment
- CONFINED SPACE:** Obtain a permit for entry into a confined space
- SEATBELT:** Wear a seatbelt in motor vehicles when provided
- GUARDING:** Make sure moving machinery is guarded
- NO ALCOHOL/DRUGS:** Do not use alcohol or drugs at work

consistently across all our sites. We've introduced our Life-Saving Rules to prevent serious injury to employees, contractors and visitors and specialized tools to support our processes and track our performance.

Case study:

Robotic inspections

Carrying out inspections in confined spaces and working at height are among the riskiest of our daily activities. We're looking into the potential of using remotely operated or autonomous robots to perform some of these tasks, reducing the risk to our people and improving the quality of the collected data. As well as inspections of assets like tanks and pipelines, this technology could be used for daily operator checks.



In recent years we've seen that robots have the same visual capabilities as humans – in some cases, they're even better. As well as safer, higher quality inspections, using robots could even reduce costs associated with the need for scaffolding and, in some cases, downtime.

We're actively involved in testing robots and establishing their aptitude at carrying out non-destructive tests such as ultrasound and laser scanning.

Finally, thanks to increased data collection capabilities and enhanced artificial intelligence (AI) technologies, we're defining better, more coherent ways of storing information and developing new algorithms to support inspectors in their decision-making.

Safety management systems

Our HSE management system conforms to global standards such as ISO 14001 and ISO 45001 and aims to protect the health and safety of all employees and contractors and comprises water, soil and environmental management.

People safety

Our ambition is to have zero injuries. We believe every employee and contractor should leave work safe and well every single day. Our established trend of reducing the number of incidents year-on-year continued in 2021; there were no fatal incidents involving our employees or contractors, no lost-time injuries among our employees, and just two lost-time injuries involving our contractors.

We continued with stringent measures to protect our employees and contractors against COVID-19 and minimize the impact on our operations. These included various regional and site-specific actions according to local regulations and needs, such as rotating shift schedules, strict social distancing protocols, and using additional protective equipment in busy areas such as central control rooms.

As well as continually working to improve our health and safety performance we're investigating the potential of state-of-the-art technologies such as robotic inspections to reduce the need for people to work in hazardous environments.

Our safety and health performance is monitored through key performance indicators (KPIs) and third-party verification of compliance with relevant safety standards. Total Incident Rate (TIR) and Lost Time Injury Rate (LTIR) for employees, temporary workers, and contractors are the main lagging KPIs for people safety. The data for these three groups of people is combined and can be found in the ESG data sheet further on in this report.

Safety Day

This annual event is a company-wide tradition that aims to increase safety awareness and engagement, enable people to share expertise, and promote hazard recognition. It's also an opportunity to celebrate our achievements and reaffirm our promise to do whatever it takes to ensure everyone goes home safely, every single day.

Our sites and offices plan exciting programs to engage all colleagues, and our management team also actively participates.

Worker health

We've implemented site-specific health management systems to reduce the risk of occupational health hazards to everyone working at our locations. The risks vary according to the

type of work, but hazards are typically categorized as being physical, chemical or substance, biological, ergonomic or organizational.

Each of our manufacturing sites undergoes a Nobian Health Risk Assessment that meets local regulatory standards. Based on the outcome, improvement plans are in place to address any health concerns and implement additional exposure control measures where necessary. This might include: phasing out certain substances or substituting them with alternatives; implementing technology to control worker exposure; risk assessments as part of long-term health studies; the use of personal protective equipment; evaluation of alternative materials or processes.

We scrutinize the effectiveness of implemented exposure control measures at site level through industrial hygiene monitoring programs. Sampling and testing strategies are determined by qualified professionals, with third-party experts brought in when necessary.

In addition, a Behavior-Based Safety (BBS) program is used at all our manufacturing sites to identify unsafe behaviors and inspire our employees and contractors to make changes that reduce potential workplace hazards.





PHOTO: Ibbenburen plant

We're also focused on our employees' personal health and well-being. As well as making sure we provide safe, comfortable working conditions, our sites are encouraged to support health and wellness activities, such as initiatives that promote the benefits of exercise or raise awareness of unhealthy lifestyle choices. All employees have access to on-site medical services, and we have procedures in place for medical emergencies, laid out in our Emergency and Community Awareness policy.

Process safety

All our operations follow an established process safety management (PSM) framework that adheres to industry standards and best practices. The primary goal of PSM is to prevent process safety events (PSEs) which could result in injury, environmental impact or asset damage, or have a negative impact on our neighbors and communities. It also underpins our aim of reaching zero injuries, waste and harm, and supports us in ensuring a reliable supply of products to our customers.

We've set a five-year target for strengthening PSM at our manufacturing sites. This will result in highly focused, activity-based work processes being embedded throughout our businesses. By enabling



our people to develop their knowledge and expertise, we'll be able to further drive process safety performance.

In 2021, we continued to raise awareness and improve reporting of process safety indicators. As our performance has improved, we've been able to shift our focus to leading indicators. All incidents, near misses and hazards are reviewed daily.

5.2. Engaging with our communities

As a leading salt, essential chemicals and energy company, we operate in the Netherlands, Germany and Denmark. Our presence contributes to economic and social well-being as we're a major employer and purchaser of raw materials, energy, supplies and services. Our essential chemicals are crucial to the production of everyday items that are all around us – at home, at work, and as part of our professional and personal lives.

Our approach to community engagement starts with building strong relationships with neighboring stakeholders and engaging them in our HSE rules on emergency response and community awareness. All sites have annually updated plans to ensure they inform and involve their neighbors and the communities in which they operate.

Salt mining in the Netherlands and Denmark largely takes place outside the perimeter of the production sites. We maintain a continuous dialogue with the communities around these locations, proactively engaging with municipalities, residents and local interest groups to stimulate open discussion about our activities. We value direct contact, such as through community meetings, transparent information sharing and “kitchen table” conversations.

We take great care when it comes to making our mining operations more sustainable. It's a process that is never finished, as new insights are frequently applied and discussed with the relevant stakeholders. We operate an active planning and monitoring program throughout the lifecycles of wells and salt caverns that includes continuous measuring and an extensive micro-seismic network. Developments are regularly discussed with municipalities, regional and local authorities, stakeholders and supervisors in regional steering groups.

It's important to us that we are part of the communities in which we operate, and we value strong relationships with our neighbors. We're committed to contributing to local economic and social well-being and, in 2022, we intend to identify how we can further engage and invest in local initiatives. Examples might include direct contributions or shared projects.

Case study:

Design plans for new Hengelo drill house

We are in the process of developing a new brine field in an industrial area north of Haaksbergen, the Netherlands, so we can maintain the brine supply to our salt evaporation plant in Hengelo. As well as a pump house and underwater pipelines, we'll need to install 12 well pads over the coming years. Each of these will measure 60m by 80m and include essential technical structures. This means it will affect the view from nearby homes and gardens.

To minimize the impact as far as possible, we asked residents to join discussions about the design and requirements for the first seven well pads. Some 15 to 20 people, all living within a 150-meter radius of the pads, were involved. We talked about what was needed, how we could

best integrate the well pads into the landscape, and how we could improve their experience and interaction with the well pads. Examples of design options are lights that are only used when there is activity on the site, and which are set low and directed away from homes. Strategic planting will make the well pads less obvious against the landscape and the rainwater they collect will be gradually re-infiltrated, preventing desiccation.

As there was considerable opposition to the initial design of the drill house, our architect developed three alternatives based on residents' views. They were then asked to choose their favored option – the unanimous choice, which has become part of the final design, was the one featuring a green roof.





5.3. People

Our people

In a world that's increasingly complex and fast-moving, we know that engaged, empowered and happy employees are the key to growing a competitive, innovative, safe and successful organization. We're committed to building an equal, diverse and inclusive workforce where people are safe and feel valued for their contribution and who they are. To achieve this, we strive for an open culture and understand the important of investing in the development and training of our employees.

Our aim is to achieve sustainable business growth and have a positive impact on people's everyday lives through our actions as well as our essential solutions. To achieve this, we support, develop, listen to and empower our employees and local communities. We engage and collaborate with customers, partner companies, universities, industry peers and governments. These relationships help us drive growth and, at the same time, become a safer, more sustainable and more innovative company.

In 2021 we created a new set of values and behaviors, laid out on page 36 of this report. Of these, 'care' and 'safety' focus explicitly on our

employees' well-being and ensuring we're a caring partner to our customers, stakeholders and the communities in which we operate. Our core values are the backbone of the performance-driven culture we're creating, forming a strong framework that empowers our employees and enables us to successfully deliver on our company's purpose and strategy.

Diversity, inclusion and equality

Nobian is committed to equal employment opportunities and to avoiding discrimination in the workplace or against job applicants, customers or business partners. Inclusion and Diversity (I&D) are fundamental to how we do business. We want to attract and develop diverse talent and see individual differences as an opportunity for innovation and growth. We cultivate an environment where behaviors and social norms are welcoming and respectful, and employees are provided equitable access to resources and opportunities.

As a next step in our development we are also setting-up a number of employee networks to ensure we're in touch with their needs. Our talent network, for example, is focused on our younger employees. We're eager to learn from them

and seek their views across a range of areas, as well as helping them develop both professionally and personally so we can retain them as fulfilled, valuable members of our organization. We're also introducing a Diversity of Thoughts network, which brings together people from across our company to identify and carry out initiatives that bring our D&I policy to life.

Improving and supporting diversity in our workforce is an ongoing process, and we are still a relatively new company. A recent analysis showed our Executive Core Team is split equally, with 50% male and 50% female representatives. There is also a 50:50 split between Dutch and German members. In total, 12% of senior roles are filled by women.

We'll continue to assess the diversity of our workforce and will also review all aspects of our employees' lifecycle. This will help us ensure our hiring, engagement, reward and promotion processes support their needs. Diversity awareness will continue to play an important role as we recruit senior personnel and directors; we'll actively monitor our progress and challenge ourselves to make improvements. One of our key aims is to carry out an employee engagement survey in the second half of 2022. If we are to live up to our promise to

increase employee motivation and engagement, and to ensure our focus is on the right challenges and subjects, we recognize the importance of gaining insight from our own people.

5.4. Sustainable sourcing

Ensuring sustainability is not only the right thing to do, it's also an opportunity to deliver value for our customers and society by providing new solutions with smaller footprints or additional benefits. We believe that striving for a sustainable future means being a safe and reliable partner for customers, employees, business partners, and communities, and we ask all our suppliers to work with us on this.

We will only do business with suppliers who share and support our standards. All our business partners, including suppliers and customers, must comply with our Code of Business Conduct & Ethics. This requirement is included in all new contracts and in all purchase order terms and conditions. More information on the Code of Business Conduct & Ethics can be found in section 5.5.



Sustainability assessment through Ecovadis

In 2021 we assessed the top 65% of our suppliers in terms of spend on energy, raw materials, logistics and indirect spend using the EcoVadis CSR platform¹⁵. We measure and track their sustainability performance based on their policies, actions, and results. The EcoVadis assessment covers topics related to the environment, ethics, labor practices and human rights, as well as sustainable procurement.

5.5. Sustainability memberships and compliance

Policy engagement and memberships

We engage with legislative and regulatory bodies, industry and trade associations, and non-governmental organizations in the Netherlands, Germany and Denmark and participate regularly in policy discussions about sustainability within our industry. We bring our expertise and solutions to the table on topics such as energy, carbon reduction, water, waste, product and process safety, and circular chemistry. This involvement helps further our sustainability objectives and ensures public policy decisions are grounded in sound data and science.

¹⁵ For more information: <https://ecovadis.com/>

Sustainability memberships

The best way of becoming a force for good and creating a positive impact through sustainability is by working together. That's why we strongly believe in collaborations and partnerships with other expert institutions and organizations. To this end, Nobian is a member of:



Our engagements involve a diverse set of stakeholders focused on chemical-related and climate mitigation and adaptation issues, such as product design for energy efficiency, material safety, energy management in business and manufacturing operations and industry collaboration.

Managing engagement on public affairs

All direct and indirect engagement with policy makers and related organization follows a formal process managed through our Communication and Public affairs team. This covers the scope and business impact of specific policy issues and is integrated into annual business review meetings and our risk management assessment process. This ensures any activities that influence public policy are consistent with our business strategy.

In line with the Nobian Business Code of Conduct & Ethics and our company policies, we do not provide financial contributions or endorsements to political parties or politicians.

Advocacy actions related to sustainability

We seek to engage constructively with governments, regulators and legislators on proposed policies that are relevant to our business. This can cover a wide range of areas, from tax and employment issues to safety and chemical management. We seek to support policies that are sufficient, clear, stable,

predictable, comprehensive, economically efficient and well designed, that deliver society's goals at the least cost. We also support policies that align with our position in areas such as our sustainability ambitions.

We have actively engaged with industry and trade associations to take a constructive and proactive approach to the EU Green Deal and the EU Chemicals Strategy for Sustainability. We not only focus on the risks and challenges these new proposals have for our industry, we also concentrate on opportunities via new business models and innovation and actively drive a value chain approach. Through our connections with several associations in the EU and the Netherlands, we've also actively engaged with policy makers on creating the right conditions and policy approach for green hydrogen, for example when it comes to implementing legislation for the EU Renewable Energy Directive (RED II) and the EU Energy Efficiency Directive (EED).

Code of Business Conduct & Ethics

Nobian's Code of Business Conduct & Ethics requires employees to always act ethically and comply with anti-bribery/anti-corruption laws, antitrust/competition laws, data protection laws, and economic sanctions laws. This Code applies to all employees and, as part of our commitment to a sustainable future, everyone must complete

at least one compliance training on ethical business conduct each year.

Our compliance program helps our employees understand and abide by our high standards of ethical business conduct, comply with our legal and regulatory requirements, and embodies our values. The program consists of training, policies and procedures, external party due diligence and monitoring, and investigating and remediating concerns of unethical, illegal or inappropriate conduct.

This commitment to compliance and ethics is supported at the highest levels of our business, with the Board of Directors and audit committee receiving regular updates from our General Counsel.

Our values

In February 2022, we introduced our four company values of Safety, Excellence, Ownership and Care. Together, they guide our behavior and are a crucial part of our identity and company culture. They demonstrate what we stand for - as a corporate citizen, as a business partner and as an employer.

Business partners

We require our business partners to adhere to our Code of Business Conduct & Ethics. We also

require certain third parties to undergo a due diligence process where they provide information on their ownership, compliance programs and any past relevant legal/regulatory issues, including economic sanctions. They are monitored through an online platform and we receive daily updates of any sanctions, regulatory fines, or adverse media. Business partners also have access to our ethics reporting hotline, SpeakUp!.

Reporting concerns: SpeakUp!

Employees, suppliers, customers and other business partners can report any suspected policy violations, inappropriate behavior and illegal or unethical practices through SpeakUp!, our confidential reporting hotline.

SpeakUp! is a direct channel that enables people to anonymously highlight their concerns. Issues are heard and addressed in a timely manner. To ensure everyone is aware of SpeakUp! it's publicized on our intranet, our external website and at every office and manufacturing site, along with contact information. It's also highlighted in our Code of Business Conduct & Ethics and employees are instructed on its use and about the protection they are afforded under our non-retaliation policy. Reports to SpeakUp! can be made anonymously in English, German, Dutch or Danish.



Our values

Our values guide our behavior and are a crucial part of our strong identity and company culture. They demonstrate what we stand for as a corporate citizen, as a business partner and as an employer. Our values guide our relationships with our partners, suppliers and stakeholders.

ESG factsheet

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Environment

	Unit	baseline 2010	2020	2021 ¹⁶	% change 2020-2021
Company carbon footprint					
Direct emissions (scope 1)	kton CO ₂ -eq	696	714	792	10.9
Indirect emissions (scope 2)	kton CO ₂ -eq	1,957	972	1,006	3.5
Total operational emissions (scope 1 and scope 2)	kton CO ₂ -eq	2,653	1,685	1,798	6.7
Value chain emissions (scope 3)	kton CO ₂ -eq	n.a. ¹⁷	254	241	-5.4
Emissions covered under emission-limiting regulations	% of direct emissions	99.1	97.9	98.3	-
Energy management					
Total energy consumption	mIn GJ	22.9	22.5	22.1	-1.8
Energy intensity	GJ/ton production	2.3	2.4	2.3	-2.4
Percentage renewable	%	0	28.9	35.5	-
Percentage grid electricity	%	n.a.	30.3	41.6	-
Total self-generated electricity	mIn GJ	3.3	3.5	4.4	24.7
Total self-generated steam	mIn GJ	7.2	9.3	8.8	-5.9
Air quality					
NO _x absolute emissions	ton	443	563	608	8
NO _x emission intensity	kg/ton production	0	0.1	0.1	7.4
SO _x absolute emissions	ton	17	0.4	0.3	-23.8
SO _x emission intensity	kg/ton production	0.00172	0.00004	0.00003	-24.3
Volatile Organic Carbon (VOC) emissions	ton	2	3	2.7	-9.3
VOC emission intensity	kg/ton production	0.0002	0.0003	0.0003	-9.8

	Unit	baseline 2010	2020	2021 ¹⁶	% change 2020-2021
Emissions to water (COD)					
COD emissions	ton	101	104	100	-3.8
COD emissions intensity	kg/ton production	0.01	0.01	0.01	-4.4
Water management					
Fresh water intake	1000 m ³	96,568	42,540	41,042	-3.5
Fresh water intake intensity	m ³ /ton production	9.8	4.5	4.3	-4.1
Percentage water in stressed regions	%	39	6.2	9.1	-
Fresh water consumption					
Fresh water consumption	1000 m ³	14,422	15,429	16,030	3.9
Fresh water consumption intensity	m ³ /ton production	1.5	1.6	1.7	3.3
Percentage water in stressed regions	%	3.5	4.6	4.8	-
Waste management					
Total waste	ton	13,874	4,279	3,697	-13.6
Waste intensity	kg/ton production	1.4	0.5	0.4	-14.1
Hazardous waste	ton	n.a.	2,683	2,411	-10.1
of which disposed to landfill	ton	n.a.	77.2	33.9	-56.1
Percentage reusable hazardous waste	%	n.a.	93.4	92.3	-
Production					
Total Nobian	kton	9,839	9,414	9,471	0.61
Sustainable sourcing					
Suppliers assessed on sustainability in terms of spend	%	0	0	65	-
Management systems					
Manufacturing sites with ISO 140001 certification	%	n.a.	100%	100%	-

¹⁶ Assured by DNV.

¹⁷ n.a. = data not fully available.

Social

	Unit	2020	2021 ¹⁸
Workforce data¹⁹			
Global headcount Nobian employees	#	n.a.	1541
% female in workforce	%	n.a.	14.66
% female in senior positions	%	n.a.	11.76
Employee turnover rate (voluntary and involuntary)	%	n.a.	2.4
People safety			
Total reportable incident rate (TRR) for employees, temporary workers and contractors	per 1.000.000 hours worked	1.09	0.51
Lost time injury rate (LTIR) for employees, temporary workers and contractors	per 1.000.000 hours worked	0.82	0.51
Total reportable incident rate (TRR) for employees, temporary workers	per 1.000.000 hours worked	0.42	0
Lost time injury rate (LTIR) for employees, temporary workers	per 1.000.000 hours worked	0.42	0
Total reportable incident rate (TRR) for contractors	per 1.000.000 hours worked	2.29	1.3
Lost time injury rate (LTIR) for contractors	per 1.000.000 hours worked	1.53	1.3
Fatalities	#	0	0
Process safety			
Process safety incident counts - level 1	#	3	0
Process safety incident counts rate - level 1	per 1.000.000 hours worked	0.82	0
Process safety incident counts - level 2	#	3	0
Process safety incident counts rate - level 2	per 1.000.000 hours worked	0.82	0
Process Safety Total Incident Rate (PSTIR) combined	per 1.000.000 hours worked	1.64	0
Management systems			
% of manufacturing sites with ISO 45001 certification	%	100%	100%

Governance

	Unit	2021 ¹⁸
Board		
Directors	#	6
Average director tenure	years	2.1
Independent directors	#	0
Independent directors percentage	%	0
Board diversity		
Women on the board	#	3
Women on the board percentage	%	50
Board coverage of ESG issues		
Frequency of board updates on ESG	Periodically	Quarterly
Board oversight of climate strategy?	Y/N	Y
Policies		
Code of Conduct, anti-discrimination, anti-harassment	Y/N	Y
Anti-corruption, anti-bribery	Y/N	Y
Business partner Code of Conduct, including suppliers	Y/N	Y
Health, Safety, Environment and Security (HSE&S), including product stewardship	Y/N	Y
Sensitive country policy	Y/N	Y

¹⁸ Assured by DNV.

¹⁹ Based on situation on December 31, 2021.

Appendices

Basis of reporting

SASB index

TCFD assessment

Independent

Assurance Statement

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Basis of reporting

History

Nobian became a standalone company on July 1, 2021. This is our first sustainability report and covers the activities in that year.

Independent assurance

This report has been assured by an independent party. Details can be found on page 46.

Reporting standards

The report and content has been prepared in accordance with SASB reporting standards. The index of SASB metrics is provided on page 43.

Scope and data

The scope of our environmental and health and safety data comprises our seven production sites in the Netherlands (Delfzijl, Hengelo and Rotterdam), Germany (Frankfurt, Ibbenbüren and Bitterfeld) and Denmark (Mariager). Administrative offices were not included as their contribution is negligible. For the remaining social and governance data, the full company is included.

Data reported for 2021 is compared to that of 2020 and 2010. The data from 2021 has been included in the assurance process. The 2010 data serves as a reference baseline and was calculated to the best of our knowledge and efforts based on what was available. All data has been retroactively recalculated to reflect the current operational scope of Nobian.

At each production site, environmental data is reported quarterly, whereas health and safety data is reported monthly for the KPIs in scope of this assurance engagement. Our data collection method and management system comply with ISO 14001 and ISO 45001. They have been reviewed and assured by DNV, indicating a reliable basis for reporting on our sustainability performance.

An equity share approach is chosen for reporting the environmental data, including our joint ventures.

Calculation methodology

We follow SASB standard guidelines to report our environmental KPIs. As indicated in SASB, the Greenhouse Gas Protocol is used to calculate Scope 1 CO₂ emissions. Our Scope 1 emissions are the combustion of fossil fuels to generate steam and electricity at our energy facilities. The emission factors used for our Scope 1 CO₂ emission calculations are in accordance with the Emission Factors from Cross-Sector Tools: [Calculation Tools | Greenhouse Gas Protocol \(ghgprotocol.org\)](#) in the Stationary Combustion tab. An emission factor of zero is used for the CO₂ emissions from Biomass plants in line with the GHG protocol.

To calculate Scope 2 CO₂ emissions, we used supplier and production-specific emission factors depending on the source of steam and electricity. If emission factors for steam were not available from our suppliers,

we have used the EU heat benchmark methodology to calculate the CO₂ emission factor for steam produced steam in a boiler or CHP (Combined Heat and Power) system. The EU benchmark methodology is set out in *Guidance Document n°3 on the harmonized free allocation methodology for the EU ETS post 2020, section D. III Cogeneration tool*: https://ec.europa.eu/clima/system/files/2019-03/p4_gd3_data_collection_en.pdf. Reference efficiencies for natural gas were used.

Scope 3 emissions are calculated for the raw materials purchased by Nobian. According to the GHG Protocol Scope 3 standard, category one (purchased goods) and category 12 (end-of-life treatment of sold products) were included in the Scope 3 calculations.

Energy consumption was calculated for the production plants. Here, the total steam and electricity consumption was included (both internally produced and purchased) and converted to gigajoules. The energy reduction from the usage of return condensate of steam (hot water) is subtracted from the total steam consumption. A certain percentage of total steam and electricity has been purchased from renewable sources.

Our air and water emissions have been tracked in accordance with national environmental regulations, as well as water intake and consumption. The Aque-

duct Water Risk Atlas tool from the World Resource Institute has been used to map the use of water in water stresses regions.

Waste quantities have been tracked at the waste processing facilities and the classification of non-reusable and reusable waste is in accordance with the Basel Convention.

For the people safety data, we deviated from the SASB standard. Instead of calculating the OIR, we calculated the TRR instead, which is the industry standard in Europe. However, the OIR (per 200,000 hours worked) can be calculated by dividing with factor five to obtain the TRR (per 1,000,000 hours worked).

Reporting challenges

There have been considerable changes to the company structure in recent years. (Nobian became a spin-out of Nouryon in 2021, which in turn evolved from AkzoNobel in 2018.) Therefore, recalibration of data to match with the current Nobian company structure has been conducted with our best efforts to report high-quality and reliable information on our sustainability performance. This report fits in a tradition of over ten years of sustainability reporting by AkzoNobel and Nouryon, before Nobian became a standalone company. We aim to continuously improve our sustainability reporting, which will support our journey to a lower environmental impact.



TOPIC	METRIC	CODE	PAGE
Greenhouse gas emissions	Gross global Scope 1 emissions, percentage covered under emissions-limiting regulations	RT-CH-110a.1	ESG Factsheet, page 38
	Discussion of long-term and short-term strategy or plan to manage Scope 1 emissions, emissions reduction targets, and an analysis of performance against those targets	RT-CH-110a.2	Section 3.1, page 14
Air quality	Air emissions of the following pollutants: (1) NOX (excluding N2O); (2) SOX; (3) Volatile organic compounds (VOCs); (4) Hazardous air pollutants (HAPs)	RT-CH-120a.1	ESG Factsheet, page 38
Energy management	(1) Total energy consumed; (2) Percentage grid electricity; (3) Percentage renewable; (4) Total self-generated energy	RT-CH-130a.1	ESG Factsheet, page 38
Water management	(1) Total water withdrawn; (2) Total water consumed, percentage of each in regions with high or extremely high baseline water stress	RT-CH-140a.1	ESG Factsheet, page 38
	Number of incidents of non-compliance associated with water quality permits, standards and regulations	RT-CH-140a.2	ESG Factsheet, page 39 ²⁰
	Description of water management risks and discussion of strategies and practices to mitigate those risks	RT-CH-140a.3	Section 5.1, page 27
Hazardous waste management	Amount of hazardous waste generated; percentage recycled	RT-CH-150a.1	ESG Factsheet, page 38
Community relations	Discussion of engagement processes to manage risks and opportunities associated with community interests	RT-CH-210a.1	Section 5.2, page 30
Workforce health and safety	(1) Total recordable incident rate (TRIR) and (2) Fatality rate for (a) direct employees and (b) contract employees	RT-CH-320a.1	ESG Factsheet, page 39
	Description of efforts to assess, monitor, and reduce exposure of employees and contract workers to long-term (chronic) health risks	RT-CH-320a.2	Section 5.1, page 26
Product design for use-phase efficiency	Revenue from products designed for use phase resource efficiency	RT-CH-410a.1	Section 4.1, page 20
Safety and environmental stewardship of chemicals	(1) Percentage of products that contain Globally Harmonized System of Classification and Labeling of Chemicals (GHS) Category 1 and 2 Health and Environmental Hazardous Substances; (2) Percentage of such products that have undergone a hazard assessment	RT-CH-410b.1	Section 4.4, page 23
	Discussion of strategy to (1) manage chemicals of concern and (2) develop alternatives with reduced human and/or environmental impact	RT-CH-410b.2	Section 4.4, page 23
Genetically modified organisms	Percentage of products by revenue that contain genetically modified organisms (GMOs)	RT-CH-410c.1	Zero
Management of the legal and regulatory environment	Discussion of corporate positions related to government regulations and/or policy proposals that address environmental and social factors affecting the industry	RT-CH-530a.1	Section 5.5, page 34
Operational safety, emergency preparedness and response	Process Safety Incidents Count (PSIC), Process Safety Total Incident Rate (PSTIR), and Process Safety Incident Severity Rate (PSISR)	RT-CH-540a.1	ESG Factsheet, page 39
	Number of transport incidents	RT-CH-540a.2	Section 4.4, page 24

²⁰ These incidents are included in Process safety numbers.

TCFD Assessment



FIGURE 1: The four core elements of TCFD reporting

The Task Force on Climate-related Financial Disclosures (TCFD) provides recommendations for businesses on climate-related financial disclosures. TCFD focuses on risks and opportunities related to the transition to a low-carbon economy. Such disclosures will not only provide a better understanding of businesses' exposure to climate-related issues but may also promote more informed investments and decisions in the short, medium and long term.

The TCFD guidelines are divided into four core elements. (Figure 1.) Governance describes the organization's oversight and management of climate-related issues. Strategy refers to the risks posed by climate change as well as the opportunities it may offer, while Risk Management indicates how the organization identifies, assesses and manages those climate-related risks. Finally, Metrics and Targets can be used to assess and manage identified climate-related risks and opportunities, such as greenhouse gas emissions and corresponding reduction targets.

In this report, we explain how we identify relevant climate-related risks and opportunities and link them to current and future initiatives. This report is one way in which we're managing those risks and opportunities.

Methodology

During a series of workshops with relevant stakeholders and experts, we held in-depth discussions on the potential risks and opportunities that could materially affect our business. This was done using the TCFD framework, where we looked at *transition risks* (from the shift to a lower-carbon economy, including policy and legal risks, technology risks, market risks and reputational risks) and *physical risks* (due to a changing climate, and which include acute risks such as extreme weather-related events and chronic risks such as rising water levels).

These sessions resulted in the identification of several climate-related risks and opportunities. Each was assigned a timeline for when they are expected to impact the company – short (one to three years), medium (three to ten years) or long (ten to 15 years). The risks were rated on potential impact and the likelihood this would happen within the stated timeframe. Similarly, the opportunities were scored according to their anticipated positive impact on our business and the chance of this materializing in the expected time²¹.

²¹ TCFD assessment not part of assurance by DNV.

Three significant risks

The table shows three climate-related risks identified during the workshop that could have a significant impact on our financial performance.

Topic	Time span	Initiatives in place
Increased greenhouse gas prices	Medium	See our climate approach in section 3
More stringent regulations occurring sooner than expected in key production locations	Medium	Investigate how and where we can implement envisioned projects faster, in close collaboration with authorities and business partners
Investment costs of transitioning to lower emissions technology	Short	See illustration on page 15

TABLE 1: Selection of identified risks

Our analysis shows most of the key risks are related to transition issues with a medium-term timescale. Changes to the regulatory landscape over the next three to ten years could impact us considerably; this could include higher costs due to increased CO₂ pricing or losing our competitive advantage if climate-related regulations are implemented more quickly in our key production locations (the Netherlands and Germany) compared to those of our competitors. Furthermore, there is a risk levels will change on the waterways we use to transport products; this has already occurred to some extent in recent years. The TCFD assessment has helped us to further mitigate these risks.

Three major opportunities

Likewise, three opportunities were identified which, if properly exploited, could lead to substantial business growth and cost savings.

Topic	Time span	Initiatives in place
Use of lower-emission energy sources and new technologies	Medium	Several renewable energy projects (see section 3)
Co-development of new downstream products using current chemicals and technology	Medium	See several initiatives in section 4
Energy storage	Medium	Renewable energy storage in salt caverns (see section 3.3)

TABLE 2: Identified opportunities

This report sets out many opportunities and projects on which we're already working to reduce our carbon footprint and increase our share of renewable energy. Our key opportunities lie in becoming the frontrunner in our industry and possible emerging sectors by focusing on low-carbon technologies, co-developing sustainable products and implementing energy storage projects. As well as mitigating our climate-related risks, these opportunities will also strengthen our resilience by increasing market value and deploying our expert knowledge in different areas.



WHEN TRUST MATTERS

Independent Assurance Statement

Nobian Industrial Chemicals B.V. ("Nobian" or "Group") commissioned DNV Business Assurance Germany GmbH ("DNV", "we", or "us") to provide limited assurance over the Subject Matter presented in Nobian's Sustainability Report 2021 ("Report") for the reporting year ending 31st December 2021.

Subject Matter

The scope and boundary of our work is restricted to the following areas (collectively the "Subject Matter"):

1. Selected Information

The performance indicators included within the Report (the "Selected Information"), listed below:

- Direct emissions (scope 1)
- Indirect emissions (scope 2)
- Total operational emissions (scope 1 and 2)
- Value chain emissions (scope 3) (kton CO2-eq)
- Emissions covered under emission-limiting regulations (% of direct emissions)
- Total energy consumption (mln GJ)
- Energy intensity (GJ/ton production)
- Percentage grid electricity (%)
- Total self-generated electricity (mln GJ)
- Total self-generated steam (mln GJ)
- NOx absolute emissions (ton)
- NOx emission intensity (kg/ton production)
- SOx absolute emissions (ton)
- SOx emission intensity (kg/ton production)
- Volatile Organic Carbon (VOC) emissions (ton)
- VOC emission intensity (kg/ton production)
- COD emissions (ton)
- COD emissions intensity (kg/ton production)
- Fresh water intake (1000m3)
- Fresh water intake intensity (m3/ton production)
- Percentage water in stressed regions (%)
- Fresh water consumption (1000m3)
- Fresh water consumption intensity (m3/ton production)
- Percentage water in stressed regions (%)
- Total waste (ton)
- Waste intensity (kg/ton production)
- Hazardous waste (ton)
- Of which disposed to landfill (ton)
- Percentage reusable hazardous waste (%)
- Total Nobian production (kton)
- Suppliers assessed on sustainability in terms of spend (%)
- Manufacturing sites with ISO14001 certificate (%)

Our competence, independence and quality control

DNV established policies and procedures which are designed to ensure that DNV, its personnel and, where applicable, others are subject to independence requirements (including personnel of other entities of DNV) and maintain independence where required by relevant ethical requirements. This engagement work was carried out by an independent team of sustainability assurance professionals. Our multi-disciplinary team consisted of professionals with a combination of environmental and sustainability assurance experience.



WHEN TRUST MATTERS

- Global headcount Nobian employees (#)
- Female in workforce (%)
- Female in senior positions (%)
- Employee turnover rate (voluntary and involuntary) (%)
- Total reportable incident rate (TRR) for employees, temporary workers and contractors (per 1.000.000 hours worked)
- Lost time injury rate (LTIR) for employees, temporary workers and contractors (per 1.000.000 hours worked)
- Total reportable incident rate (TRR) for employees, temporary workers (per 1.000.000 hours worked)
- Lost time injury rate (LTIR) for employees, temporary workers (per 1.000.000 hours worked)
- Total reportable incident rate (TRR) for contractors (per 1.000.000 hours worked)
- Lost time injury rate (LTIR) for contractors (per 1.000.000 hours worked)
- Fatalities (#)
- Process safety incident counts - level 1 (#)
- Process safety incident counts rate - level 1 (per 1.000.000 hours worked)
- Process safety incident counts - level 2 (#)
- Process safety incident counts rate - level 2 (per 1.000.000 hours worked)
- Process Safety Total Incident Rate (PSTIR) combined (per 1.000.000 hours worked)
- Manufacturing sites with ISO45001 certificate (#)
- Directors (#)
- Average director tenure (years)
- Independent directors (#)
- Independent directors (%)
- Women on the board (#)
- Women on the board (%)
- Frequency of board updates on ESG (Periodically)
- Board oversight of climate strategy? (Y/N)
- Code of Conduct, anti-discrimination, anti-harassment (Y/N)
- Anti-corruption, anti-bribery (Y/N)
- Business partner Code of Conduct, including suppliers (Y/N)
- Health, Safety, Environment and Security (HSE&S), including product stewardship (Y/N)
- Sensitive country policy (Y/N)

To assess the Selected Information, which includes an assessment of the risk of material misstatement in the Report, we have used Nobian's Basis of Reporting (the "Criteria"), which can be found on pages 41 and 42 of the Report.

2. SASB Indicators

RT-CH-110a.1, RT-CH-110a.2, RT-CH-120a.1, RT-CH-130a.1, RT-CH-140a.1, RT-CH-140a.2, RT-CH-140a.3, RT-CH-150a.1, RT-CH-210a.1, RT-CH-320a.1, RT-CH-320a.2, RT-CH-410a.1, RT-CH-410b.1, RT-CH-410b.2, RT-CH-410c.1, RT-CH-530a.1, RT-CH-540a.1, RT-CH-540a.2

We have not performed any work, and do not express any conclusions, on any other information outside of the Subject Matter that may be published in the Report or on CRI's website for the current reporting period or for previous periods.

Our conclusions

1. Selected Information

Based on the procedures we have performed and the evidence we have obtained, nothing has come to our attention that causes us to believe that the Selected Information is not fairly stated and has not been prepared in all material respects, in accordance with the Criteria. This conclusion relates only to the Selected Information and is to be read in the context of this Independent Limited Assurance Report, in particular, the inherent limitations.

2. SASB Indicators

Based on the work undertaken, nothing has come to our attention that causes us to believe that the Selected Indicators are not fairly stated and has not been prepared in all material respects in accordance with the Industry standard Chemicals Sustainability Accounting Standard 2018, prepared by the Sustainability Accounting Standards Board (SASB).

Inherent limitations

All assurance engagements are subject to inherent limitations as selective testing (sampling) may not detect errors, fraud or other irregularities. Non-financial data may be subject to greater inherent uncertainty than financial data, given the nature and methods used for calculating, estimating and determining such data. The selection of different, but acceptable measurement techniques may result in different quantifications between different entities. Our assurance relies on the premise that the data and information provided to us by Nobian have been provided in good faith. DNV expressly disclaims any liability or co-responsibility for any decision a person or an entity may make based on this Independent Limited Assurance Report.

Responsibilities of the Management of Nobian and DNV

The Directors of Nobian have sole responsibility for:

- Preparing and presenting the Selected Information in accordance with the Criteria;
- Designing, implementing and maintaining effective internal controls over the information and data, resulting in the preparation of the Selected Information that is free from material misstatements;
- Measuring and reporting the Selected Information based on their established Criteria; and Contents and statements contained within the Report and the Criteria.

Our responsibility is to plan and perform our work to obtain limited assurance about whether the Selected Information has been prepared in accordance with the Criteria and to report to Nobian Group in the form of an independent limited assurance conclusion based on the work performed and the evidence obtained. We have not been responsible for the preparation of the Reports.



WHEN TRUST MATTERS

Standard and level of Assurance

We performed a limited assurance engagement in accordance with the International Standard on Assurance Engagements (ISAE) 3000 revised – Assurance Engagements other than Audits and Reviews of Historical Financial Information (revised), issued by the International Auditing and Assurance Standards Board. This standard requires that we comply with ethical requirements and plan and perform the assurance engagement to obtain limited assurance.

DNV applies its own management standards and compliance policies for quality control, in accordance with ISO/IEC 17021:2015 - Conformity Assessment Requirements for bodies providing audit and certification of management systems, and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

The procedures performed in a limited assurance engagement vary in nature and timing from, and are less in extent than for a reasonable assurance engagement; and the level of assurance obtained is substantially lower than the assurance that would have been obtained had a reasonable assurance engagement been performed. We planned and performed our work to obtain the evidence we considered sufficient to provide a basis for our opinion, so that the risk of this conclusion being in error is reduced but not reduced completely.

Basin of our conclusion

1. Selected Information

We are required to plan and perform our work in order to consider the risk of material misstatement of the Selected Information; our work included, but was not restricted to:

- Conducting interviews with Nobian's management, to obtain an understanding of the key processes, systems and controls in place to generate, aggregate and report the Selected Information;
- Conducting on-site visits and teleconferences with different sites including the headquarter to review processes and systems for preparing site level data consolidated at Group level. We were free to choose the sites on the basis of their material contribution to Nobian's data;
- Performing limited substantive testing on the most significant contributors, to check that their data had been appropriately measured, recorded, collated and reported;
- Reviewing that the evidence, measurements and the context provided to us by Nobian for the Selected Information is prepared in line with the Criteria;
- Assessing the appropriateness of the Criteria for the Selected Information.

2. SASB Standards

We are required to plan and perform our work in order to form an opinion over the reporting of selected indicators in accordance with the Chemicals Sustainability Accounting Standard 2018, prepared by the Sustainability Accounting Standards Board (SASB).

DNV Business Assurance Germany GmbH

Essen, Germany
04 May, 2022



DNV Business Assurance Germany GmbH is part of DNV – Business Assurance, a global provider of certification, verification, assessment and training services, helping customers to build sustainable business performance. www.dnv.com

Colophon

Cautionary statement and reference information

This report contains forward-looking statements which are subject to risks and uncertainties, and actual results and events may differ considerably from those expressed within them. Many of these risks and uncertainties relate to factors that Nobian is unable to control or estimate precisely, such as future market and economic conditions, the behaviour of other market participants, costs of raw materials, changes in law, technological developments and legal judgements and stipulations of regulatory bodies that affect the activities of Nobian. You are cautioned not to place undue reliance on these forward-looking statements. Nobian does not undertake any obligation to update the forward-looking statements contained in this report.

This report is a Nobian publication

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**SUSTAINABILITY
REPORT 2021**

**GROW GREENER
TOGETHER**

