

Lasting innovations for
future generations

Sustainability Report 2022



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Nynas is committed to lowering its own environmental impact and the aim is to become climate-neutral by 2050*.



* In accordance with the EU aim to have an economy with net-zero greenhouse gas emissions

THIS IS NYNAS



THIS IS NYNAS



Nynas products can be found in a variety of applications around the world, and play an important role in everything from consumer items such as newspapers, running shoes and sunglasses – to industrial products including wind turbines, asphalt and power transformers. Simply put, our heart and soul goes into **supporting the sustainable transition.**

NAPHTHENIC SPECIALTY PRODUCTS

1.25

billion people use
Nynas oil-assisted
electricity, every day.



NAPHTHENICS

Nynas highly refined oils contribute to longer lifetime and enhanced environmental performance for end users. As market leader in **naphthenic specialty products**, we offer a wide range of oils that can lubricate, dissolve, or insulate and cool in countless applications. Our oils are all compliant with stringent environmental requirements.

Lubricating

Nynas base oils are used as a main component in cutting fluids for metalworking, greases and other industrial lubricants. Our NYBASE® oils have been specifically engineered to provide a high-performance alternative to the dwindling supply of Group I oils and also contribute to longer lifetime in our customers' products.

Dissolving and plasticising

The high solubility of Nynas oils is an advantage when manufacturing inks, various types of synthetic rubber, compounds used to make tyres, and more. Our naphthenic NYTEX tyre oils lead to lower rolling resistance, improved fuel economy and a reduction in CO₂ emissions, while at the same time having very low PAH levels.

Insulating and cooling

Transformer oils are used in electrical applications for the insulation and cooling of power and distribution transformers. Nynas offers a variety of transformer oils, including NYTRO® super grade oils used for Ultra-High Voltage (UHV) equipment. Selecting the right transformer oil for each application ensures longer transformer life with less maintenance required.

NAPHTHENIC SPECIALTY PRODUCTS

70%

Over its lifetime NYTRO RR 900X offers a reduction of at least 70% in greenhouse gas emissions compared to a virgin transformer oil. NYTRO® RR 900X is a circular transformer oil based on highly powerful and effective re-refining technology. It contributes to sustainable development by reusing only end-of-life transformer oil currently in the grid. NYTRO RR 900X ensures excellent performance and complies with the most demanding quality standards.



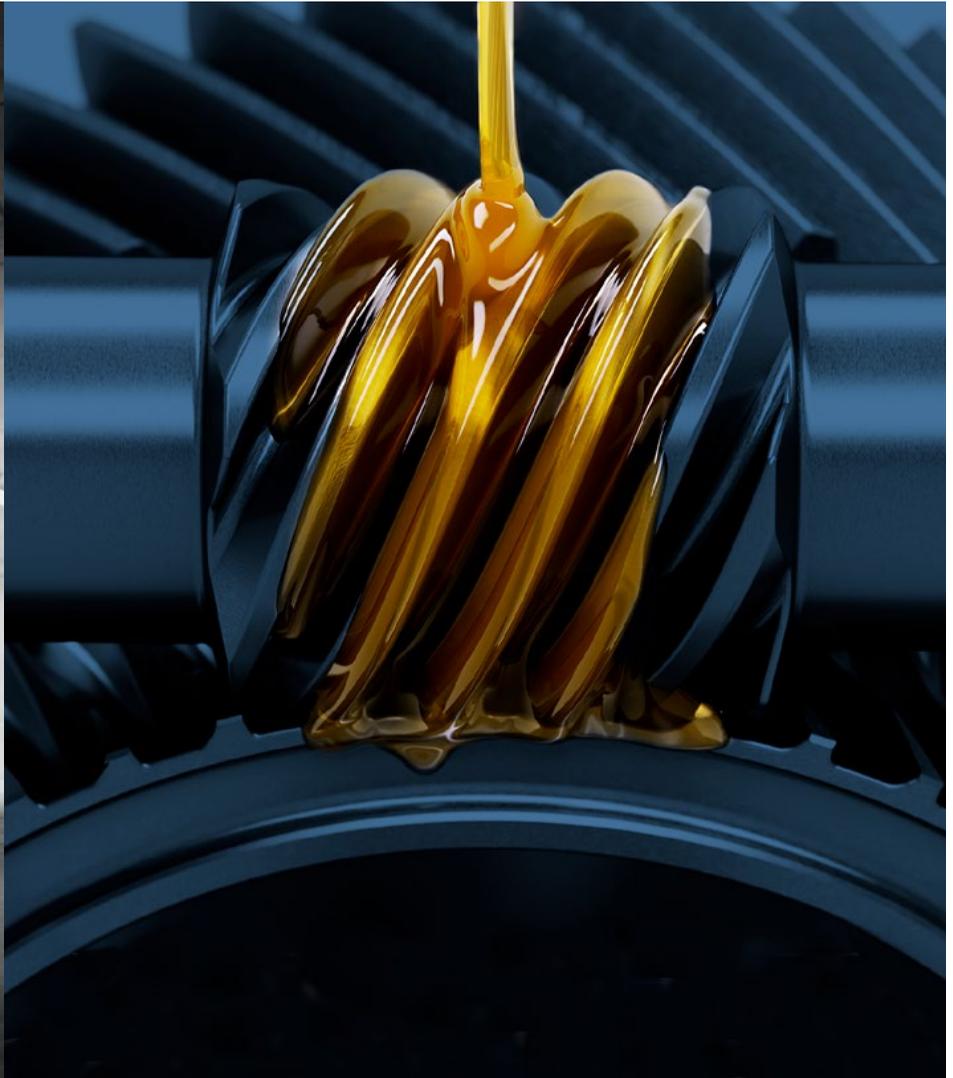
10°C

The efficient use of electricity is of increasing importance. Using Nynas' low viscosity insulating oils is one way to reduce energy losses in the electricity system. Testing has showed that NYTRO BIO 300X achieves around 10°C lower transformer temperature at the same output compared with identical transformers using alternative liquids.

NAPHTHENIC SPECIALTY PRODUCTS

10^{yrs}

Nynas has received the EcoVadis Gold Sustainability rating for almost 10 years. This puts the company in the top group of its category for sustainability performance. The award is recognition of our continuous commitment to all aspects of sustainability.



100%

The biobased hydrocarbon NYTRO® BIO 300X is based on vegetable and waste feedstock and still a premium transformer fluid. It is virtually 100% biobased hydrocarbon and has best-in-class cooling performances combined with an exceptionally low carbon footprint.

BITUMEN PRODUCTS

60%

Using Nypol RE, our new range of polymer-modified bitumen (PMB) containing biogenic carbon, can reduce the CO₂ footprint by up to 60 per cent compared to a conventional PMB.



BITUMEN

Nynas supports society's infrastructure development with its wide range of **high performing bituminous products**. Used to build and maintain roads, bridges and airport runways as well as protecting roofs, our products make it possible to **increase durability, lower CO₂ emissions, and reduce energy consumption and noise**. Bitumen is 100 per cent reusable in asphalt, its main application.

Binding

Binders are used for asphalt applications in the construction and maintenance of roads, runways and bridges. Nynas offers high quality products and solutions that help extend service life and improve our customers' sustainability performance.

Protecting

Our bitumen products work as protective insulation against moisture, heat, sound and vibrations in many industrial applications. They have fire-retardant properties and are ideal for use in roofing felt and various anti-corrosion applications such as pipe coating.

BITUMEN PRODUCTS

1.5

Roads equivalent to 1.5 times the Earth's circumference are resurfaced with Nynas bitumen every year.



26,000

Energy to supply more than 26,000 households could be saved in Nynas markets alone by using Nytherm, which allows for reduced asphalt production temperatures.

BITUMEN PRODUCTS

100% Asphalt is 100 per cent reusable. Nynas offers several products and solutions that facilitate adding more reused material in asphalt.



100 yrs With nearly 100 years in the bitumen business, Nynas understands how to supply long-term, cost-effective and functional solutions.

OPERATIONS

Strategically placed to serve our customers

Nynas core competence is to refine extra heavy crude oils into a balanced mix of naphthenic specialty products and bitumen. The result is long-lasting, high performance specialty products that meet our customers requirements.

We rigorously hydrotreat our distillates to remove sulphur and nitrogen while also reducing aromatic content. The result is a very clean product that meet stringent demands in terms of function and health properties, ideal for many customer applications.

We produce bitumen from straight-run distillation aiming at a consistent product quality.

To serve our customers, our supply network in Europe, and selected other markets, ensures customers prompt and reliable deliveries. Through our sales and technical network, we ensure close customer cooperation and support for a wide variety of activities from technical support to collaboration in product development.



Bitumen

Production sites: Nynashamn, Gothenburg and Eastham. Depot system to cover the Scandinavian and UK markets.

Naphthenics

Production sites: Nynashamn
Main blending facility in Antwerp.
Depot system to cover our core market in Europe, and selected markets in South America, South Africa, India and Singapore.

- Refinery
- Depot

- Hub
- Depot
- Production site

OPERATIONS

NYNÄSHAMN REFINERY, SWEDEN

The refinery was established in 1928 in Nynäshamn, close to Stockholm. Here all Nynas product categories are manufactured for the Nordic market and for export. The refinery has played a key role in Nynas focus on specialty products. In the shift between the 80s and 90s significant investments were made to increase bitumen capacity and advance the production of naphthenic specialty oils. Investments have since then continued with a focus on quality, reliability and sustainability.

- The largest refinery in the Nynas Group.
- The largest supplier of bitumen for roads in Sweden and the Nordic countries.
- One of the largest producers of naphthenic specialty oils in the world.
- In 2004, the Nynäshamn refinery became the first refinery in the world powered mainly on biofuel.

GOTHENBURG REFINERY, SWEDEN

The refinery produces bitumen for the Nordic market. It was established in 1956 close to the Gothenburg harbour, in western Sweden. The production unit is kept up to date through strategic investments focusing on product quality and sustainability. Recent investments in new gas heaters have resulted in major emission reductions.

- The refinery is focused on the production of bitumen and specialty products such as polymer modified bitumen, bitumen emulsions and oxidised bitumen.
- The process to modify bitumen with polymers aims at making the binder more flexible at low temperatures, necessary for long lasting pavements for demanding conditions.

EASTHAM REFINERY, UK

The refinery is operated as a 50/50 joint venture between Nynas and Shell. It is located on the River Mersey in north-western England.

- The refinery produces bitumen for the UK market.
- At the site, Nynas operates an upgrading plant (Special Products Plant or SPP) producing polymer modified binders and emulsions.

SUPPORTING THE SUSTAINABLE TRANSITION

Making our world go round – solutions for the transition to a sustainable society

A company doesn't last for close to 100 years without being able to offer something unique. Nynas has the products that society needs and the know-how to supply highly functional, cost-effective and sustainable solutions.

As countries develop their economies, Nynas is there to support them, contributing to key infrastructure and clean energy applications that are vital for society.

Take wind turbines, for example. They are crucial for a rapidly growing market segment that generates renewable energy. Our naphthenic specialty products keep wind turbines lubricated to ensure they spin in a friction-free manner. Nynas transformer liquids are also used to insulate and cool the transformers in the transmission grids to which wind farms and other energy sources are connected.

Bitumen is another crucial ingredient in the world's infrastructure. With the growth of infrastructure projects and need for maintenance, there is high demand for Nynas bitumen products, particularly in asphalt applications. Our bitumen is used to build and maintain roads, bridges and airport runways and, because it is 100 per cent reusable, it contributes to the circular economy.

Increasing circularity

As we continue to develop for the future, our focus – and our responsibility – is to reinforce our role as a key player in the transition to a more sustainable society. We are achieving this by reducing our own impact on the environment and by continuing to develop sustainable products and solutions that offer our customers longer life and greater circularity.

Sustainability runs throughout our value chain from how we use hydrocarbons in a sustainable way to make our products, through an efficient supply chain, logistics and product usage.

Emission reductions

We refine and upgrade hydrocarbon feedstock, transforming it into products of which many do not emit greenhouse gas emission in their use phase.

Nynas' products increase the lifetime of customers' applications, and supports reduction of environmental impact.

With close proximity to our customers, we are able to shorten lead times and the distances that our goods must travel.

Nynas is committed to lowering its own environmental impact and our aim is to become climate-neutral by 2050*. We will monitor all of our operational emissions based on the Greenhouse Gas Protocol.

Our vision for Nynas is to build on our role as the industry's innovation leader and drive the transition to a sustainable society. As an organisation, Nynas will be focused, profitable and sustainable in every way.



* In accordance with the EU aim to have an economy with net-zero greenhouse gas emissions

SUPPORTING THE SUSTAINABLE TRANSITION



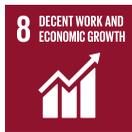
"Nynas is committed to lowering its own environmental impact and our aim is to become climate-neutral by 2050*."

SUSTAINABILITY REPORT

Sustainability governance

Ambition and strategy

Our ambition and strategy start with the UN Sustainable Development Goals (SDGs). We have identified four goals that are particularly relevant for our products, operations and actions and that we expect to support or contribute to the most.

**SDG 8 decent work and economic growth**

Nynas aims to be regarded as a positive force in society and an attractive and equal opportunity employer. We have a strict policy against harassment in the workplace and ensure that no basic human rights are abused. Nynas will never knowingly tolerate slavery or forced labour on behalf of Nynas or its partners. Nynas has health and safety procedures in place to protect employees from both physical and mental harm.

**SDG 9 industry, innovation and infrastructure**

We provide and develop long-lasting, high quality products that contribute to sustainable value in society for example through our bitumen products, which are a key component in road paving, and through our transformer oils in electricity distribution. We are continuously conducting research and development into improving product lifetime, recyclability, product health and safety, and other aspects contributing to sustainable development.

**SDG 12 responsible consumption and production**

Nynas strives to increase the energy efficiency in all aspects of operation, transportation and product use. We closely monitor all emissions from operations and work diligently to lower the emissions to air, sea and land through production facilities that employ waste management and treatment operations. Nynas maintains a rigorous concept of process safety measures to minimise the risk of loss of primary containment. We have a response organisation that takes measures to maintain our high standards. We continuously assess the health, safety and environmental aspects of our products and do our utmost to ensure long lifetime and circularity through

recycling and reuse. Nynas provides guidance for safe use of all its products, such as training on the handling of hot bitumen.

**SDG 13 climate action**

We aim to be climate neutral by 2050¹ and monitor our greenhouse gas emissions (GHG) according to the Greenhouse Gas Protocol scope

1 & 2. We have established a 2030 target to reduce CO₂ emissions by 50 kton compared to our baseline of 2017. We continuously work to improve energy efficiency and reduce greenhouse gas and other emissions from our operational activities. Our focus is on developing high quality products that enable longer service life, reduce greenhouse gas emissions and increase energy efficiency.

We have identified four focus areas based on these SDGs and a materiality assessment. An update to the materiality assessment will be conducted in 2023.

Four focus areas

- People and Society
- Health and Safety
- Environment and Climate
- Sustainable products

Within these four key areas we have defined ambitions and strategies for 2030.

Governance

The Nynas commitment to sustainability is reflected in the company's business governance and through the Group-wide sustainability policy. This policy is linked to a number of other policies that collectively steer our corporate responsibility approach by addressing environmental, economic and social aspects.

The policies are as follows:

- The Code of Conduct
- Competition Compliance
- Global Anti-bribery and Anti-corruption
- Health, Safety, Security, Environment and Quality (HSSE&Q)
- People and Human Rights
- Procurement

1) In accordance with the EU aim to have an economy with net-zero greenhouse gas emissions

SUSTAINABILITY REPORT

The Nynas operations are certified according to ISO 9001, ISO 14001 and ISO 45001. In Germany we have ISO 50001 certification as well.

Organisation

Overall sustainability is the responsibility of the Board whose decisions are carried out by the Nynas Execu-

tive Committee. A working group made of representatives from all business and functions ensures progress on specific sustainability issues. In 2023 we will also add full time resources dedicated to Sustainability.

SUSTAINABILITY KPIs

The following sustainability KPIs were established in 2022, some targets are yet to be finalized.

Health & Safety

- Total Recordable Incidents Frequency (#/mil work hrs)
- Process Safety Accidents Tier 1 (#/mil work hrs)
- Transport accidents (#/km travelled)

Climate and Environment

- GHG Scope 1 & 2 (kton CO₂ eq)
- Reduction of GHG Scope 1 & 2 compared to base year 2017 (kton CO₂ eq)
- Environmental permit noncompliance (#)

People and Society

- Sick leave (%)
- Appraisal (%)
- Employee turnover (%)
- Diversity (%): Age, gender, gender in managerial roles
- Critical Suppliers assessed for sustainability (%)
- Undertaking – Compliance with Competition, Anti-bribery, Anti-corruption and Trade Laws (% signed by employees)

Sustainable Products

- Research and development projects with sustainability as a key driver.

Nynas received the EcoVadis Gold CSR rating

In 2022 Nynas received the EcoVadis Gold Sustainability rating. Nynas has received the EcoVadis Gold or Platinum Sustainability rating for the last 10 years. This puts the company in the top group of its category for sustainability performance. The award is recognition of our continuous commitment to all aspects of sustainability.



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EU Taxonomy

The EU taxonomy is a classification system, establishing a list of environmentally sustainable economic activities.

The Taxonomy Regulation was published in the Official Journal of the European Union on 22 June 2020 and entered into force on 12 July 2020.

The Taxonomy Regulation establishes six environmental objectives:

1. Climate change mitigation
2. Climate change adaptation
3. The sustainable use and protection of water and marine resources
4. The transition to a circular economy
5. Pollution prevention and control
6. The protection and restoration of biodiversity and ecosystems

The sustainable activities are defined by technical screening criteria for each environmental objective which are adopted through delegated acts. A first delegated act, outlining technical screening criteria for sustainable activities for climate change adaptation and mitigation objectives, was adopted in June 2021. In July 2022 a complementary delegated act with technical criteria for the remaining environmental objectives was published.

In 2021 Nynas, with support from KPMG, made a first gap analysis to assess eligibility against the two climate objectives. In 2022 a gap analysis was performed for the technical criteria for the remaining environmental objectives. Petroleum refining is not listed as a sustainable activity for any of the environmental objectives but all activities and technical

	Total in MSEK	Proportion of Taxonomy eligible activities (%)	Proportion of non-Taxonomy eligible activities (%)
Turnover	17,833	0	100
CapEx	294	0	100
OpEx	344	0	100

criteria were screened to map possible eligible activities. As a second step, a more in-depth analysis was done for activities which have potential eligibility. The results showed that for now Nynas does not have any significant activity which is eligible according to the current technical criteria. Potential eligible activities which have a proportion of <0.1% of the turnover have also been excluded.

Even if Nynas does not currently have any eligible activities Nynas works actively to reduce the impact on climate. Furthermore, Nynas products are in many cases used in activities which are eligible. An example is bitumen that in asphalt for roads is 100 per cent reusable and a number of our bitumen binders allow for lower temperature application and improved infrastructure durability. Also Nynas transformer oils are important for the electrification and work is ongoing to integrate them into a circular loop (see section on Focus area Sustainable products). In a nutshell, while our activities are not directly eligible, they are to be considered enablers for our customers whose activities are indeed eligible.

SUSTAINABILITY REPORT

Nynas and the EU Green Deal

Several recent policies are having an impact on our sustainability approach, for example, the European Green Deal, which is the roadmap for making the EU economy sustainable. A number of strategies and actions under the Green Deal umbrella are relevant for Nynas, including the following:

European Green Deal actions

The Climate Law sets a legally binding target of zero greenhouse gas emissions by 2050 and a reduction of 55 per cent by 2030 compared to 1990. This increases pressure to reduce emissions of greenhouse gases from our operations.

Nynas response:

We are mapping and setting targets for our greenhouse gas emissions.

The Circular Economy Action Plan includes initiatives along the entire life cycle of products. It promotes circular economy processes, fosters sustainable consumption, and aims to ensure that the resources used are kept in the EU economy for as long as possible.

We are working to assess the entire product life cycle especially regarding climate impact, lifetime/durability and the possibility to achieve more circular product flows.

The Chemicals Strategy for Sustainability aims to achieve a toxic-free environment and increased protection of human health and the environment against hazardous chemicals.

We continuously assess the hazards of our products and work to minimise the impact. We provide guidance on safe use for all of our products.

SUSTAINABILITY REPORT

Focus area — Sustainable Products

Our focus is on developing high-quality products that enable longer service life, reduce greenhouse gas emissions, increase energy efficiency in their production and use and support the circular economy. Nynas will continue to provide and develop products that contribute to sustainability when used in customer applications.

Ambition 2030

Our ambition for 2030 is to increase the share of Nynas products that are in circular product flows and to continue to develop products to offer our customers renewable and circular products where there is a possibility and value in doing so. Nynas will continue to supply crude-based products moving forward. In most cases, this is simply because the performance of these products is unrivalled by alternative solutions at hand today and in the near term.

We aim to demonstrate continuous improvement within sustainability and will also continue supporting the market with information on the sustainability benefits of our products. Our research, development and innovation efforts focus on improving product lifetime, product use phase, raw material, efficiency, reusability/recyclability, product health and safety, and the product's contribution to social and infrastructure development.

The following are some of the strategic efforts and activities to help us achieve our 2030 ambition for sustainable products.

Develop circular product flows

An important area in our strategy is to assess and account for the entire life cycle of our products, especially regarding climate impact and durability and we continue to explore and develop circular product flow solutions in dialogue with customers and other stakeholders to innovate for the future.

A major step in this area was achieved with the launch of NYTRO® RR 900X, a re-refined premium transformer fluid that meets the most stringent IEC 60296 (2020) requirements and offers performance equal or superior to those of virgin mineral transformer oils. The product can replace virgin oil in new transformers and thus contribute to resource efficiency and a substantially reduced transformer fluid carbon footprint.

There are further applications where our specialty oils are fully recyclable at the end of their service life.

In some other cases, the compositions which they are a part of are recyclable. It is well-established that bitumen products in road applications are 100 per cent reusable and make it possible for customers to recycle asphalt. Nynas bitumen products also enable customers to pave asphalt at lower temperatures, which contributes to lowering greenhouse gas emissions. To stay in the forefront, Nynas continues to work with well-reputed universities to investigate the recyclability and circularity aspects of bitumen and a number of publications have been published on the subject.

Non crude feedstocks

NYTRO® BIO 300X is a biobased, renewable and biodegradable hydrocarbon, and like all Nynas transformer fluids a fully recyclable product. This high-performance transformer fluid offers superior heat transfer and exceptional cooling due to its ultra-low viscosity. The product has now been commissioned in 400kV transformers. Several customer and independent third-party studies have highlighted the product's exceptional thermal performance aspects in their conclusions. The biobased and biodegradable fluid can advantageously be used in transformers according to mineral oil design and can even provide an opportunity for a further efficient and optimised transformer design.

Our tyre and rubber oil, NYTEX® BIO 6200, is produced using renewable feedstock. It delivers the same high quality and performance of all Nynas tyre oils, but further contributes to higher sustainability through a lower raw material carbon footprint. NYTEX® BIO 6200 was again highly ranked by the European Rubber Journal in its listing of the most important sustainability projects in the elastomers/rubber industry right now.

Extensive studies were made with NYTEX BIO® 6200 in 2022, ranging from numerous compound types such as bicycle, winter and summer tyres, with both carbon-black and silica fillers. The results, including both the performance and compound processability, have been excellent, both in studies conducted in Nynas' fully equipped rubber compounding lab and in those confirmed by customers and leading brands in the sector.

In 2022, the NYNAS BIO products NYTEX® BIO 6200 and NYTRO® BIO 300X, received ISCC Plus certification. ISCC Plus is a voluntary, globally >

SUSTAINABILITY REPORT

Enabling the electrical industry to go circular

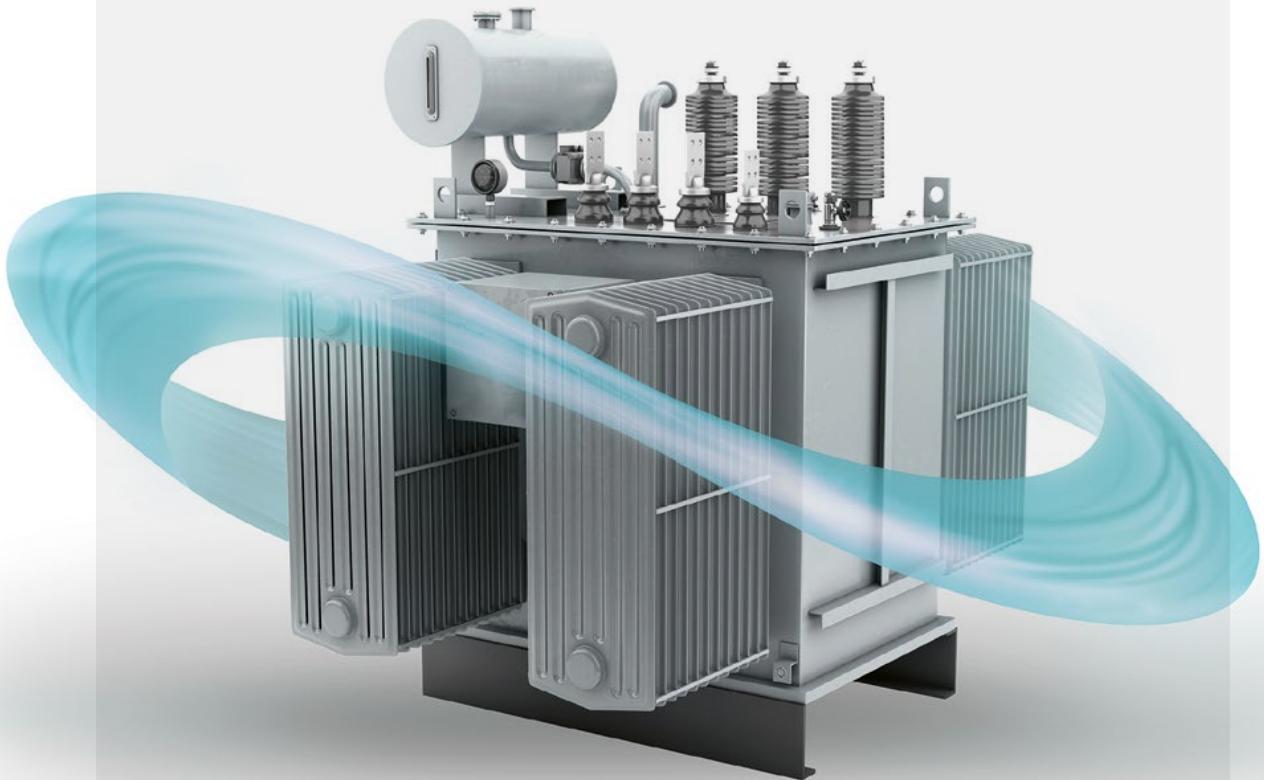
Sustainable development is now a high priority in most industries. With the launch of NYTRO RR 900X, Nynas is contributing to resource efficiency and helping utility companies and OEMs contribute to greenhouse gas reduction targets.

NYTRO RR 900X contributes to raw material efficiency by reusing end-of-life transformer fluid. The Nynas re-refining process recovers valuable molecules that no longer fit for service in their present form, making the best use of the fluid's original production impact.

NYTRO RR 900X is suitable for use in a wide range of electrical applications, including high voltage power transformers. The new grade complies to the highest requirements in the IEC 60296 standard, which further requires the feedstock of re-refined fluids to be sourced 100 per cent from electrical equipment.

Nynas' modern optimised hydrotreating technology has resulted in top-of-the range specifications that equal those of virgin oils. The quality and characteristics of NYTRO RR 900X are equal, if not superior to, those of the NYTRO high performing grades, retaining the well-known dielectric behaviour of traditional naphthenic dielectric fluids.

At a 100 per cent recycling rate over its lifetime, NYTRO RR 900X produces a reduction of at least 70 per cent in greenhouse gas emissions compared to a virgin transformer oil as well as an overall reduction in crude consumption. "We are very proud to contribute to the reduced environmental footprint of transformer oil production," says Marika Rangstedt, Sustainability Manager at Nynas.



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recognised sustainability certification scheme which allows companies to demonstrate the sustainability credentials of their bio-based, bio-circular and circular materials. The certification scheme provides traceability across the value chain.

Innovate for sustainability

Our research, development and innovation efforts are driven by quality, performance and environmental impact. Through our ReResolution framework, Nynas customers can find products and solutions that help them achieve sustainable performance, for example by reducing temperature, reinforcing durability and reusing material. ReResolution was first introduced for bitumen products and in 2022 the framework was expanded to cover the applicable specialty oils as well. Some adaptation is being finalised to account for the broader spectrum of sustainable performance benefits provided by the expanded base of Nynas products.

In 2022, a new polymer modified bitumen (PMB) product range with biogenic carbon was launched. This high-performance PMB increases pavement life compared to unmodified bitumen and has a smaller carbon footprint than other PMB products (case story on page 27). Choosing PMB supports society by making our road assets last longer. We continue to develop safer market alternatives.

The recent introduction of products from our NYTEX® portfolio as a compliant alternative for wood treatment producers and formulators is timely, as the EU in October 2022 announced a ban on creosote use in wood material for fences and marine constructions. Formulations developed with these oils offer a safer alternative to creosote, a toxic and carcinogenic substance that has been used for years as a wood preservative to protect against external conditions, as well as termites and other pests in industrial applications. The NYTEX® oils provide the technical and esthetical effects desirable in industrial wood treatment. Studies have also confirmed the possibility to use naphthenic oils in polyurethane (PU) applications. In hydroxyterminated polybutadiene polyurethane applications, for example, Nytex® 801 was shown to be a good alternative to the endocrine-disruptive phthalates plasticisers. In agricultural PU filled tyre compounds, NYTEX oils were also shown to be good partial replacements of distillate aromatic extracts (DAE).



In 2022, NYNAS BIO products, NYTEX® BIO 6200 and NYTRO® BIO 300X, received ISCC Plus certification.

Market dialogue

Nynas provides guidance for the safe use of our products, and we continuously assess their health, safety and environmental aspects, doing our utmost to minimise all risk. We have the challenging task of educating the market on the sustainability benefits of products based on our oils and are developing and sharing information to support these efforts.

Nynas continued to work actively in Eurobitume's Bitumen Sustainability Steering Group, whose mission includes promoting the sustainable use of refined bitumen in road, industrial and building applications.

Nynas is a member of the UEIL, Union of the European Lubricants Industry's Sustainability Committee that, among other things, aims to provide guidance to define, develop and measure sustainability in the European lubricants industry. Nynas was also a strong influencer in the forming of the ELGI Sustainability Consortium in 2022, for which the focus is sustainability aspects in the lubricating grease industry. Steps were taken during the year to improve coordination and establish a common platform between different lubricants associations.

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Lower carbon footprint with new bitumen binders

Customers responded positively to Nypol RE, a range of polymer-modified binders incorporating a biogenic material.

Extending the useful life of asphalt pavements is one of the best things you can do to improve the climate impact of road construction. The new Nypol RE range does just that, but at a significantly lower carbon footprint than a traditional PMB helping to reducing this impact further. Research has shown that these

types of binders also age more slowly than standard bitumen and that asphalt pavements produced with them can be successfully reused. The Nypol RE range is now available in selected Nynas markets. The carbon footprint calculations for these products have been third-party verified by an external consultant and environmental data for the products sold in Scandinavia is available in the LCA.no database.



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Focus area — Health and safety

Our goal is for everyone to return home at the end of the day at least as safe and sound as when they arrived at work. Line management is responsible for promoting a strong health and safety culture, while all employees and contractors are responsible for contributing to health and safety in their work activities. Health and safety awareness programmes and training, along with Nynas policies, support these efforts.

Ambition 2030

We strive to continuously provide a safe and healthy work environment for all employees, contractors and visitors and aim for safe and controlled processes within all operations. One long-standing ambition is to maintain a performance that is better than the industry average in health and safety, including both personal safety and process safety. After several years of steady improvements in safety performance, where we moved to a result that was better than the industry, we took a step back in 2022 in terms of personal safety. Our safety performance, during the turbulent times for Nynas, fell short of our target and ambition but we have reinforced our efforts to get back on the successful track of the previous years.

The following are some of the strategic efforts and activities to help us achieve our 2030 ambition for health and safety.

A safe and healthy workplace

When it comes to safety, we place high demands on all levels within the organisation and believe that everyone has the right to a safe and healthy workplace and an obligation to contribute to it. Nynas has implemented a number of Group minimum requirements on health and safety, and we continue to update and expand the scope of these.

Nynas maintains a rigorous concept of process safety measures within manufacturing to minimise the risk of a loss of primary containment (LOPC) and also has a response organisation and measures to prevent escalation. It is compulsory for all employees and contractors to participate in the Observe, Think and Act programme, which focuses on safe behaviour, being observant of potential risks and knowing how to mitigate them. The programme includes many efforts such as cascaded Health, Safety, Security, Environment (HSSE) meetings at all levels, safety workshops and newsletters translated into local languages.

We encourage transparency and the reporting

of incidents through a “no blame” approach. We are eager to learn from all incidents and train many employees in thorough investigation techniques to be able to capture root causes and define corrective actions. This contributes not only to safety improvements, but also fosters a culture of learning and knowledge sharing.

In 2022 Nynas introduced Nynas Code of Safe Conduct (see more page 30) to support the positive development of personal and process safety in all Nynas operations.

Nynas monitors safety performance monthly with KPIs in three main areas – Personal Safety and Health, Process Safety and Transport Safety.

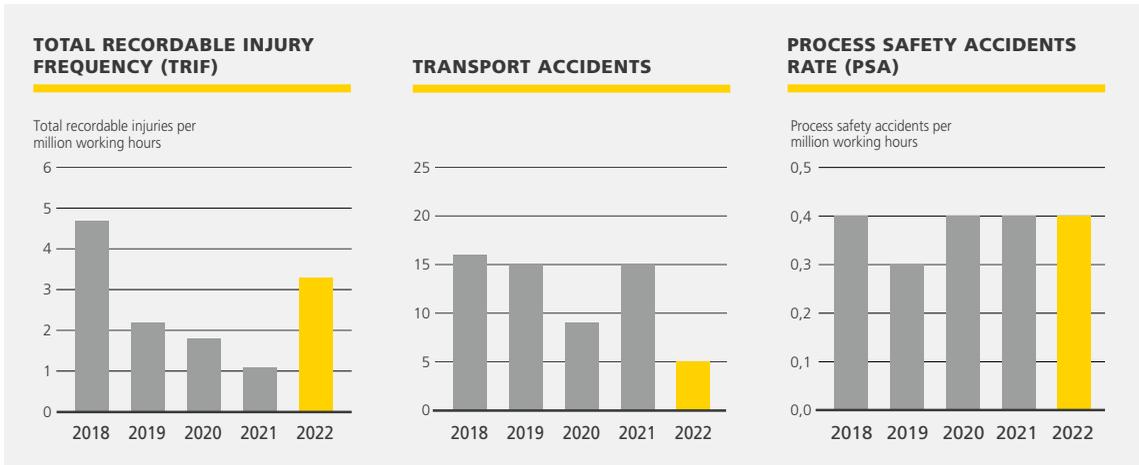
Health and Safety performance

Over the past few years, Nynas has implemented a number of measures to improve its Total Recordable Injury rate (TRIF) such as holding extra safety meetings, updating our minimum safety requirements and by sharing best practices. Despite these efforts, performance in 2022 fell short of our targets and for the first time in many years the outcome was worse than the previous year when it comes to personal safety. We will address the increase in personal safety incidents in 2022 through strengthening of the “Observe – Think – Act” principles already established in the company. The HSSEQ Group function, together with management, will continue our unwavering focus on these issues. Our performance in process safety improved however in 2022 and while maintaining a solid performance on PSA Tier-1 we improved on all measures with lower severity.

Reporting and benchmarks

Incidents are reported within the Synergi Life system. Personal Injuries and Process Safety Accidents are benchmarked against the European downstream oil industry safety performance reported by Concawe. Transport Accidents were significantly improved with five cases, which is well below the target and the lowest number ever recorded for Nynas. Nynas benchmarks its Transport Accidents against figures from the European Chemical Transport Association (ECTA) and will, during 2023, start to report KPI targets and metrics for Transport Accident Rate in order to benchmark against Concawe. We continuously assess the health, safety and environmental aspects of our products and do our utmost to minimise any negative

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effects. Nynas provides guidance for safe use of all its products with safety datasheets provided in local languages for all products, including those which are not classified as hazardous. Furthermore, we provide

training, both internally and externally, to ensure that our products are produced, stored, transported and used in a safe way.

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Code of Safe Conduct

Enhanced results within both personal and process safety, as well as an enhanced safety culture are the overall objectives of the Nynas Code of Safe Conduct.

The Code of Safe Conduct aims to support everyone who works at, and for Nynas, to act in a way that helps to achieve even better results in both personal and process safety. Similar safety efforts have been in the industry for some time, and we were therefore able to assess what works well and what doesn't when it came time to launch our own Code of Safe Conduct. The work focuses on applying a safety focused Code of Conduct with a set of themes.

This is an important step in creating a safe workplace and ensuring that situations that could result in personal injury, damage to the environment or damage to equipment, are quickly recognised and acted upon. This in turn is based on there being clear descriptions regarding how everyone should act, for example when working at height, during instances of heavy lifting, working in confined spaces, and when it comes to process safety. In specific terms, it primarily concerns communicating about these issues and stimulating further reflections and continuous work throughout the company to improve on all the areas covered by the Code.

PERSONAL SAFETY



Focus on what I need to do in order to act and behave in a safe manner.



PROCESS SAFETY FUNDAMENTALS



Focus on what we need to do in order to preserve a safe operation.



SUSTAINABILITY REPORT



"Looking after our employees' health and safety is our top priority"

SUSTAINABILITY REPORT

Focus area — Environment and Climate

We aim to provide our customers with high quality products that also help them reduce their climate impact and energy consumption. Within our own operations we have a long legacy of working to reduce our climate impact, improve our energy efficiency and be a responsible neighbour by taking corrective actions on legacy issues, such as the remediation of contaminated soil and water.

Ambition 2030

Nynas strives to continuously improve its energy efficiency and reduce climate impact in production, operations and transportation through various programmes. We will monitor and make improvements on applicable environmental aspects and communicate clear targets for the reduction of greenhouse gas (GHG) emissions. Below are some of the strategic efforts and activities to help us achieve our 2030 ambition for environment and climate.

Reducing climate impact

We aim to lower our environmental impact and emissions to air, sea and land, and will monitor all emissions from our operations based on the Green-

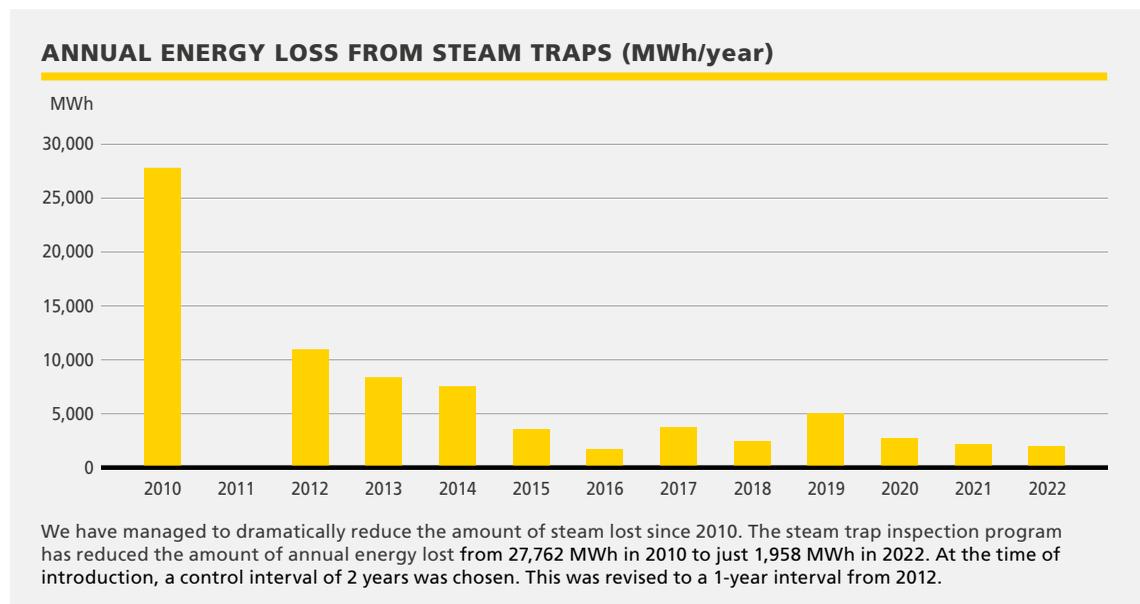
house Gas Protocol. In 2022, we defined scope 1 and 2 reduction targets for 2030 and 2050 with the aim to become climate-neutral by 2050*. Our reduction target for 2030 is to lower our scope 1 and 2 emissions by 50,000 tonnes of CO₂ equivalents versus our base year 2017 (excluding emissions at Harburg). All Nynas refineries carried out measures in accordance with environmental legislation in 2022. The Swedish refineries are fully compliant with the Industrial Emissions Directive (IED) BAT conclusions from October 2018. The BAT conclusions for refineries in Germany have been adopted into several legal regulations and the Harburg refinery is fully compliant with all regulations in accordance with authority permits.

Environmental programmes

We have ongoing programmes to improve the energy efficiency at all our sites. Within all of our operations we are introducing options for energy sources with a lower climate impact, such as transitioning to natural gas from oil.

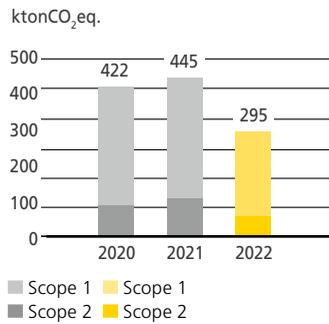
In 2021, we inaugurated two natural gas heaters at the Gothenburg bitumen refinery that reduced

*In accordance with the EU aim to have an economy with net-zero greenhouse gas emissions



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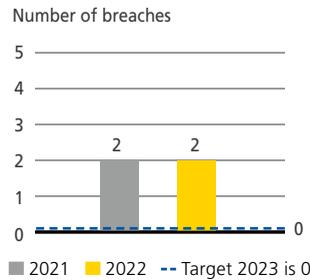
GHG EMISSIONS IN SCOPE 1 & 2



Nynas plans to reduce the Scope 1 & 2 from our active operations with 50 kton until 2030. In 2023 we will assess if our planned baseline needs to be reset as a consequence of the changes currently being implemented.

- Data for 2022 partly affected by
- Lower production levels at some of the sites.
 - Lower energy consumption in our Nordic depots
 - Increased emission factors for Swedish electricity

ENVIRONMENTAL PERMIT NON-COMPLIANCE



Number of breaches of permit conditions at refineries, special products plants and depots.



carbon dioxide (CO₂) emissions by approximately 5,000 tonnes annually. Emissions of nitrogen (NO_x) and sulphur oxides (SO_x) have been reduced by approximately 10 tonnes (NO_x) and 5 tonnes (SO_x) annually. The heaters have also been adapted to run on biogas.

At our Nynäshamn refinery, which manufactures bitumen and naphthenic specialty oils, we have been monitoring steam losses from steam traps through a programme started in 2010. Since then, we have managed to dramatically reduce the amount of steam lost, from 37,017 tonnes in 2010 to 2,611 tonnes in 2022. The steam savings have reduced the amount of annual energy lost from 27,762 MWh in 2010 to just 1,958 MWh in 2022.

Remediation activities

Much has changed in our industry since Nynas was founded in 1928, not the least the world's knowledge and the regulations related to environmental impact. Today, Nynas maintains rigorous process safety measures at all three refineries to minimise the risk of loss of primary containment. We have well-kept production facilities with waste management and treatment operations, and a response organisation and measures to prevent escalation. We have spent many years on remediation efforts to clean up harm done in the past and some of these activities are finally coming to fruition.

Around our refineries, remediation activities are underway related to soil and water issues, such as >

SUSTAINABILITY REPORT

the capping of contaminated sediments on the seabed outside the Nynäshamn refinery. The contamination likely originated from a fire at the refinery in 1956, affecting a total area of approximately 80,000 m². Remediation of the contaminated area is ongoing in line with a decision by the Land and Environment Court in 2018. Monitored Natural Recovery (MNR) is applied for the area at greater depth with annual consultation with the County Administrative Board and in 2022 we submitted a plan to the Land and Environment Court for capping of the area at depths of 5-18 metres as required by the court decision in 2018.

In 2021 we submitted a plan to the Land and Environment Court for final treatment of an acid tar pit that was in operation at the Nynäshamn plant up until 1975 and we received the court decision in 2022. Remediation of the area is challenging due to the potential to release toxic gas (SO₂) in the process.

Nynas has been investigating the area for many years and we expect to begin clean-up efforts on the tar pit in 2025 and complete remediation of the acid tar pit in 2046 in line with the court decision. 2023 marks the final stage in the Landfarmen landfill covering and decontamination project, which has been running for some 30 years. In 2017, a plan was developed for the final covering, situated at the Nynäshamn refinery, and approved by the local County Administrative Board in 2020. That work began in 2021 and will be completed in 2023.

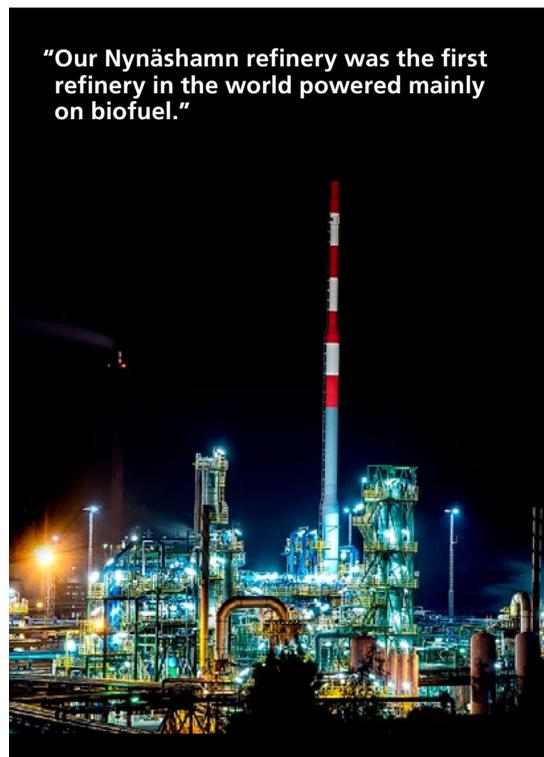
At our Harburg refinery we reached an agreement with the local authorities on a decontamination/groundwater cleaning project of PFAS, which was included in firefighting foams in the past. We have finalised the plans with the authorities and remediation will start in 2023.

Exploring alternative energy

We continue to assess the opportunities to use renewable energy and less greenhouse gas-intensive energy sources in production, operations and transportation, and explore how we can reduce climate impact through emerging technologies. Nynas uses biofuel whenever possible and has been actively addressing these issues for decades.

In 2004, for example, our Nynäshamn refinery became the first refinery in the world powered mainly on biofuel. The switch from oil and electricity to biofuel and waste heat recovery has resulted in annual reductions at Nynas of 35,000–60,000 tonnes of carbon dioxide emissions. Particulate emissions have also been lowered substantially. Additionally, in a long-term collaboration with local energy supplier Adven, residual heat is recovered from the refinery and used for the region's district heating network. The residual heat is equivalent to 35 GWh and sufficient to heat 1,750 houses a year.

A new water facility, completed together with Adven, reduces the consumption of water at the refinery by around 120,000 tonnes per year and provides clean water for both the refinery and Adven's district heating production.



“Our Nynäshamn refinery was the first refinery in the world powered mainly on biofuel.”

SUSTAINABILITY REPORT



"We continue to assess the opportunities to use renewable energy and less greenhouse gas-intensive energy sources in production, operations and transportation."

SUSTAINABILITY REPORT

Focus area — People and Society

Nynas is a responsible member of the community and aims to be an attractive employer. We offer competitive salaries, career opportunities, international work experiences and training, along with an open-minded culture. In 2022 we escalated our efforts to work with a sustainability mindset to ensure the company's future success.

Ambition 2030

Our goal is to be recognised for having a strong employer brand and culture with excellent leadership. Nynas should also be seen as a good neighbour and partner in the local business environment. The following are some of the strategic efforts and activities to help us achieve our 2030 ambition for people and society.

Attractive employer

Employer branding

Our recruiting challenges are to attract employees with high technical competencies and to make our industry more attractive. Our focus on employer branding and sustainability is therefore essential. In 2022, we put a lot of focus on employee engagement, leadership development and talent acquisition. We are changing our recruitment strategy to doing more inhouse recruitments and promoting our own talents.

Encouraging diversity and inclusion

We continuously strive for a diverse workforce and an increased number of female managers, through our focused recruitment efforts and development networks, such as the Swedish Ruter Dam. We have a gender distribution in the Group of 27 per cent women and 73 per cent men. Twenty-five per cent of our managers are female.

Programs and career development

Nynas offers a specialist career programme for engineers, a technical development programme for operators, leadership programmes and other development opportunities. We promote employee growth and yearly development plans for each employee are set up in our annual performance appraisal process. For newly graduated students we offer a trainee programme, NyEx, to secure future talents with engineering expertise, while providing

work opportunities to engineering graduates. We also have our own Production Academy, an apprentice programme that provides onsite training for new operators. Our Harburg facility runs the Apprentice programme, which provides employment opportunities for young people while securing qualified staff for our highly technical chemical operations.

Compass Survey

In recent years, Nynas has conducted an employee survey every second year to identify areas indicating a need for improvement. The last survey took place in 2021. As of 2023 the survey will run every year, with quarterly follow ups on the Engagement and Leadership Index.

Leadership

Strong leadership is a key to our future success, and we offer various leadership programmes for our managers. For new managers, we offer the New as a Manager Programme and for more experienced managers we offer the Leadership Training Programme. These programmes have been running for several years and contribute positively to Nynas leadership. Nynas also offers individual coaching and leadership forums to continuously develop and strengthen leadership among our managers.

Responsible member of the community

Good neighbour

Being a good corporate citizen is important for our production sites in Nynäshamn and Gothenburg, and we want to be considered a good neighbour and partner in the local community. We are achieving this through high HSSE standards, transparency, proactive communication, and engagement. Nynas is the largest private employer in Nynäshamn, where we have been operating since 1928.

With the "Good Neighbour" initiative we have established a dialogue with politicians, municipality officials, teachers and others living in the area. Nynas is also a member of the local business committee. Nynas offers university students and graduates internships through collaborations with universities located near its facilities, such as the KTH Royal Institute of Technology in Stockholm and Chalmers University of Technology in Gothenburg, Sweden. >

SUSTAINABILITY REPORT

"Our recruiting challenges are to attract employees with high technical competencies and to make our industry more attractive."



SUSTAINABILITY REPORT

Supply chain

We believe that responsible supply chain management and selecting good partners is essential to upholding a stable and secure operation and being a reliable partner to our customers. All of our suppliers are expected to comply with the Nynas Code of Conduct and policies, as stated in the terms and conditions of their agreements. Ideally, suppliers can show they have a similar set of codes and policies. Our processes guide the supplier selection on goods and services by assessing potential suppliers based on their quality and sustainability practices. Active key suppliers are regularly evaluated for performance regarding both business and sustainability aspects.

Our target in 2022 was to have all our critical suppliers assessed for sustainability. We managed to achieve this with 80 per cent of the suppliers. We recognise the need for vigilant pre-qualification and follow-up of suppliers and aim to assess and have dialogues with the most important and other concerned suppliers on a continuous basis.

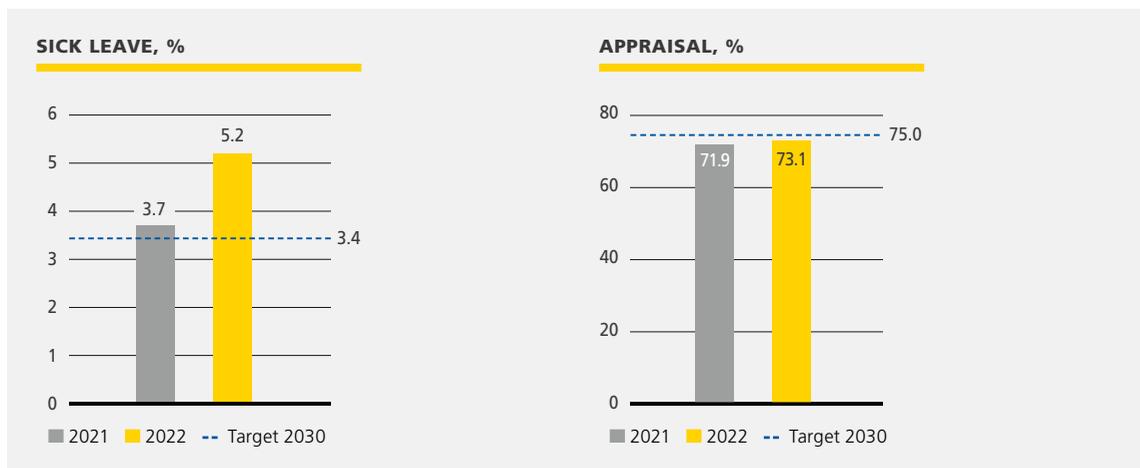
Ethics

Nynas aims to be regarded as a positive force in society and an attractive and equal opportunity employer. The Nynas Code of Conduct clearly establishes the rules of ethical business behaviour for all Nynas employees and partners in relation to bribery, corruption, conflicts of interest and other areas where there could be business and sustainability risks. All information must be managed in compliance with the General Data Protection Regulation (GDPR) for data protection and privacy.

New employees are introduced to the company through an onboarding process that also includes training on the Nynas Code of Conduct and ethical behaviour. There is mandatory recurring training on special business ethics topics for employees who in their work might be exposed to specific risks, such as anti-bribery, anti-corruption, competition and trade regulations, along with other policy compliance training. The identified employees are required to sign an annual undertaking confirming they will comply with the Nynas Code of Conduct and its underlying policies. With the easing of Covid restrictions and face-to-face meetings at exhibitions and fairs being resumed, the training in 2022 focused on ethical behaviour in interactions with competitors and customers.

The Code of Conduct has supporting policies for competition, procurement, anti-bribery, anti-corruption and trade, among others. See governance, on pages 20–23.

Non-compliance issues are handled through a whistleblowing system that was launched in an updated form in June 2022 to meet the requirements of the Swedish Whistleblowing Act. This updated Whistleblowing system enables anonymity and accessibility for both internal and external parties wishing to report issues. Nynas complies with the laws and regulations in every jurisdiction where it operates, including the UK Bribery Act and the Foreign Corrupt Practices Act, EU and US competition laws, and EU, US and UN sanction regimes.



SUSTAINABILITY REPORT

Competence Development comes in many forms

Sharing learnings

To continue delivering excellence and best practices, several events were arranged throughout the year: The Leader Forums, the Safety Days and the New as a Manager training. In September, the Nynäshamn refinery also hosted a visit from engineering students from KTH Royal Institute of Technology, who got to see how a refinery is run and the types of work you can have as an engineer.

In addition to an overall presentation of the site and its operations, the visitors were given guided tours in both the process area and pilot plant with an opportunity to meet and talk to engineers on the site.

Nynas Production Academy

Another round of the educational project with a mission to educate future operators kicked off during the year. The Nynas Production Academy is now in its second phase where the operators tackle the next units in the refinery – HF1, SA2 and SA3. The Academy was kicked off with a week of theory to go through the process in detail with support from operators and engineers.

NyEx Trainee Program for Engineers

Within Manufacturing there is a continuous need for technical expertise. The fourth round of the rotation and introduction programme, NyEx, ran from August 2021 to August 2022 in the Engineering and Process Technical Services departments, Production Engineer group and Maintenance Technical Services. The purpose of the trainee programme is to gain broad knowledge about Nynas manufacturing while getting an opportunity to try working in different parts of the organisation. NyEx is a way for Nynas to stay ahead and plan long-term to bring in more engineers and technical expertise to the company.

Leadership Forums

Core values, as with a company's leadership profile, must be discussed and reflected upon

constantly to be well understood, have meaning for everyone and serve their purpose. Hence our leaders spend time discussing these important topics in Leadership Forums.

It is crucial that all leaders in the organisation are role models, reflecting the core values and fostering the right behaviours in the organisation.

“What leaders do, permit, accept or applaud in daily work fosters a culture, and this is important to be reminded about and reflect upon,” says Urban Rhodin, HR Consultant at Nynas.





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