TATA STEEL

TATA

Sustainability Report 2022/2023

Contents

Preface

Dear reader,

We have been making steel for over a hundred years. ‘Hoogovens’, as our company is still known to some, has grown into a major steel producer, with branches in Europe and the United States. Our steel is of high quality, highly sought after and of value to our society. We also do well as an employer. I’m proud that good professionals enjoy working for us.

We are also one of the top sustainable steel producers worldwide. This is the result of many years in which we organise our processes in an increasingly smarter and more efficient way. Despite our efforts, we also receive criticism. Societal norms have changed and we feel a strong responsibility to adapt our processes for the future.
We believe in our company, and we will continue to strive to improve where possible. For example, we have taken various measures in recent years to further reduce our emissions and thus reduce the impact of our activities on our immediate environment.

We need steel as a society. It is all around us and global demand continues to grow. We want to produce this steel in a sustainable manner. With minimal impact on climate, environment and surroundings, as an important employer in this region and as a supplier of high-quality green steel with which our customers can make sustainable products.

For this ultimate goal, we completely renew the heart of our current process: with modern techniques and new plants, without coal and with green energy. This industrial transition is more far-reaching than anything that has ever taken place in the Netherlands. The first phase, we want to complete this in about seven years. That is a very short period, especially in view of our 100th anniversary, but it is necessary. We’ll pull out all the stops for that.
We are assured of the support of our parent company, which is closely involved in our journey towards sustainable steel production. With this major transition, we are building the future of sustainable steel production in the Netherlands. This is important for our current and future employees, and for our environment and society in general.

In short, we are driven, but we can’t do it alone. After all, we depend on the support and cooperation of many parties and partners.
This report tells you about our sustainability strategy, minimising our impact on the environment, making our products more sustainable, and our commitment to the well-being of our employees, partners and those involved around us.

Hans van den Berg
CEO and chairman of the Board of Directors Tata Steel Nederland

TATA STEEL NEDERLAND, PRIORITIES AND GOVERNANCE

This chapter offers insight into the organisation of Tata Steel Nederland. The organisation of our company, its governance and the key figures are discussed and further includes a summary of all branches in Europe and the US. We discuss our sustainability strategy and provide insight into material themes and how we engage in dialogue with various stakeholder groups.

Tata Steel Nederland is one of the major steel producers within mainland Europe, with more than 12,000 employees and agency workers. The company produced 6.3 million tonnes of steel in the financial year ending 31 March 2023 and had a turnover of 7.5 billion euros. With twenty production sites in ten countries, we supply high-quality steel and steel products to customers located mainly in Europe and partly in the United States. The majority of our customers are in the construction, automotive, packaging and mechanical engineering industries. For example, our steel is processed in steel frames for solar panels and batteries for electric cars, but also in construction, in cranes and excavators and moving machines.

Property

Tata Steel Nederland (TSN) consists of two entities and their subsidiaries:
British Steel Nederland International B.V. and Tata Steel Nederland B.V.

Both are located in IJmuiden and a wholly-owned subsidiary of Tata Steel Nederland Holdings B.V. (TSNH), a private limited company based in the Netherlands. TSNH - through a number of intermediary companies - is owned by Tata Steel Europe Limited (TSE), a UK-based private limited company.

The ultimate parent company is Tata Steel Limited (TSL), an India-based public limited company with shares listed on BSE Limited (formerly Bombay Stock Exchange Limited), Mumbai and the National Stock Exchange of India, and with global certificates listed on the London and Luxembourg stock exchanges.

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www.tatasteelnederland.com/en

TATA STEEL NEDERLAND IN NUMBERS

REPORTING YEAR 2022-2023

Total steel production
6.3 million
tonnes of liquid steel

Gross turnover
7.5 billion
Euros

Investments in installations
532 million
Euros

Total direct jobs
12,299

Reliable producer of high-quality steel

Structure, markets and activities

Tata Steel Nederland consists of two Business Units: Tata Steel in IJmuiden, which consists of an integrated steel plant in IJmuiden (the Netherlands), and Tata Steel Downstream Europe, which is formed by a group of steel processing companies in North West Europe (the Netherlands, Belgium, Germany, France, Sweden, Norway, Finland, Switzerland), Spain, Turkey and the United States.

The steel company, of which three-quarters of the workforce are based in Tata Steel in IJmuiden, is unique in Europe. It is located on the largest contiguous industrial estate in the Netherlands, divided over the municipalities of Heemskerk, Beverwijk and Velsen, and forms a fully integrated production company from high-quality hot and cold rolled to uncoated and coated steel. Strategically located on the coast, Tata Steel Nederland (for the most part) receives raw materials via its own seaport. Our products reach the market directly from the location in IJmuiden, or indirectly, via the processing locations and the network of distribution hubs, via rail, road and water.

Tata Steel Downstream Europe is divided into Building Systems, Colors, Distribution, Plating and Tubes businesses. These businesses process the steel from IJmuiden for high-quality applications in specific market segments, such as construction (metal roofs and wall cladding), the mobility sector and the energy sector (batteries).

Economic performance

The steel industry is cyclical. Its financial performance is under strong influence of the general macroeconomic conditions that determine steel demand, as well as globally available production capacity, raw material prices and currency exchange rates. Market developments in continental Europe and changes in the global steel market affect the financial performance of Tata Steel Nederland.

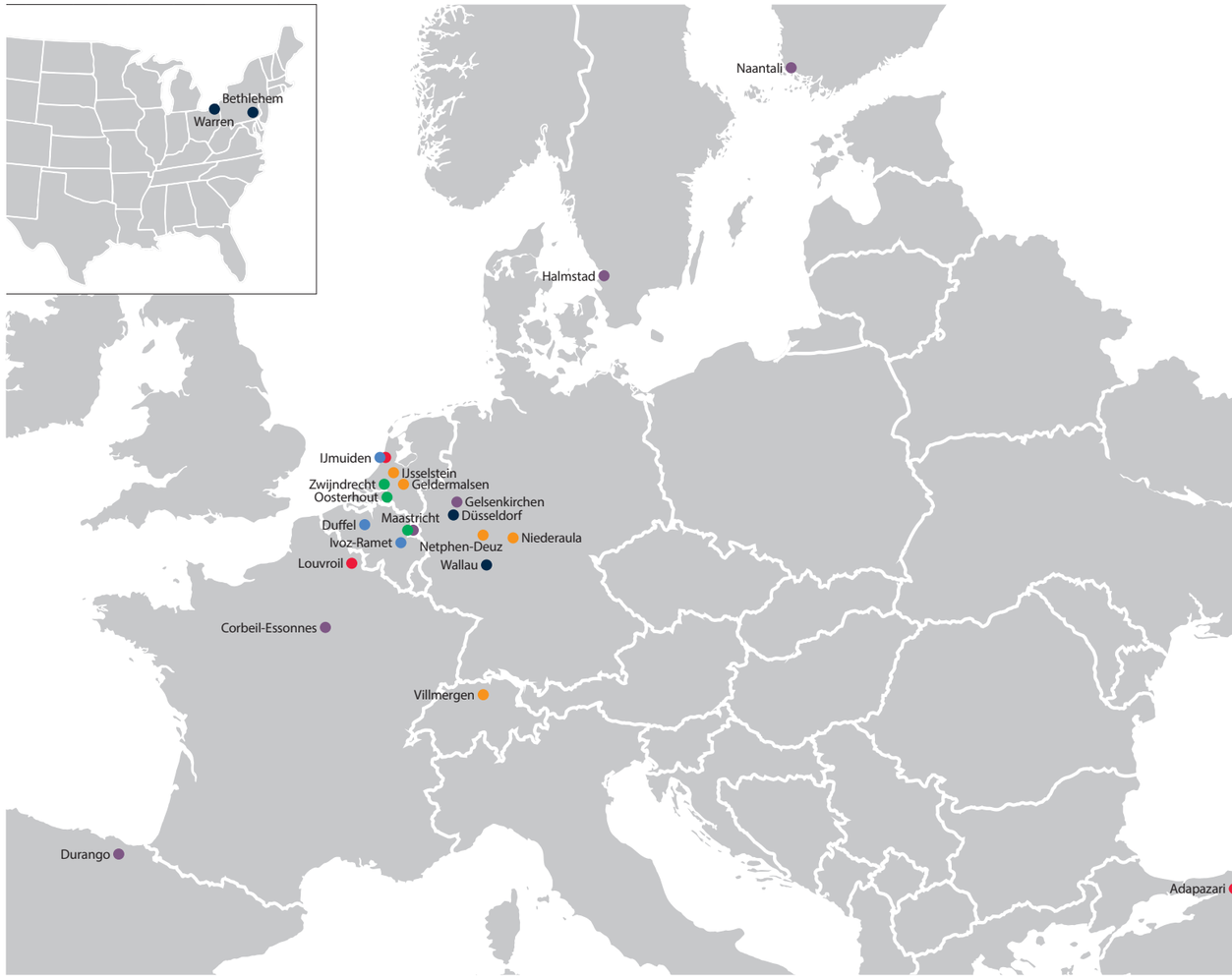
Following the strong recovery of the steel markets coming out of the COVID-19 pandemic in 2022, the economy in the year under review was increasingly impacted by the war in Ukraine, China's COVID restrictions and central bank rate hikes to curb inflation. The result was an economic downturn that bottomed out in the fourth quarter of 2022. This made the 2022-2023 reporting period a year of two halves. Tata Steel Nederland ended the year with an operating result (EBITDA) of € 693 million (€ 1169 million the year before).

EMPLOYEES TATA STEEL NEDERLAND

REPORTING YEAR 2022-2023

Netherlands	10,155
Germany	641
France	571
United States	246
Belgium	184
Spain	155
Switzerland	115
Turkey	83
Sweden	63
Finland	43
Norway	23
Poland	8
Italy	7
Czech Republic	4
China	1
Total	**12,299**

Production sites Tata Steel Nederland

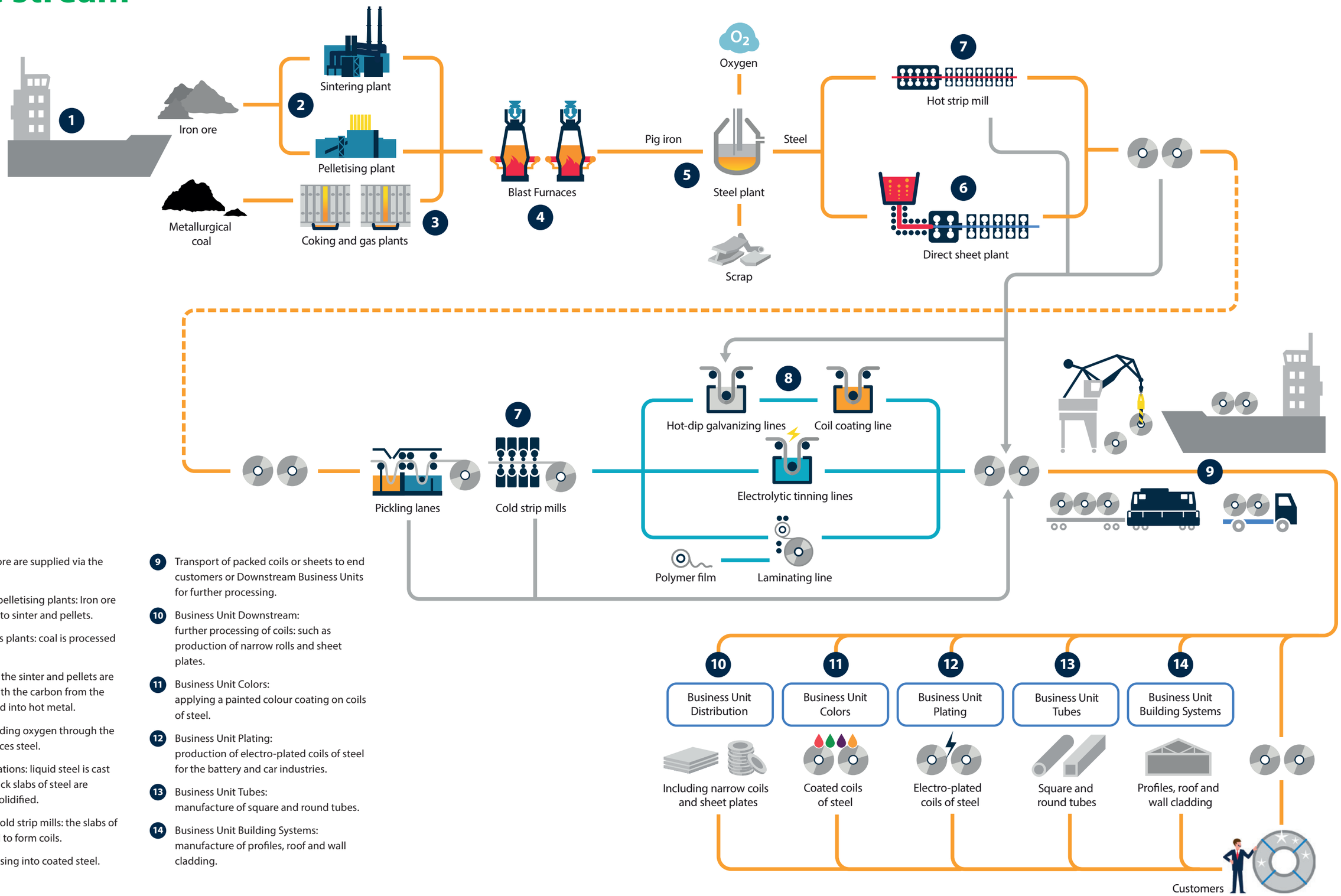


- Business Unit Tata Steel IJmuiden

Business Unit Tata Steel Downstream Europe:

- Business Unit Building Systems
- Business Unit Tubes
- Business Unit Colors
- Business Unit Distribution
- Business Unit Plating

Value stream



1. Coal and iron ore are supplied via the seaport.
2. Sintering and pelletising plants: Iron ore is processed into sinter and pellets.
3. Coking and gas plants: coal is processed into coke.
4. Blast furnaces: the sinter and pellets are heated and, with the carbon from the coke, converted into hot metal.
5. Steel Plant: leading oxygen through the pig iron produces steel.
6. Casting installations: liquid steel is cast in a mould. Thick slabs of steel are formed once solidified.
7. Hot strip and cold strip mills: the slabs of steel are rolled to form coils.
8. Further processing into coated steel.
9. Transport of packed coils or sheets to end customers or Downstream Business Units for further processing.
10. Business Unit Downstream: further processing of coils: such as production of narrow rolls and sheet plates.
11. Business Unit Colors: applying a painted colour coating on coils of steel.
12. Business Unit Plating: production of electro-plated coils of steel for the battery and car industries.
13. Business Unit Tubes: manufacture of square and round tubes.
14. Business Unit Building Systems: manufacture of profiles, roof and wall cladding.

The road towards a sustainable steel company

We are proud to produce high-quality steel that is essential for the development of industries in the Netherlands and worldwide. Our focus on innovation and sustainability drives us to transform the way steel is produced, reduce our carbon footprint and increase efficiency. Our efforts to transform the steel industry reflect our commitment to a more sustainable future.

We want to have a positive impact on the world we live in. That is at our core and determines everything we do. In light of this, we are constantly working to make Europe's leading steel company sustainable in all respects: sustainable in the way we work, the products and services we make and purchase, and in the way we take responsibility for the world around us.

Tata Code of Conduct

Tata Steel embraces the five Tata Values which are shared by all Tata companies worldwide and which serve as a guideline for the expected conduct and practices within the company:

Pioneering | Responsibility | Excellence | Unity | Integrity

These are laid down in the Tata Code of Conduct.
The purpose, values, vision, mission, strategy and key messages of Tata Steel are communicated at all levels of the organisation through regular internal communications, senior management conferences and weekly CEO update meetings.

Our leadership style

Tata Steel Nederland is committed to three leadership principles and we always adhere to them: we connect, change and care for each other. These three leadership principles underpin our values and set the tone for how we work together and inspire our culture.

Connecting

Listening and understanding, different perspectives, diversity, trust and empowerment, open and honest communication.

Changing

Thinking in terms of possibilities, daring to make mistakes, being courageous, encouraging change with the result in mind, acting from a sense of urgency for a bright future.

Caring each other

Caring for ourselves, each other and society. Making a positive impact today to change tomorrow. Being open to challenging points of views and doing what we say.

Objective
Where we are headed

With our sustainable steel, we improve the way people around the world work, live and move.

Mission
The route we follow

We continue to play a significant role for all our stakeholders by creating value as a clean, green and circular company, by being a good employer and by continuing to maintain dialogue with our environment.

Vision
What we expect to find at the end of our journey

A clean, green and circular steel company that is sustainable in every way.

Clean, green and circular

The basis of our existence is that we want to add value to steel products and production and as such to our society. It is therefore important that we have insight into the topics that our stakeholders consider important. We are continuously in dialogue with all our stakeholders – from customers to governments, from neighbours to employees, from suppliers to expert partners. Next, we regularly map out the so-called material themes, as described below.

Our sustainability principles

Embedded:

Sustainable goals are embedded in our policy, management systems and communication. This makes everyone at Tata Steel Nederland, from factory level to central management, responsible for our sustainable success.

Engaged:

We encourage all stakeholders throughout the supply chain to commit to sustainability and to work with us on this. We listen to feedback and take this into account in our decision-making.

Transparent:

Science and facts are the basis of our decisions.
We use standardised and verifiable statistics and follow generally accepted standards, guidelines and indicators.
We communicate openly about our sustainability performance to the extent that third parties can assess this as well.

Materiality analysis

During the year under review, our parent company, Tata Steel Limited, started a global materiality analysis, in which our company was consulted and involved as well. The results of this large-scale exercise became known after the year under review and will help us improve and deepen our materiality analysis.
This concerns a so-called double materiality analysis in which we identify and value our impact on people and the environment on the one hand, and on the other hand we gain a picture of the risks and opportunities for our company in terms of sustainability.
In our 2021-2022 report, we announced that we would conduct this materiality analysis, but unfortunately this was postponed following the initiative of our parent company. The double materiality analysis provides relevant information for our strategy development and gives direction to the open and transparent reporting and dialogue that we aspire to with our stakeholders.

Steel is a special material and of great value to many applications in our modern world. It is also one of the most recyclable products.
By continuously innovating our products and making our production and the entire value chain more sustainable, we have a positive impact on the world in which we live.

In principle, we believe that our sustainable development must be accountable: embedded, involved and transparent. Our sustainable development is characterised by four strategic priorities:

Decarbonisation & Sustainability

Climate change can only be prevented by large-scale reduction of greenhouse gases. We endorse the goals of the Paris Climate Agreement and the Dutch climate goals and consider it our responsibility to contribute to the solution. Tata Steel Netherlands is one of the most CO_2-efficient steel companies in the world and is working hard on plans to transform to carbon-neutral steel production in the next 20 years.
By continuously improving our production processes using advanced techniques, we have succeeded in significantly reducing our carbon footprint since 1989.

Material themes:

- Decarbonisation
- Circularity
- Responsible sourcing

Environment & Community

Our efforts to minimise the impact on the local living environment and the environment as a whole are ongoing. We are in constant contact with local residents, governments, companies and other organisations about developments on our site and in our community.
We also participate in local partnerships, support local initiatives and involve our neighbours in our activities as much as possible.

Material themes:

- Air emissions
- Biodiversity

Customer & Value

Together with our customers, we develop new steel products that enable them to achieve their sustainability goals in order to make the value chain even more sustainable.
To achieve our sustainability goals, long-term profitability is important. We achieve this through customer loyalty, quality, new products and close collaboration in the field of research & development.

Material themes:

- Long-term profitability
- Involving customers in sustainability
- Quality and innovation

People & Society

We are committed to the health, mental well-being and employability of all employees. Safety at work takes up the highest priority therein. We also create an equal opportunity work environment and invest in the training and development of all our colleagues, whether employed directly or otherwise associated with us.

Material themes:

- Governance and involvement
- Health and Safety
- Equal opportunities
- Local community

Intensive coordination and collaboration at all levels

Tata Steel Nederland seeks continuous dialogue with its stakeholders. This is important in order to determine which topics are valuable to our stakeholders and, therefore, to us (materiality). It is essential that we inform and involve stakeholders in this way, thereby creating support for our product range and, in particular, our sustainability performance and plans.

Intensive coordination and collaboration are required when making our production more sustainable. In that context, we have structural consultations with our various stakeholder groups, such as employees, trade unions, customers, suppliers, local residents and NGOs. It goes without saying that we are in close contact with local, national and regional governments and the semi-public sector, such as the provincial authorities of North Holland, municipalities and environment agencies. We also maintain contact with policymakers and politicians at local, regional, national and European level. In our industry, we are affiliated with various consultative structures and partnerships.

Our stakeholder dialogue manifests itself in various ways: formal and informal meetings, participation meetings, live online sessions, interviews, surveys, desktop research, but also via a service desk in Wijk aan Zee that is open three days a week and where everyone can drop in. The information we collect from this is assessed to determine the impact and importance of the various topics. We focus on aspects such as environmental issues, social impact, governance and economic performance, among other things.

Exposure and accessability

Tata Steel Nederland uses various media outlets to be easily searched upon and accessed by its stakeholders, especially those in the immediate vicinity. In addition to the tatasteelnederland.com website and our social media channels, we publish various newsletters and distribute the 'Staal & IJmond' environmental newspaper from door to door in the IJmond region (circulation of 75,000), three times a year. In this newspaper we report, among other things, on the progress of our measures for a cleaner environment, our Green Steel Plan and Tata Steel Nederland as an employer. Other newsletters are the digital newsletter RondomStaal for the IJmond region and 'Tata Steel & Omgeving' for Wijk aan Zee.

Dialogue with the community

Producing responsible steel is only possible if there is a healthy balance between the interests of people, the environment, the community and the company. We have therefore intensified contact with local residents for some time now, also during the year under review. We listen to what is important to our neighbours and want to inform and involve them in developments on our site at the earliest possible stage. Themes that are discussed are quality of life and sustainability, but also employment and economic cooperation. The live broadcasts, during which company specialists and members of the management team talk to local residents and other stakeholders, have been continued. Anyone can follow these live Q&A broadcasts, ask questions or view them afterwards. In addition, we remain in contact with various organisations and authorities in the area. For example, local round-the-table sessions are organised during which representatives of local and district councils from the IJmond region talk to Tata Steel about developments at our company (Chapter 3). Each month we organise bus tours during which interested parties are given a tour of our site and we inform them about how steel is currently being made and what this will look like in the future. In this financial year, we have given tours to around 900 local residents. In addition, more than 9,000 people received guided tours of our site, including customers, suppliers, new employees, politicians, media, family members and other interested parties.

Employee representation

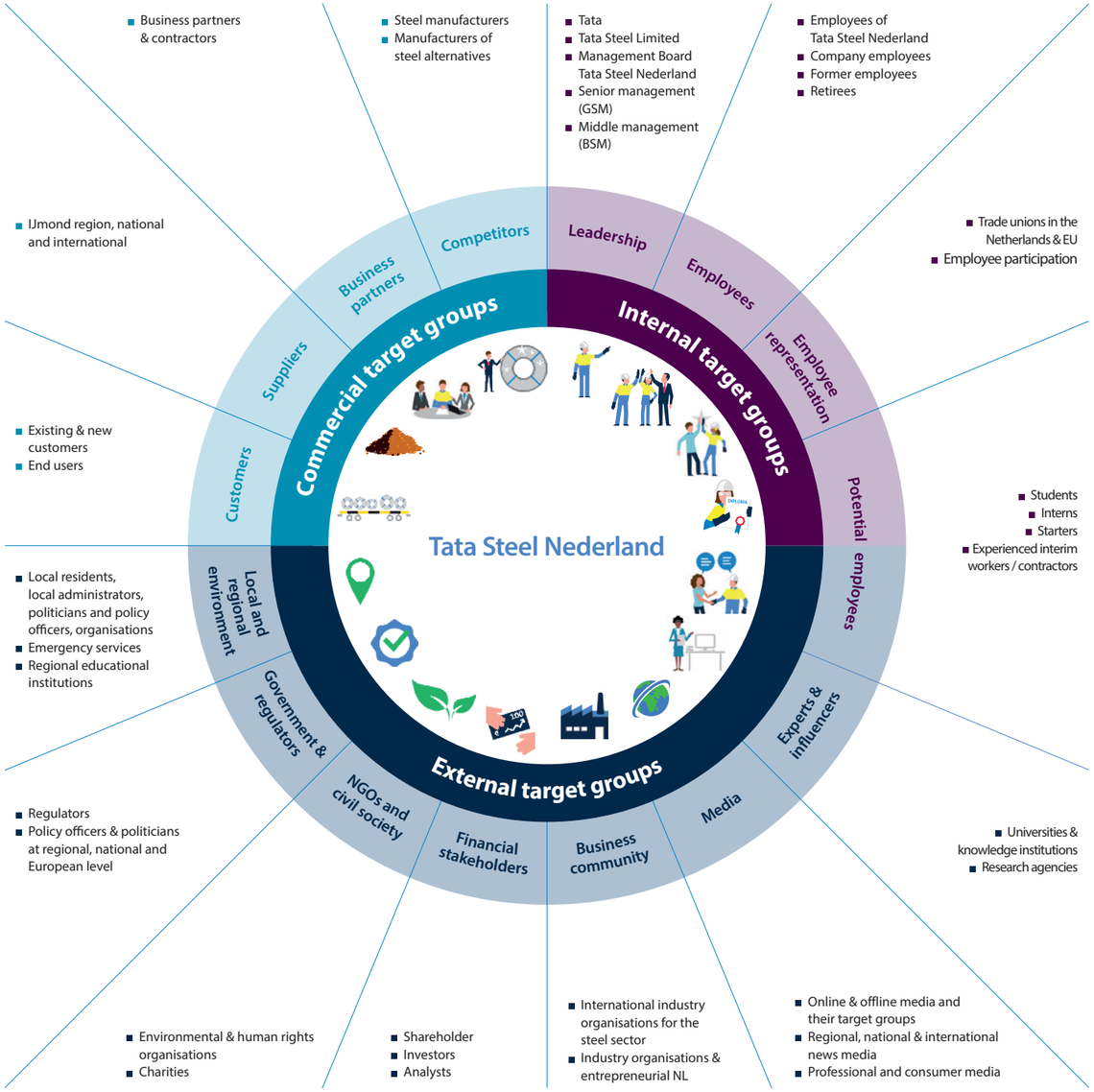
We attach importance to employee participation and are convinced that proper employee participation is in the interest of both the employees and the company.

At Tata Steel IJmuiden, works councils (six in total) play a role in the consultations within their own work units. They delegate members to the Central Works Council. Consultations with the trade unions on terms of employment are held on a regular basis. Within Tata Steel Downstream Europe (TSDE), the interests of employees are represented by separate works councils. In all cases, there is consultation between the Managing Director and the employee representatives. All TSDE works councils are supported by the Central Works Council. Central consultations are held at Tata Steel Nederland level.

Due to the split of Tata Steel Europe into Tata Steel Nederland (TSN) and Tata Steel UK (TSUK) as of October 2021, the previous European Works Council (EWC) within Tata Steel Europe (TSE) ceased to exist. In March 2023, a new EWC was established within the organisation of Tata Steel Nederland.
In 2022, a collective agreement was agreed with the unions for a period of 18 months, from 1 April 2022 to 30 September 2023. During this period, employees of Tata Steel Nederland will receive an average wage increase of 6% in a mixture of structural increases and a number of one-off payments. It has further been agreed that the generation pact will be extended by two years. Negotiations on a new employment contract must be completed by September 2023.

In addition to working with customers, we also look for opportunities for improvement through various discussions, consultations and collaborations. To this end, we form networks with customers, suppliers, external institutions, NGOs, industry organisations and the semi-public sector. The appendix contains an overview of industry organisations and networks in which TSN participates.

Overview of the main stakeholders of Tata Steel Nederland



Measures against significant risks

Within Tata Steel Group, risk identification and mitigation is an integral part of all business management processes. Based on the group's procedures and reports, Tata Steel Nederland identifies and monitors significant risks and possible measures. Risk overviews from all of our business are consolidated into a general overview and updated quarterly.

The 2022-2023 annual financial report discusses in detail the various risks and opportunities that are relevant to our company. A number of risks are briefly explained or listed below.

The Environment

Elsewhere in this report, the environmental impact of the site in IJmuiden is discussed. In addition to dust, noise and odour, the unwanted emissions of raw coke from the Coking and Gas Plants in particular pose an urgent risk in the year under review, for which a third order subject to a penalty for non-compliance was imposed by the environment agency. This agency has also indicated that it will investigate whether at some point the relevant licence can be withdrawn. Tata Steel Nederland gives the highest priority to preventing these emissions, by imposing even stricter operational control and the use of advanced data analysis, among other things.

Decarbonisation and climate change

The social pressure for emitting less CO_2 is strong. This certainly applies to the steel industry and therefore also to Tata Steel Nederland. Government measures are associated with the cost of emission allowances under the European Union's Emissions Trading System. Moreover, there is specific Dutch legislation that can lead to an additional tax burden. The associated costs may jeopardise our competitive position and limit our scope for investment.
Climate-related risks also include the physical consequences of rising sea levels and extreme weather events.

The implementation of our strategy towards green, clean steel production within the set term is (partly) determined by our collaboration with governments. This involves financial support, obtaining permits (in time) and ensuring a level playing field in Europe.

Employees

In order to be and remain an attractive employer, it is important to protect our reputation, particularly because of the public debate surrounding our environmental performances. We are faced with a challenge in terms of recruiting technical personnel and other specialists. To this end, we use communication strategically, we work together with universities and other relevant training institutes and the Tata Steel Academy provides technical training programmes.

Other risk areas

In order to guarantee the continuity of our company and production as much as possible, risks are identified and monitored in numerous areas. In addition to the above themes, the 2022-2023 annual financial report also discusses the following themes: maintenance and repairs of installations and equipment, the developments and trends in the global steel market, the importance of timely supply/delivery of the right raw materials and energy, the possible effects of exchange rates, digital resilience to cyber attacks and legal issues pertaining to civil, administrative and criminal cases in which our company is involved.

Katja Mussert has enjoyed a long career at Tata Steel. Katja began her journey in the Research & Development department, transitioned to Business Excellance, and then became the trusted right-hand to the management team. The significant network that she has built up proves invaluable in her new role as Stakeholder Management Lead.

What does your job entail?
"In short: facilitating the best possible dialogue with our stakeholders. My position was created because we believe it's important to serve all stakeholder groups, both within and outside our company, in an equal manner. There are many departments within our company that maintain contact with many stakeholder groups. It's my mission that we start applying a more integrated approach in our work and, based on the right information, all sing from the same hymn sheet, in the best possible dialogue with everyone."

How do you go about that?
"My first priority is to get to grips with the internal coordination. We have now started mapping out who is talking to whom, when and about what. Step two is that we determine our objectives with the various stakeholders and start presenting ourselves more actively. Whereas we were mainly reactive in the past, I think we could and should be more proactive today. We have a story to tell and of course not everything is going well yet. But we are working hard to improve it. Being open about that leads to open dialogue."

How is it going so far?
"The internal coordination requires discipline from all, but it's starting to take shape. Because, we want to be and remain in conversation with various stakeholders as much as possible. That includes sharing our data and facts in a clear way. This is a basic condition for a healthy dialogue. The aim is to create more openness so we can further strengthen ties step by step."

Daily management and supervision

The day-to-day management of Tata Steel Nederland is the responsibility of the Board of Directors. During the reporting period, this consisted of the CEO, the Chairman of the Board and Head of Sustainability Hans van den Berg; The Director of Tata Steel IJmuiden & Tata Steel Downstream Europe Tom Eussen; and the Financial Director Co van Dort, who was succeeded by Martijn Plaum in September 2022.

The members of this Executive Board are appointed by the General Meeting of shareholders. The Board of Directors is supervised by the Supervisory Board; the Supervisory Board supervises how the Board members fulfil their duties within the framework of the governance of the company and the policies pursued. At least fifty percent of the Supervisory Board consists of independent members, including the member nominated by the Works Council. All members are non-executive. Each member has an equal vote. The Supervisory Board currently consists of three men and one woman: T.V. Narendran (Chairman), Marius Jonkhart, Leni Boeren en Henrik Adam.
The members of the Supervisory Board are appointed by the General Meeting of Shareholders on the recommendation of the Supervisory Board itself. The Works Council enjoys an enhanced right of recommendation for the appointment of one member. The Supervisory Board has drawn up a profile with regard to the required knowledge, diversity and independence of its members. The profile sketch is leading in the selection and nomination of new members.

The Supervisory Board has set up an Audit Committee in which Supervisory Board members Marius Jonkhart (Chairman) and Henrik Adam have a seat. This committee prepares the decision-making of the Supervisory Board regarding the integrity and quality of the company's financial reporting and its effectiveness in internal risk management and control. The Executive Board and the Supervisory Board have each drawn up regulations for their functioning and the method of decision-making. The regulations also specify that members will not participate in decision-making in the event of a conflict of interest.

The nature and amount of the consideration for the Board of Directors is determined by the shareholder. The consideration is a combination of a short-term incentive plan, linked to the safety performance and financial results, and a long-term incentive plan, linked to the relative competitive performance and sustainability targets.
The remuneration of the members of the Supervisory Board is determined by the General Meeting of Shareholders. The level of remuneration does not depend on the result of Tata Steel Nederland. Each year, the Supervisory Board evaluates and assesses its own performance and that of the members of the Executive Board. The Supervisory Board may be assisted in this by an external party.

Within the structure of Tata Steel companies, T.V. Narendran is the CEO and Director within Tata Steel Limited and Henrik Adam the Vice President of European Corporate Affairs within Tata Steel Limited.

Sustainability monitoring

Sustainability is the final responsibility of the Board of Directors within Tata Steel Nederland. During the year under review, CEO Hans van den Berg was appointed Head of Sustainability. His position as Director of Tata Steel IJmuiden has therefore been transferred to Tom Eussen. Nevertheless, the Board members share this responsibility as colleagues and are supported in this by the Director of Sustainable Transition Jeroen Klumper and his team. Jeroen Klumper reports directly to the Board of Directors.

Board of Directors

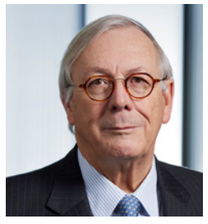
Hans van den Berg
CEO, Chairman of the Board and Head of Sustainability
Hans van den Berg started his career at Tata Steel (then Koninklijke Hoogovens) in 1990. He has since held various positions at Research & Development, the Blast Furnaces, Basic Oxygen Steel Plant 2, the Cold Strip Mill and the Direct Sheet Plant. Hans holds a PhD in physics and completed his MBA at both Nijenrode University and Rochester University (NY).

Martijn Plaum
Finance Director
Martijn Plaum joined as CFO and member of the Board of Directors on 1 September 2022. Martijn is a business economist and obtained his master's degree in Business Economics and International Tax Law at Erasmus University. Over the past 19 years, he has held various finance positions at Shell, most recently as Vice President of Finance in Gas, Power and Environmental Products Trading.

Tom Eussen
Director of Tata Steel IJmuiden and Tata Steel Downstream Europe
Tom Eussen joined Koninklijke Hoogovens in 1996 and held various strategic, operational and general management positions. In recent years he was responsible for Downstream Operations at Tata Steel Europe. Tom Eussen graduated in industrial engineering from the University of Twente and completed his EMBA at IMD in Switzerland.

Supervisory Board

T.V. Narendran
Chairman since 2021
Other positions:
CEO and Managing Director of Tata Steel Limited (since 2013),
Member of the Executive Committee and Board of Directors of the World Steel Association.



Marius Jonkhart
Member since 2006
Other positions:
Chairman of the Board of Governors at the Netherlands Economic Institute.

Leni Boeren
Member since 2014
Other positions:
Supervisory Director at NIBC,
Supervisory Director at Air France-KLM,
Chairman Supervisory Board of Ohpen,
Member of the Advisory Board of Keyser & Mackay,
Member of the Capital Market Committee of the Dutch Authority for the Financial Markets,
Member of the Board of Stichting Administratiekantoor Koninklijke Brill.

Henrik Adam
Member since 2019
Other positions:
Vice President of European Corporate Affairs at Tata Steel Limited (since 2022),

CUSTOMER AND VALUE

Steel is indispensable in our society. Not only is it a sustainable raw material, it is also the material that allows for further sustainability improvements. Electric cars, solar cells, wind turbines and energy-neutral buildings would be inconceivable without steel. It is our customers who develop these products, thereby contributing to a sustainable society.
In this chapter, we show how our products and services add value and how we work towards a sustainable future, in close consultation with our customers.

Ambition

Tata Steel Nederland has the ambition to support its customers in such a way that they can perform in their respective markets. This is increasingly about developing sustainable products. We are also working together to make the steel and our supply chain itself more sustainable.

Scope

Tata Steel Nederland

Goals

- To be a reliable partner and grow customer satisfaction.
- Developing joint sustainability strategies with our customers.
- Growing in markets with long-term potential.

Results financial year 2022/2023

- Started our Zeremis journey. First product, Carbon Lite, launched.
- First Zeremis deals closed, with corresponding CO_2 savings of 15 kilotonnes.
- All 10 newly launched products outperform current product variants in terms of sustainability.

SDGs

Industry, innovation and infrastructure

Climate action

Partnership to achieve goals

Sustainability at the heart of our product development

Our customers produce all kinds of products that help people around the world work, live and move around. Through our steel and our services we support our customers in a sustainable way. We are continuously strengthening the sustainability aspects of our products and services and do so in close collaboration.

Steel is a special material. It is of inestimable value to many applications in our modern world. The Dutch use about a kilogramme of steel each day. That is approximately equal to the total amount of steel that TSN produces annually. And demand remains high, because steel has unique properties. First of all, it is strong enough for large structures and at the same time easily deformable and resistant to wear. Besides, steel is one of the most recyclable materials. Steel can be recovered with little effort and melted down into new steel.

Our steel adds value in the field of sustainability in many ways. Thinner steel means that cars consume less fuel. Steel that lasts longer due to special coatings extends the life of all kinds of end products. Food packaged in cans with our eco-friendly coatings stays fresh longer. Yet we still emit a lot of CO_2 with the production of our steel. That is why we are working hard to make our production greener: green steel in a clean environment (refer to Chapter 4). As far as we are concerned, green steel is the steel of the future: for sustainable construction, sustainable transport, renewable power generation and sustainable products with which we surround ourselves every day.

Value creation with our customers

Our customers want to be successful in their respective markets in many ways. This Is achieved by continuing to innovate. We listen carefully to the needs and priorities of our customers. Through our personal service, we support our customers where necessary and together we develop innovative ideas that meet new needs.

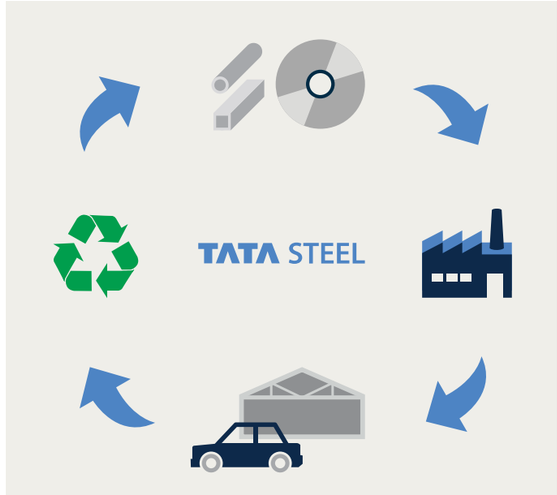
For example, we invest in projects that improve our production methods on the one hand and strengthen our product range on the other. Whenever our customers spot new opportunities for our product, we set up a development platform for these. A joint development team, within which these new ideas come about and are further developed into a new product range in the market.

In addition, we can see that sustainability requirements are becoming increasingly relevant, in the applications of steel, but also for our material itself. We actively aim for this in our product development. From a broad perspective, from manufacturing to recycling, we look for opportunities to contribute to a more sustainable world.

For each phase, we calculate the impact on the following sustainability aspects:

- Climate change and energy consumption
- Water use
- Emissions and substances of very high Concern
- Raw material use and waste reduction
- Service life, reuse and recycling
- Social and ethical value
- Economic sustainability

This was the process that we used to carry out a sustainability assessment for each of the ten newly developed products in the past year. All new products achieved a higher sustainability score than the current products. This assessment is also a way to maintain a dialogue with customers about achieving further sustainability improvements in the value chain, in our joint journey towards carbon-neutral products. For more information, see our new Zeremis programme in Chapter 2.2.



Stages of steel

Manufacture
Manufacture of basic materials such as coils of steel, profiles and aluminium plates. This also includes matters such as procurement and the transport of raw materials (e.g. iron ore).

Production
Producing (consumer) products with steel from the manufacturing step. This can be more than one process step.

Use
The use/consumption of the end product. For example, steel can be found in bicycles, buildings, food packaging and cars.

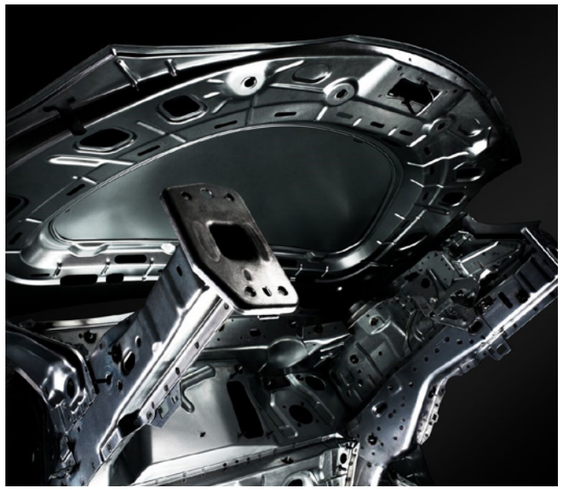
Taking out of use
The product is taken out of use. The material can be reused, recycled or destroyed.

Wear-resistant and malleable steel for agriculture and the automotive industry
(27MnCrB5-2)

The mechanical properties provide improved wear resistance and high strength. Nevertheless, the product offers a high level of formability. The ultimate strength of the end product is created at our customer. This allows for thinner material without loss of strength, thus saving material. Increased wear resistance means that the material lasts much longer than conventional steel. Therefore, this product is widely used for agricultural equipment, such as harrows. This product is also finding its way into promising automotive applications, such as precision tubes for anti-roll bars.

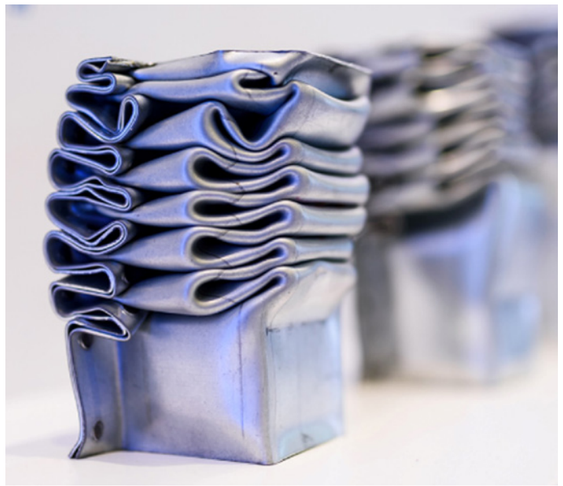
Advanced high-strength steel with metallic coating for the automotive industry
(CR DP600-GI HyperForm®)

To combat the added weight of batteries, our automotive customers are constantly looking for cost-effective lightweight solutions for their electric vehicles. TSN recently expanded the HyperForm series with the launch of CR DP600-GI HyperForm®. The HyperForm series offers strength with formability normally associated with much softer qualities. For example, this grade has better formability than the standard DP600-GI and strength exceeding HSLA grades. This combination and the excellent welding properties offer ample possibilities for lightweight solutions.



The strongest micro-alloy HSLA supplement
(improved CR460LA-GI)

While advanced steels such as our new DP600-GI HyperForm® are becoming increasingly common, up to 25% of a car's body structure is still made from more conventional high-strength steels. We recently optimised our CR460LA-GI, the strongest grade in this range of micro-alloyed HSLA. Our R&D department managed to redesign the quality without adding vanadium, a so-called critical raw material. This resulted in a cost-effective alternative to advanced multi-stage grades and a potential for a 10% mass reduction over lower-strength HSLA grade parts.



"DEMAND FOR GREEN STEEL MUST BE FED"

As the Commercial Director of IJmuiden, Heather Wijdekop is responsible for all commercial matters, from supply chain to marketing and everything in between. Her focus is 'the customer', but that means more than just 'selling'. The question is how customers can be assisted in achieving their sustainable goals.

As diverse as the application of steel is, so are its customers. How do you handle that?
"We know our customers well and have regular discussions with them. We talk extensively about their wishes and needs, or rather: we listen first. What does the customer want to achieve? And after that: how can we help? Sometimes we already have what they need and sometimes we have to go through a development process, for example in R&D, to find a solution in the slightly longer term or to implement a sustainable adjustment."

Can you name some examples from recent years?
"We have signed a memorandum of understanding with Ford to supply Zeremis green steel. Their commitment to decarbonisation and our collaboration on this is great. The same goes for Permastore in the construction industry. Other customers are still exploring their own sustainable objectives and the role of steel in this. Discussions tend to be much broader in that respect."

What is your main concern?
"My main concern is the level playing field in the steel market. As European steel producers, we can make a huge contribution to achieving CO_2 reduction. We need to start working on that now. However, given our cost price in that case, we must be able to compete with steel producers that do not charge a carbon levy. The first step in this would be to create a market demand for our carbon-low solutions."

We embark on this journey towards decarbonisation together with our customers

For a number of years now, TSN has been conducting an intensive dialogue with its customers about making the chain more sustainable. In the past year, this led to the insight that our customers are happy to embark on the journey to greener steel with us. As a result, we were able to launch Zeremis® in 2022 and, within that setup, Carbon Lite, as the first value proposition: steel with a smaller carbon footprint. In addition, we are working on green steel production (refer to Chapter 4).

In order to find out customers' views on making the steel value chain more sustainable, we conducted a large-scale market survey among steel buyers during the year under review. This survey showed that many buyers have a need for steel that has a demonstrably smaller carbon footprint. There is also a great need for steel that consists largely of recycled steel. The survey was conducted double-blind among 1,000 respondents as part of Zeremis, our new brand in a greener steel production chain.

Based on these outcomes, Tata Steel Nederland launched a new product in July 2022, called Zeremis Carbon Lite. This is high-quality steel with a reduced carbon footprint, i.e.: produced with at least 30% fewer CO_2 emissions compared to the European average for steel products. The lower CO_2 intensity is based on CO_2 savings that Tata Steel Nederland has realised since 2018 and has been certified by DNV, the independent verification agency.

There are many new CO_2 reduction projects in the pipeline for the coming years, allowing the amount of Zeremis Carbon Lite to grow significantly. This way, we are already meeting the growing demand from our most committed customers in their need for carbon-low steel.

Steel company with relatively low CO_2 emissions

Worldwide, steel production of Tata Steel in IJmuiden ranks third in lowest CO_2 emissions per tonne of steel of the participating steel companies. (Source: CO_2 report World Steel 2022, category blast furnaces with basic oxygen steel furnace). The CO_2 intensity (CO_2 emissions per tonne of steel produced) of steel produced in IJmuiden is approximately 7% below the European average and almost 19% below the global average.

Although the transition to green steel from 2030 will again lead to a significant reduction in CO_2, we at the same time realise that the planet cannot wait until 2030. That is why we have the ambition to further reduce our annual CO_2 emissions by another 500 kilotonnes before the first DRI installation is commissioned (refer to Chapter 4 for an explanation of the aforesaid transition and DRI).
We want to achieve said CO_2 reduction together with our customers. With Zeremis Carbon Lite certificates, customers can demonstrate that the steel in their products has a reduced carbon footprint. In return, they pay extra for this steel. This money makes it possible to fund new CO_2 reduction projects, thus making CO_2-reduced steel from TSN even more valuable. It is reciprocal: We pass on CO_2 savings realised at TSN to our customers, who in turn help to accelerate our transformation towards sustainability.

Zeremis - greening the steel production chain

Zeremis, which stands for 'zero emissions', is our commitment to becoming carbon neutral by 2045. The brand represents the journey we embark on together with our customers. To achieve this goal, we are changing the very heart of our production process. Our site will therefore look different in 2030, with fewer stacks and cleaner factories (see Chapter 4). Until then, we will be investing in innovative steel solutions that have a positive effect on our entire supply chain. .

Net calculation

Thanks to the independent verification of our Zeremis Carbon Lite certificates, we enable our customers to reduce their scope 3 emissions and, in turn, make their product range more sustainable. This verification by DNV guarantees unbiased allocation of the CO_2 savings on Zeremis Carbon Lite and prevents double counting. All certified CO_2 savings are additional within the system boundaries of our value chain.

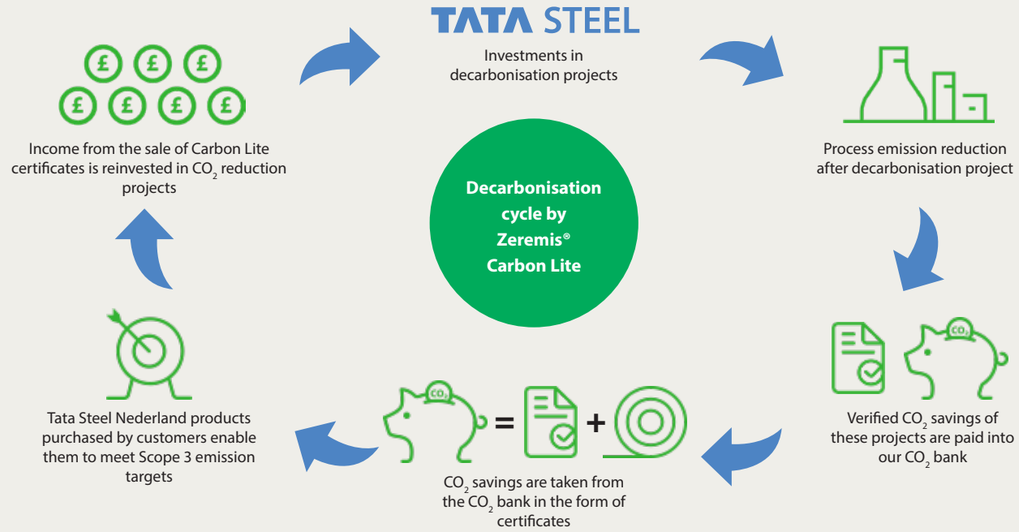
First deals Zeremis Carbon Lite

The first contracts for carbon-low steel have now been signed. Starting in 2023, TSN will supply Zeremis Carbon Lite steel to Wuppermann, BILSTEIN, EMW Stahl Service, Permastore and Arania. The steel will be used for greener end products, such as kitchen cabinet hinges, robot storage systems and passenger cars.

Mass balancing starts up flywheel

Mass balancing is a method devised by sustainability experts to specifically initiate and accelerate sustainability. TSN is now applying this to Zeremis Carbon Lite. As a result, projects that otherwise seemed infeasible receive the funding they deserve.

CO_2 Project bank and contribution (the flywheel)



Described CO_2 reduction is not only achieved by further improving our processes. Zeremis includes CO_2 savings through increased steel recycling and improvements at our downstream sites. The CO_2 savings have been achieved in the chain from which the customer is supplied. The projects thus also realise an actual physical reduction of the carbon footprint of the relevant steel. The system is completely transparent, because we use the Environmental Profiles as a baseline and the savings projects are verified for actual additionality against this baseline.

Carbon-neutral plants downstream

In 2022, two of our downstream plants were certified for carbon-neutral business operations for scope 1 and 2. These are our service centres in Halmstad (Sweden) and Naantali (Finland). The plants no longer use fossil fuels, but green energy. They also ensure the use of residual heat and electrical equipment and have replaced conventional lights with LED lighting.

The Zeremis™ Certificate of Carbon Neutrality (Scope 1 and 2) was presented by Hans van den Berg to the General Manager of Naantali, Ilpo Maaranen, at the end of October 2022.

Improving recycling

Thanks to the high value of scrap, almost all steel produced is reused at some point. At TSN, already use 17.4% scrap in the production of our steel, which is high for the production of new steel with blast furnaces. Each tonne of scrap recycled represents a saving of 1.6 tonnes of CO_2 compared to steel from iron ore. That is why we are investigating possibilities to use significantly more scrap for our entire steel production in the coming years. For more information about our study into the use of scrap, see Paragraph 2.3, Innovations.

Customers satisfied with transparency regarding CO_2

Tata Steel Nederland provides TSL with data about its CO_2 emissions (scope 1, 2 and 3). TSL passes this on to CDP (Carbon Disclosure Project), the non-profit organisation that reviews these disclosures. Each year, CDP asks our customers to what extent they are satisfied with the transparency in this area. In 2022, as Tata Steel Limited, we again scored well.

Year	2018	2019	2020	2021	2022
Assessment supplier involvement	**B**	**A**	**A-**	**A**	**A**
Assessment climate change publication	B	B	A-	B	A-
Assessment water safety publication	B-	B	B	B	B

Jenny Wassenaar, Chief Sustainability Officer of Trivium Packaging, wears a pin on her jacket with the logo of the Sustainable Development Goals. This way she promotes sustainability, day-in, day-out.
“It’s our goal to work together towards a more sustainable future for everyone. Infinitely recyclable metal is a good start, especially if you consider that reusing metal requires only a fraction of the energy compared to the initial processing. But this is not enough, by working together we can accelerate the sustainability of our industry. So I’m looking for partners with the same goal.”

What can be said about the collaboration with Tata Steel?
“We’re in strategic discussions with Tata Steel about sustainability. These gained momentum following an invitation to explain our sustainability goal to the Tata Steel management team. For us, sustainability starts with transparency, because we only know what we can work on if we have clear data. Information about, for example, the carbon footprint is translated into product information for our customers; global brands with solid sustainability goals and fragile reputations. They must be able to count on reliable data. Fortunately, I can see real improvements in the knowledge and quality of data at Tata Steel Nederland over the last few years. And there’s a willingness to continuously improve together.”

Are you satisfied with the progress?
“In any case, people are working hard. The strategy towards green, circular steel is promising. It fits in perfectly with Trivium’s sustainable goals. We also experience more balance in the relationship with Tata Steel. We are heard and we work together more intensively, especially in the field of innovation and the development of sustainable solutions. But so much more can be done, and faster! For example, in the field of knowledge sharing. Did you know that metal packaging is the best-recycled material in the world? 80% of all metal ever produced is still in use today. This is because metal is infinitely recyclable. Unfortunately, end users do not yet see this on packaging. We really need to change that throughout the entire chain.”

You are ready to combat?
“Trivium produces approximately 100 million packaging units and packaging components each day! We’ve therefore committed to the Science Based Targets Initiative and measure our sustainable progress against international standards. In 2022, we again acquired the EcoVadis Platinum label for this. This label is only for the top 1% of over 100,000 companies they survey. As a company, we can make a big difference, and we involve our suppliers in our efforts as much as possible. Because you don’t build a sustainable future with a single company. Real impact is achieved when we work together throughout the value chain. But we’re not there yet, bigger steps are needed and they need to be taken much quicker. That requires more courage and ambition. That’s what I’m looking for.”

Value creation through innovation

At Tata Steel Nederland, everything revolves around value creation in the longer term. We use various strategic innovation programmes to make the steel production process more sustainable and support customers in the efficient and sustainable application of our steel products.

Each year, we manage to further optimise our processes and products, often in collaboration with our customers. Through Marketing and Research & Development, we work on products that meet the (sustainability) needs of our customers. In addition to improving our market position, these efforts contribute to resource efficiency and reduction of emissions within the chain. In addition to customers, a great deal of research is also carried out in close contact with the academic world.

Research & Development

Three focus areas are at the heart of our R&D policy: green, clean and circular. In Chapter 4, we report on the latest developments in terms of 'green steel', our transition to steel production based on green hydrogen instead of coal. This will require a great deal of effort by R&D in the coming years. This year, fourteen additional FTEs have been taken on to work on this subject and this number will be extended with another six in the near future. A lot of research goes into the new production method (DRI/electric furnaces) and the modelling of processes in the new installations. We have been awarded a substantial European subsidy for this. At the same time, we are also working on CO_2 reduction and efficiency in existing installations. In previous years, for example, we achieved a 5% lower gas consumption in the continuous annealing lines, combined with a quality improvement, by process control improvements.

Out of the research budget, 39% is allocated to product innovations, 30% to process innovations and 9% to decarbonization projects. In addition, 13% is spent on strategic long-term research and new ideas.

R&D FIGURES
REPORTING YEAR 2022-2023

Patents granted
161

Patents applied for
22

R&D expenditure
64 million
Euros

New products developed and launched
10

R&D employees
307
fte

Making more recycling possible

The recycling of steel is an important way to save raw materials and reduce CO_2 emissions. Every tonne of scrap that we can reprocess into our steel immediately yields 1.6 tonnes of CO_2 savings. That is why in the coming years we will be investigating how we can further increase our already high scrap percentage of 17.4%. Predicting the impact of contaminants included in this scrap is essential, but difficult. That is why we are working closely with the academic world on models that do this. This year we have taken a major step towards the completion of a large programme with sixteen PhD students.

Due to changes in the future production method, the composition of slag will change with it. That is why our researchers, together with our partners in concrete construction, are looking for new possibilities for reusing our new residual material, so that it can be used as a high-quality raw material.

Cleaner production

In the field of cleaner production, we mainly apply existing technology. Such as bag filters and the gas scrubber at the new Dust-removal and DeNOx installation at the Pelletising plant. Although this concerns existing technology, innovations can be reported here as well. Such as the application of advanced analytics to find out the origin of odour nuisances. And a very extensive network of dust analysis in the environment, with which we trace the origin of individual dust particles. We are also developing models for cleaner production at the Steel Plants and Coking and Gas Plant 2. See Chapter 3 for more information on cleaner production.

From new mobility to sustainable energy

We use our knowledge of the properties and processing of steel to enable sustainable transport and energy. For example, we are developing safe and lightweight tube concepts for the Hyperloop together with the Dutch start-up Hardt. We in turn use the technological innovations from that development in other applications, such as in offshore wind turbines or the transport of hydrogen.

THE ENVIRONMENT AND COMMUNITY

Measuring odour emissions with a drone on our site in IJmuiden.

Here at Tata Steel Nederland, we are fully aware that our activities have an impact on the local communities and the environment as a whole. In this chapter, we report on the realised and planned improvements to reduce our emissions and nuisance for local residents.
We provide insight into how we monitor our impact and engage in dialogue about this with local residents and governments. At the same time, we do a lot for the local community by participating in partnerships and supporting local Initiatives.

Ambition

We minimise our impact on the environment and community. We measure our emissions on the basis of measurement plans agreed with the Environment Agency. TSIJ's own measurement agency is accredited by the Dutch Accredication Council to carry out measurements, supported by third party measurement companies.

Scope

Tata Steel IJmuiden

Goals

- Reduction of our emissions against 2019 by approximately: 50% less PAHs, 85% less odour nuisance, 65% less dust deposition in Wijk aan Zee, 70% less lead, 35% less particulate matter, 55% less heavy metals and 30% less nitrogen.

Results financial year 2022/2023

- 50% fewer PAH emissions.
- Number of odour control measures implemented successfully: odour emission at the steel plant and Coking and Gas Plant 2 more than halved.
- Proportion of slag dust in dust samples has decreased considerably.
- Various measures have reduced the emissions of particulate matter, heavy metals and lead.
- Most measures against noise have been completed successfully. We are not there yet. We continue to be audible in the environment and will take additional actions.
- 95% of the 3000 lights have been replaced by LEDs that produce less light scatter.
- Driven by our involvement in the environment, we organised various events.

SDGs

Sustainable cities and communities

Responsible consumption and production

Living on the land

Additional measures will further reduce the emissions caused by our activities

We are well aware of the strain on the local community. That is why Tata Steel Nederland is working continuously to reduce the impact caused by our operations on our surroundings. Meanwhile, we continue to engage with local residents, governments, businesses and other organisations about making improvements on our site and in our community.

Steelmaking has beenan integral part of the IJmond region for over a century and we want to continue this in a future-proof manner. A range of systems and procedures in our organisation are aimed at ensuring that our operations comply with European and Dutch laws and regulations. Nevertheless, we cause nuisance in our area.
That is why at the end of 2020 we launched the Roadmap Plus improvement programme. In it, we are taking important steps to further reduce emissions and our impact. In this improvement programme, worth hundreds of millions of Euros, we are building on previously planned improvements and have accelerated additional measures. Most projects in this improvement programme will be completed and delivered by the end of 2023.

Roadmap Plus goals

In 2020, we set our goals on the basis of data that we share with the Competent Authority, such as the North Sea Canal Area Environment Agency. We've used the data from these reports to determine an initial value for the various emissions.

To be able to compare our results with the most up-to-date status, we use the emission data as reported in the Electronic Environmental Annual Reports from 2022 onward.

Map of short and long-term measures

Scan the QR code for an interactive overview of our measures for a better living environment and future green steel production (select language).

PAHs

Reduction of Polycyclic Aromatic Hydrocarbons (PAH) emissions by approximately 50% in 2022.

All PAH measures within Roadmap Plus have now been implemented. The main ones being improvements at the Cold Strip Mill and Sintering Plant. We had already made adjustments to the production process of the Blast Furnaces earlier. Emissions measured at the doors of the furnaces of Coking and Gas Plant 2 have decreased sharply. Measurements by independent measuring agencies show that we've achieved the intended 50% reduction compared to 2019.

Below is a high-tech environmental installation that ensures that PAH substances are no longer released at the annealing furnaces of the Cold strip mill.

Dust deposition

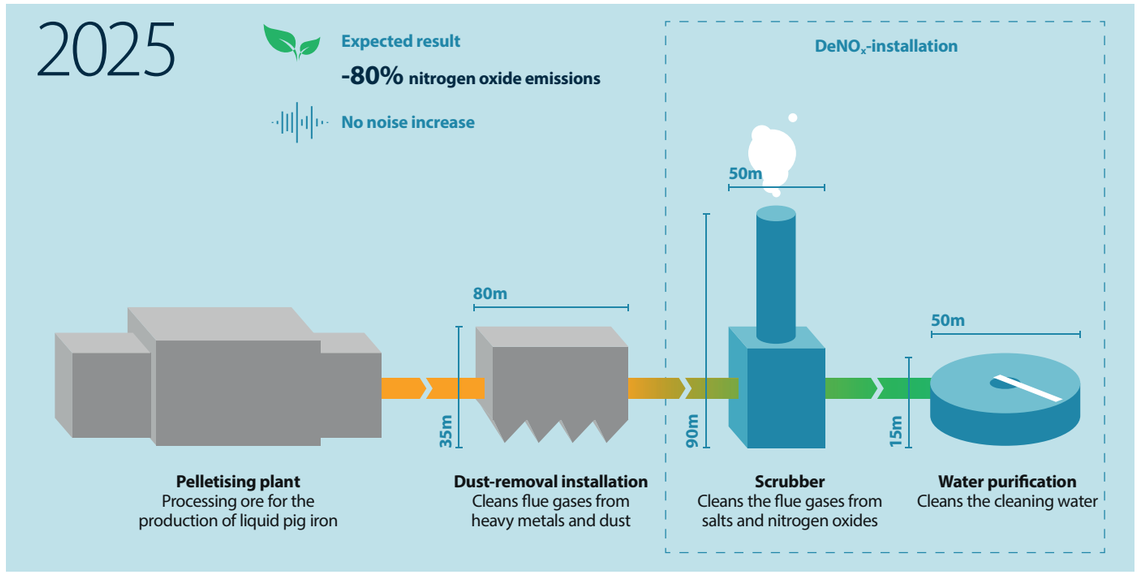
Decrease in the deposition of visible dust (solid particles) in Wijk aan Zee, caused by Tata Steel, by approximately 65% by 2024.

Dust samples show that the success of previous measures has reduced the propostion of slag dust in dust samples. This will further reduce with a large windbreak is planned around the storage facilities and the reduction of dust dispersion at the bunkers of the blast furnaces will further reduce dust deposition. The windbreak will be 18 metres high, parts of which will be built this year. We aim to complete the windbreak by 2024.

Nitrogen

Emissions of nitrogen oxides reduced to approximately 30% in 2025.

This will be achieved with the new DeNOx installation at the Pelletising plant, which is scheduled to be commissioned in 2025. In addition to the Roadmap Plus, other measures are underway to reduce nitrogen emissions in the short term.



Additional measures against nitrogen oxides

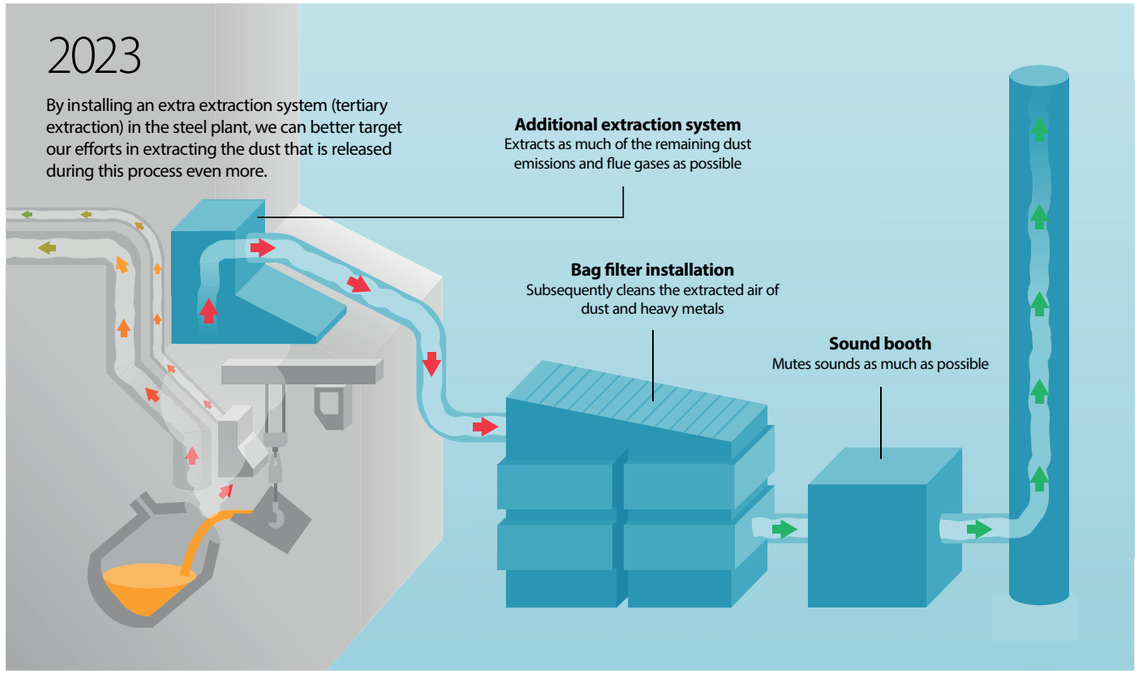
Alongside Roadmap Plus we are also investigating what else we can do. Some additional measures will take shape in the coming period. Others have already been started.

In addition to our Roadmap Plus, some of our business operations will be converted to biofuels. We are also making the locomotives on our site more sustainable and tackling the central heating boilers in all buildings. There will be even more shore power for inland vessels, so that the diesel engines can be switched off during loading and unloading. Finally, we are transitioning to green steel, which we will make using hydrogen. All these measures yield significant gains in terms if nitrogen oxide emissions.

Heavy metals, lead and particulate matter

Reduction of approximately 55% heavy metals, approximately 70% lead and approximately 35% particulate matter by the end of 2023.

Various measures have now reduced the emissions of particulate matter, heavy metals and lead. We will realise further improvements in the field of particulate matter and heavy metals in 2023, for example, the construction of the dust-removal installation at the Pelletising plant and additional extractor hoods at the two blast furnaces.



We are building an additional extraction installation in the Steel Plant. This aims to further reduce the emission of dust and heavy metals. The extraction installation will be built in the loading hall of the Steel Plant and is in addition to existing extraction installations. Further, a bag filter installation - measuring 60 x 20 metres - will be built next to the plant to filter the extracted air. The installation is designed to reduce residual emissions of dust and heavy metals from the roof of this plant by approximately 50%. We expect to commission this installation in 2023.

Video construction environmental installation

Watch the video about the construction of the environmental installation at the Steel Plant here.

To ensure that dust emissions during the tapping of hot metal are reduced by approximately 75%, we are installing additional extraction installations at both blast furnaces, the first of which has now been installed at Blast Furnace 7. There will be six new extractor hoods in total. The measure as a whole is expected to be realised in 2023.

Odour nuisance

Reduction of approximately 85% of the number of hours that local residents can experience odours as unpleasant by the end of 2023.

According to initial measurements we have been able to reduce odour emissions at Coking and Gas Plant 2 by approximately 75% thanks to various operational measures. We have also reduced odour emissions by approximately 50% when heating steel pans in the Steel Plant. The vapour scrubber at Pickling Line 22 has been installed and we are looking at additional measures to further reduce odour emissions. We will be carrying out further measurements to ensure this improvement continues. To that end, we will draw up a measuring programme.

Noise

Measures completed

Most of the noise-reducing measures from 2022 have now been implemented, such as noise reduction of the alarms on our conveyor belts and measures in our train transport. Reducing noise remains an important point of attention. Despite the many improvements in this area, sounds are still be heard in the area. Eliminating these completely will not be possible. We do, however, do our utmost to reduce disturbing noises and efforts are ongoing. At places where effects could be improved further, such as near the silencers in the Steel Plant, we continue with new plans.

Light

More than 95% of lights have been replaced by LED.

In the year under review, almost all 3,000 conventional bulbs on the site were replaced by LED lighting. Not only does this save electricity, LED also produces considerably less light scatter within the area. LED lamps are individually dimmable and, thanks to their direct illumination, contribute to reducing light pollution.

Pelletising plant to receive largest environmental installation ever

In 2021, we decided to accelerate the construction of a Dust-removal installation at the Pelletising plant. With the planned delivery in 2023, emissions of particles, lead and heavy metals at this plant are expected to be reduced by approximately 80%. In 2025, a new environmental installation will be linked to this, which will purify the remaining gases from nitrogen oxides (expected efficiency at this plant of 80%). This installation is scheduled for completion in 2025. For this, we use a new technology that has not yet been applied on this scale elsewhere in the steel industry.

As project manager, Vincent Waanders is leading the construction of the new Dust-removal and DeNOx installation at Tata Steel in IJmuiden. It will be one of the most extensive environmental installations in the history of the steel company.

Why this installation?
"We have expressed the ambition to become a clean and sustainable steel company. We want to fulfil that promise with concrete steps. At the Pelletising plant, we saw opportunities to clean the gas streams. The construction of a new environmental installation will be completed in two stages. The first stage will significantly reduce the emission of dust and heavy metals in the short term. We will then continue to build on the second stage, which will be removing nitrogen from the gas stream."

Does this concern highly innovative technology?
"No, on the contrary. We consciously opt for existing technology with a long and proven track record. Our parent company has approved an investment of EUR 200 million. That's a huge amount, so that installation must run absolutely reliably and safely. The chosen technology has proven itself across the globe. Although we are now applying it on a very large scale. And that's unique in our world."

How is construction progressing?
"Very quickly indeed. In the 22 years that I've worked here, I've never experienced such rapid progression. The investment was approved quickly, the permit was granted quickly, the contracts were signed quickly and then we started very quickly. It's a huge puzzle on a small piece of land, but everything is going very well, thanks to all the expertise in our team and the commitment of our management."

What's it like for you and your team to participate in this?
"It's highly motivating and I feel a lot of positive energy. Everyone is very committed. I'm from around here and of course I too hear a lot of criticism about Tata Steel. So it's very satisfying to be able to show that you're contributing to such a concrete improvement. At the same time, our transition to green steel continues steadily."

Roadmap Plus:
Fast track to a cleaner living environment

Version: April 2023

Research phase · Preparatory phase · Implementation phase · Completed

		2019/2020	2021	2022	2023	2024	2025
Dust							
1	Slag utilisation: covering the converter slag cooling process						
2	Blast furnaces: air screen above furnace house gutters						
3	Blast furnaces: new type of extractor hoods						
4	Raw materials logistics: windbreak						
5	Raw materials logistics: reduction of dust depostions of bunkers blast furnaces						
6	Raw materials logistics: technical measures						
7	Steel plant: additional extraction system						
8	Pelletising plant: Dust-removal installation						
9	Sintering plant: electrofilter installation						
Odour							
1	Coking plant 2: mechanical seal						
2	Coking plant 2: individual furnace pressure control						
3	Coking plant 2: operational measures						
4	Coking plant 2: overhaul of coke chambers						
5	Steel plant: operational adjustments to ladle drying plant						
6	Steel plant: new type of ladle drying plan						
7	Cold strip mill: operational adjustments and new vapour scrubber at Pickling line 22						
8	Cold strip mill: reducing odour emissions Pickling Line 22						
9	Expansion of the E-noses network						
PAHs							
1	Blast furnaces: production of taphole clay discontinued						
2	Cold strip mill: cleaning of annealing furnace flue gases						
3	Sintering plant: optimising flue gas cleaning						
4	Coking plant 2: operational measures						
Noise							
1	Steel plant: new silencers for primary exhaust system						
2	Scrap yard: operational adjustments						
3	Raw materials logistics: new conveyor alarms						
4	Northern site: reduction of noise from trains						
5	Steel plant: reduction of slab yard noise						
6	Hot strip mill: new silencer for roller kiln 25						
7	Cold strip mill: scrap charging box casing						
Biodiversity & other							
1	Pelletising plant: DeNOx installation						
2	New vegetation at north site						
3	Reducing light scattering						

2022

2023

35% particulate matter reduction

55% reduction in heavy metal emissions

70% fewer lead emissions

85% decrease in odour nuisance in the local communities

50% fewer PAH emissions

2024

65% less dust deposition

Maximum reduction of noise within safety margins

2025

30% reduction in nitrogen (NOx) emissions

The stated results are target reductions. Several measurements are needed to test these expected reductions. These measurements will also be carried out in 2024. This means that we can verify the expected results in 2024.

How we measure emissions

Emissions are mapped to the highest accuracy possible through continuous measurement using the best possible techniques and methods. At the same time, we take into account many external factors that can influence the measurements, such as the weather.

Odour

In order to calculate the odour load, i.e. the number of hours that local residents can experience odour as unpleasant, we have accredited measurement agencies carry out measurements at odour sources on the site. These measurements serve as input for a legally prescribed dispersion model that is reported to the North Sea Canal Area Environment Agency.
The odour concentration in the living environment (odour emission) is calculated using this dispersion model.

New odour emission measurements are performed every year. The results from these measurements are then compared with the baseline situation, which has been compiled on the basis of data for the past decade and which has been laid down in the Odour Decree of 23 May 2022 of the North Sea Canal Area Environment Agency.

Dust

To measure dust that precipitates in the immediate living environment, we have dust samples taken at various locations. The samples are analysed for their origin in collaboration with TNO (Netherlands Organisation for Applied Scientific Research). This creates a clear picture of how much dust settles in the surrounding area and the share of this that comes from Tata Steel.

We will continue to carry out these analyses in the coming years. This way we will keep an up-to-date picture of dust dispersion and we can continue to make targeted efforts to further reduce this as much as possible.

Heavy metals, particulate matter and nitrogen oxides

Emissions of heavy metals, particulate matter and nitrogen oxides are measured by accredited measurement agencies and reported annually by Tata Steel in IJmuiden in the Electronic Environmental Annual Report (eMJV). This is assessed by the Environment Agency. Every year, we use the most current eMJV value to monitor the changes compared to the baseline situation from 2019.

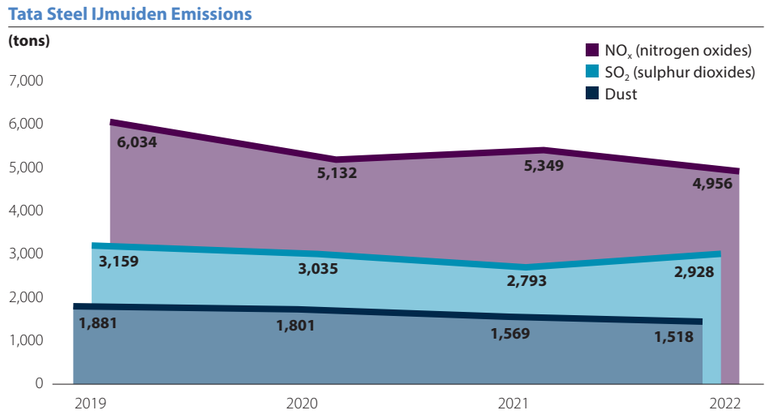
PAHs

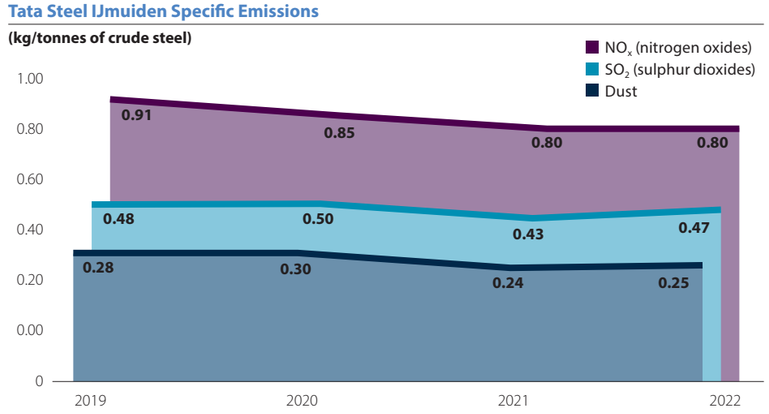
To determine the emission of Polycyclic Aromatic Hydrocarbons (PAHs), air is drawn in at an emission point, which is then passed through a tube where the PAHs are bound to a 'carrier'. The PAHs are separated from this carrier in a laboratory, after which the concentrations of the 16 individual PAH substances are determined. This is performed through a technique called gas chromatography mass spectrometry. Both the sampling and the analysis are carried out in accordance with a prescribed standard, by an accredited measurement agency.

Noise

Tata Steel has three fixed measurement points around the site: in Wijk aan Zee, Beverwijk and IJmuiden. This monitors the all of the noise generated by Tata Steel. The data is shared with the North Sea Canal Area Environment Agency every year. The results are regularly checked and analysed by our noise specialists. The measuring points can also be used to perform analyses, in the event of complaints, to determine the sound profile and whether it originates from our company. Where possible, we take follow-up action. Although the noise from our site is within permit levels, we continue to work to further reduce incidental noise, which causes the most complaints. In addition to the fixed measuring points, we also have three mobile measuring points, which are regularly used if there is a reason to do so, such as temporary work or when we have to conduct out a targeted study. The specialists also advise on additional actions and measures to limit noise.

Tata Steel IJmuiden emission results





The decrease in specific dust emissions can be explained by dust dispersion measures. The variation in specific NOx and SO_2 emissions is solely due to normal process variations.

Research into noxious substances in the area

Tata Steel in IJmuiden continuously monitors and measures to determine the effect of our actions and to make adjustments where necessary. We do this according to a measurement plan that has been approved by the official bodies that assess the permits and issue individual decisions (competent authority). The measurements are carried out according to international standards, either by the internal measurement department or by third parties. The measurements are performed by accredited departments.

In March 2023, the National Institute for Public Health and the Environment (RIVM) published a report on the deposition (precipitation) of substances in the immediate surrounding. On this basis, RIVM concluded that, compared to the first report two years earlier, only a significant decrease in iron could be demonstrated. As regards PAHs and lead, RIVM concluded that precipitation in some parts of the IJmond region remains at an undesirable level. In its study, RIVM did not investigate the origin of the precipitated dust and therefore refrains from making any statements about the effects of the various environmental measures that Tata Steel has taken in recent years.

Tata Steel in IJmuiden has already significantly reduced the emission of PAHs and lead in the past two years. For the coming year, the emphasis will be on further reduction of wind dispersal of coal dust, which contains PAHs as well. In addition, the bag filter at the Pelletising plant will become operational at the end of 2023, which will lead to a further reduction in lead emissions.

Measurements executed by accredited independent measurement agencies show that PAH emissions have been reduced by 50%. The RIVM report indicates that the number of PAHs on the ground (deposition) in the area has not decreased. These two results cannot be compared 1 to 1, since emissions are not the same as deposition. See box on page 49.

Last year, TSIJ was fined 17 times for non-compliance with laws and regulations, involving violations of provisions from, among other things, obligations under the Environmental Management Act, road traffic law and permit regulations. Most of these fines (15) are fines from the tax authorities or traffic fines, neither of which have any relation to research on substances in the environment.

The highest fine totalling 110,000 euros was imposed by the court after investigations by regulators or investigating officers from, among others, the Public Prosecution Service, the Dutch Labour Inspectorate, the Dutch Emissions Authority and/or the Environment Agency, whether or not following a report from Tata Steel itself.
The total sum of fines imposed in the past year was €135,021. The total sum of incremental penalties imposed amounted to € 402,200.

Investigation into protection of local residents

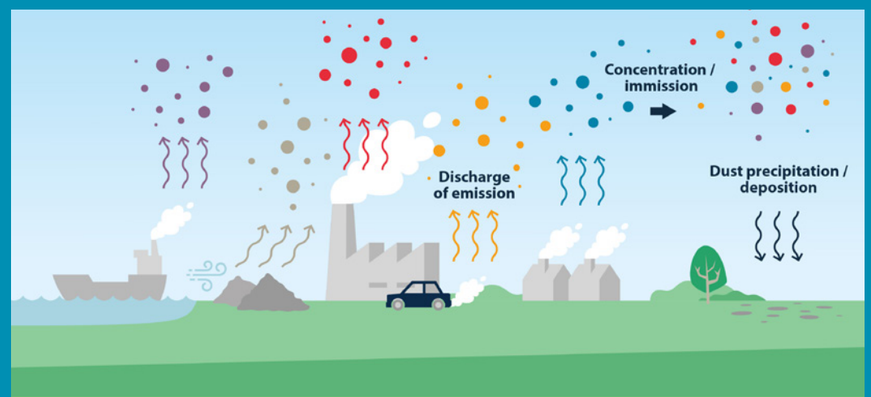
In April 2023 the Dutch Safety Board (OVV) published its report following a thorough research into the adverse impact to human health on living near industrial complexes and what can be done to protect communities from exposure to those emissions. The research, findings and recommendations are very helpful in checking against our current action plans and enhancing them further. We will consult with the OVV on any plans to turn recommendations into concrete plans.
The report also shows that certain matters have since been improved when it comes to information provision and measures against the nuisance people experience, but also that there is still a lot of room for improvement.
We are happy with the recommendations made by the OVV and will go to work on this.

We too live in the IJmond region

We understand that people look at us when it comes to a cleaner and healthier living environment. We all share the same interest in this. After all, most of our employees live in the IJmond region as well. And, like the people living in our community, we too want to further reduce our emissions, further reduce the nuisance people experience and take away concerns as much as possible. We want to continue the dialogue with all parties involved: with local residents, municipalities, the provincial authorities of North Holland and the environment agencies and, of course, with experts such as scientists and the Dutch government.
At the beginning of this chapter, we reported on the steps we have taken to further reduce our impact on the environment. We will remain fully active in this area and are working to achieve cleaner steel production in the shortest possible time. In the longer term, this means the transition to green and circular steel. We will report on this in Chapter 4.

Emission, immission and deposition

Three concepts are important in the discussion on the effect of the emission of harmful substances in the living environment: emission, immission and deposition. Emission refers to the release of a quantity of substances into the air from a specific source, for example from installations of Tata Steel and other companies, traffic, aviation or shipping. Citizens' activities too can be a source. For example, wood-burning stoves. Immission concerns the concentration of substances in the air we breathe at ground level; reactions between different substances may have taken place at this level. This originates from a multitude of sources, far and near. Deposition is the precipitation of substances from the air on a surface such as the soil, the water surface of a lake, but also the leaves of vegetation. Deposition is therefore the result of what is emitted by various sources over a longer period. So that includes more than just Tata Steel and covers more than just the past few months.



We support local initiatives

Tata Steel wants to maintain a good and lasting relationship with its community. That is why we support initiatives that promote the well-being of the environment. We also participate in local partnerships and involve the local community and the business community in Tata Steel's initiatives.

Employees raising money for Heliomare

Each year on Founder's Day (March 3), all Tata Group companies collect money for charity. TSN employees too participated enthusiastically and collected EUR 10,130 for the Heliomare Rehabilitation Centre. The money will be used to purchase playground equipment for pupils. Play is important to them. It relaxes and contributes to motor development. The playground equipment is intended for the locations in Heemskerk and Heerhugowaard.

Young Professionals offer families Easter fun

On 15 April 2022, young professional network De Magnet organised a fun Easter activity for 20 families from the region who could use some positive distraction. They were given an entertaining programme in the Hoogovens Museum under the supervision of enthusiastic volunteers.

Tata Steel orchestra at May Festival

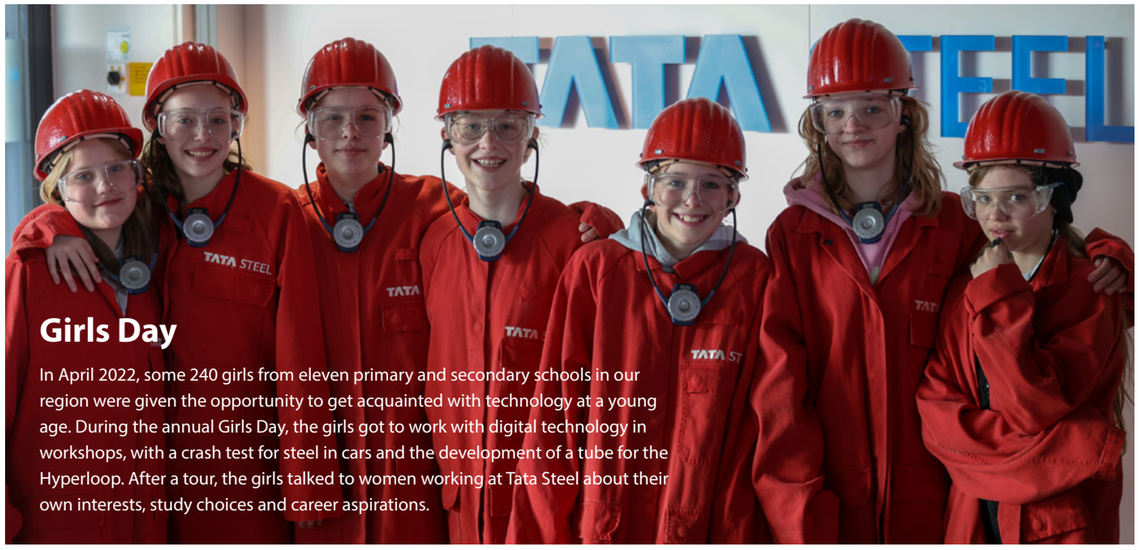
On 29 May, the Tata Steel Symphonic Wind Orchestra and the Training Orchestra played at Dorpsweide in Wijk aan Zee. They gave a concert as part of the May Festival. Our orchestra has been around for 80 years now.

Connected to Telstar

Tata Steel and Telstar football club have long been social partners. Together we organise the annual Tata-Kids of Steel® Football Clinics for children from the region. They are given technical training from professional football players. With the collaboration Tata Steel at the same time supports the Telstar Thuis in de Wijk / Playing for Success programme. Playing for Success is intended for children who, for socio-emotional reasons, do not perform as expected at school. The programme is aimed at increasing motivation and self-confidence and therefore better performance. Already 15 schools from the region are participating in Playing for Success! The inextricable connection of Tata Steel and Telstar with the region was also visible on the shirts of The White Lions. They played the away games in a dark grey shirt with the print of tear plate structure and with a tribute to steel on the back.

Tata Steel Festival: open house for everyone

On 23 and 24 September, we opened our doors with the Tata Steel Festival, a two-day festival with a day for locals which included a job market. Everyone was able to discover 'The world of steel' and everything around it with their own eyes. For the first time, we also organised guided tours in the dark: Tata Steel by Night, a unique look behind the scenes of a 24-hour company. Lectures were given, Meet & Greets with employees, performances, many activities for children and the Hoogovens Museum was opened. The festival attracted 3,000 visitors. The guided tours in the dark were so successful that we organised new evening tours in October and November.



Girls Day

In April 2022, some 240 girls from eleven primary and secondary schools in our region were given the opportunity to get acquainted with technology at a young age. During the annual Girls Day, the girls got to work with digital technology in workshops, with a crash test for steel in cars and the development of a tube for the Hyperloop. After a tour, the girls talked to women working at Tata Steel about their own interests, study choices and career aspirations.

Tata Steel Chess Tournament

In January, we organised the 85th edition of the chess tournament in Wijk aan Zee. It is one of the most prestigious chess tournaments in the world, where the established top players compete against each other, as well as against emerging top talents.

The anniversary edition of the Tata Steel Chess Tournament featured a very strong players field, including both the number one and the number two in the world (Magnus Carlsen and Ding Liren respectively), five top 10 players and a total of eight top 20 players. It was another huge chess festival, with Wijk aan Zee once again being the centre of the worldwide chess sport for two weeks.

The event drew 15,000 registered spectators and around 1,500 amateur players who enjoyed the great matches and the positive atmosphere in this Dutch village. And the fact that chess is very popular was again reflected in the overwhelming attention from the media.

As the event attracted visitors from both the region and further afield, we took the opportunity to also show them around Tata Steel in IJmuiden. Several chess enthusiasts from Groningen and Maastricht boarded the bus for a tour of the Tata Steel site and they were impressed by the greatness of the company and its future plans for green steel in a clean environment.

True to tradition, 100 children from elementary schools and chess clubs in the region played the Tata-Kids of Steel® Youth chess simultaneous at Telstar. And 75 pupils from elementary school De Vrijheit from Wijk aan Zee and children from Heliomare from Heemskerk & Wijk aan Zee played chess against chess professionals in the Moriaan. The children clearly enjoyed this chess tradition.

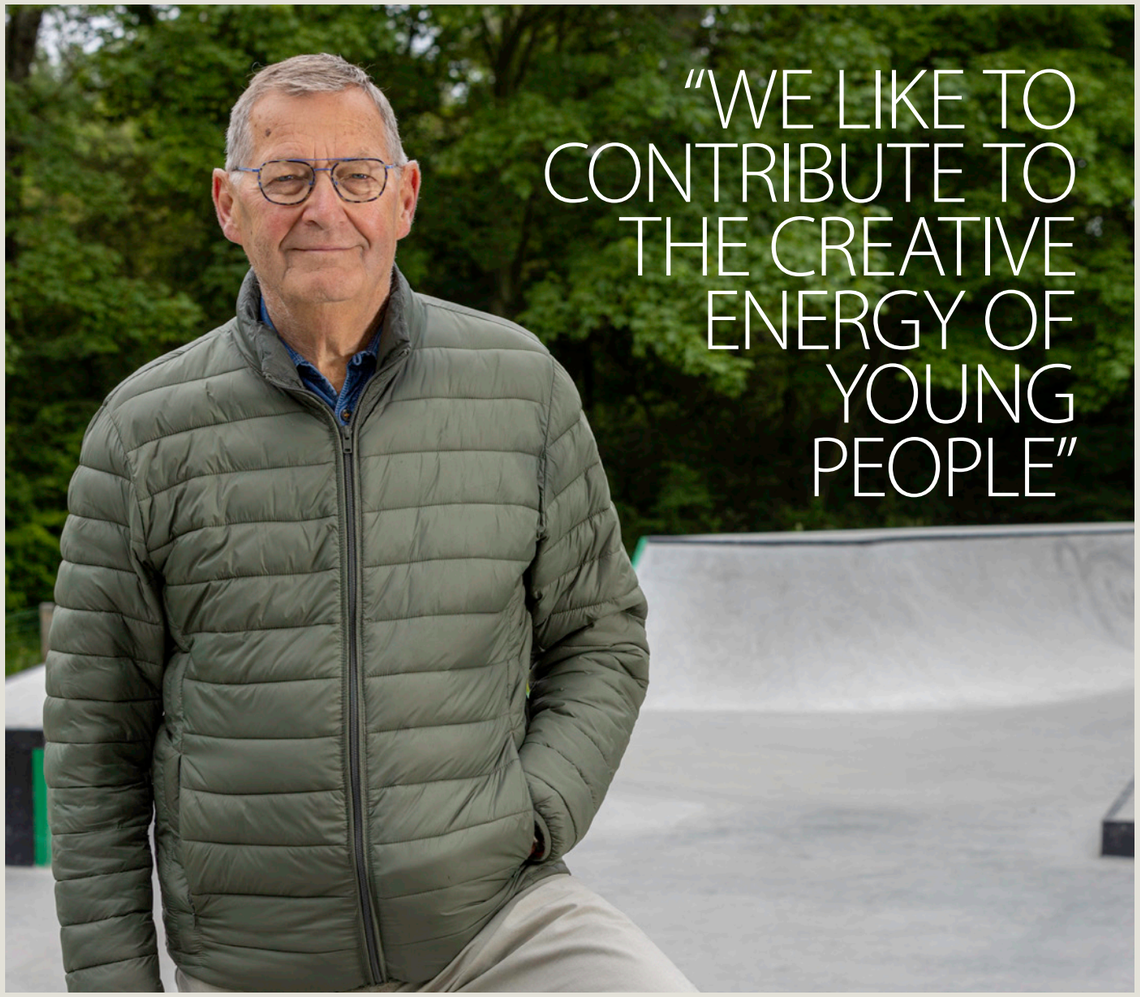
Initiatives of Tata Steel downstream

Relief supplies for earthquake victims

The devastating earthquake in Turkey also affected our employees. Colleagues from our factory in Turkey, located about 160 kilometres from Istanbul, are doing everything they can to get as many relief supplies as possible to the victims. They received support from partners, customers and colleagues across the group with offers of help and donations of money when needed. Tata Steel Nederland previously made a donation to Giro555.

SAB-profile supports housing project in Ukraine

Irpin and Bucha, two severely damaged cities in Ukraine, are in urgent need of housing for their citizens. A group of Dutch construction companies designed a cheap and easy-to-assemble solution: a tiny house concept that can be built on existing foundations. Each house is built with 52 metres of wall sandwich panels and 28 metres of roof sandwich panels. SAB, a subsidiary of Tata Steel Nederland, donated the roof panels for one of these houses.



Erik Kieftenbeld has been part of the Community Committee for a decade now, which committee reviews donation requests. As a former employee and resident of Heemskerk, he is very much involved in the community around Tata Steel IJmuiden.

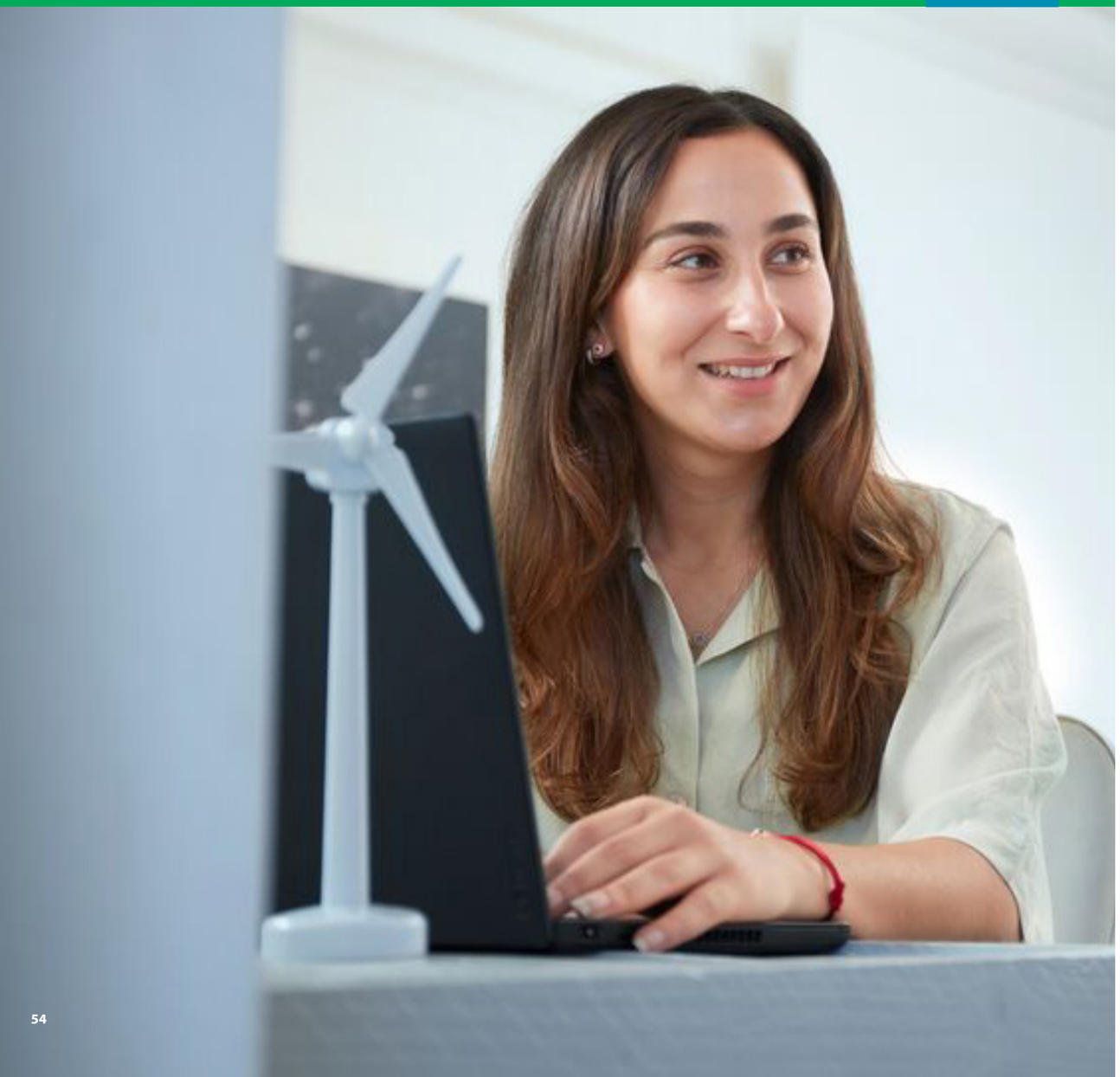
What does the Community Committee do?
“We meet four times a year to review donation requests from the community. I’m on it as an advisor, along with some other residents of the area. We advise on these applications and the representatives of Tata Steel ultimately decide where the money goes to.”

Last year you received 78 applications. How do you review those?
“Our motto is: future generations. Tata Steel mainly focuses on young people; they have the future. So that can vary from technology projects at schools to a contribution to the scouting or rescue brigade, where many young people are active as well. That creative energy of young people is important to us. They must be initiatives in the immediate vicinity of Tata Steel in IJmuiden.”

How did you get involved?
“Well, I’m a former employee of Tata Steel. When I retired twelve years ago, I quickly became very active in social initiatives in Heemskerk and Beverwijk. The Director of Tata Steel then asked me to join this committee. That is of course very honourable and I feel that we can provide useful advice on activities that could use a helping hand. We are a kind of a sounding board and feelers at the same time.”

What are some great initiatives that Tata Steel recently donated to?
“I just mentioned a few. We’re mainly focusing on initiatives by and for active young people, in which they can use their creativity. I once received an application form clearly completed by children. It was submitted by class 8 of a primary school. They were building a radio-controlled car, all by themselves. So we contributed to that!”

DECARBONISATION & SUSTAINABILITY



In this chapter, Tata Steel Nederland reports on its commitment to reducing greenhouse gas emissions and making the value chain more sustainable. We are accelerating efforts to reduce our carbon footprint. At the same time, we strive to use natural resources and energy as efficiently as possible and we want to initiate as much positive change as possible in the chain from mine to customer.

Ambition

Lowering our carbon footprint, most efficient use of raw materials and energy, maximising our positive impact on conditions in the value chain.

Scope

Tata Steel Nederland

Goals

- CO_2 reduction of approximately 35% - 40% in 2030, Tata Steel in IJmuiden.
- CO_2 neutral production around 2045 at all Tata Steel Nederland sites.
- Start-up of a new and cleaner production method in 2029, Tata Steel in IJmuiden.
- Energy savings of 147 million kWh in 2023 (1% compared to 2022), Tata Steel in IJmuiden.

Results financial year 2022/2023

- Two sites CO_2 neutral for scope 1 & 2: Naantali (Finland) and Halmstad (Sweden).
- New installations for the production of green steel: successfully completed the design phase, permit process started and first construction preparations started.
- Energy saving: 108 million kWh at Tata Steel IJmuiden versus 2021 - 2022.
- Reuse of residuals: 98%.
- Responsible sourcing: Community of Practice established and project started in the field of operational safety in mines in Peru and Bolivia.

SDGs

Industry, innovation and infrastructure

Responsible consumption and production

Climate action

Accelarated CO_2 reduction

At Tata Steel Nederland, we work to further reduce our CO_2 emissions each year. For example, since 1990 we have already achieved a reduction of approximately 15% per tonne of steel. With this commitment, we continue to quicken our pace. On our way to green steel, we are taking major steps towards carbon-neutral production. Preparations for these are in full swing (Chapter 4.3).

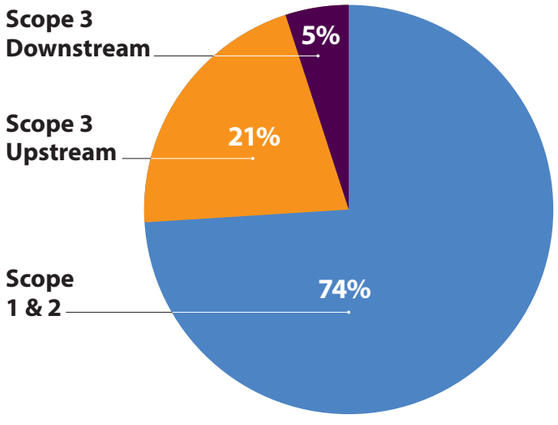
As a result of all energy and process improvements in past years, Tata Steel in IJmuiden is now one of the most CO_2-efficient steel plants in the world (top 3 of steel companies participating in the benchmark of the Worldsteel Association). Our emissions per tonne of steel are 7% below the European average. Despite this, our company is still responsible for 8% of all CO_2 emissions in the Netherlands. We feel a great responsibility to reduce this percentage as quickly as possible and thus make a relevant contribution to the Dutch climate objectives.

Our steel production is responsible for over 11 million tonnes of CO_2 per year, the majority of which (approximately 90%) in the making of pig iron at the beginning of our production process. Half of this is emitted through the steel production itself. The other half arises from captured production gases that we route to Vattenfall's neighbouring power plant. With these residual gases, Vattenfall produces electricity that is used (entirely) for the processes in our company.

Scope 1 and 2

We choose to class the CO_2 emissions from Vattenfall's electricity production under the emissions from our steel production in IJmuiden, and therefore bundle scope 1 and 2 together. We do this to prevent creating a distorted view of our CO_2 footprint. In this configuration, Vattenfall uses fuels that we capture from steel production. We class these production-related residual gases under scope 1. The same applies to the emissions that are released due to electricity generation during the oxygen and nitrogen production by Linde.
With this calculation, we make it clear that our residual gases are used purposefully. This sustainable use of our residual gases has been our practice since 1920.
We use the GHG protocol to measure and manage our CO_2 emissions. This makes it clear that approximately 74% of these emissions originate from our production processes in IJmuiden. The remaining part concerns the scope-3 emissions of the upstream and downstream activities.

Tata Steel Nederland Scope 1, 2 & 3 according to Greenhouse Gas Protocol



	tonnes of CO_2e
TSN Scope 1 & 2	
Production location IJmuiden	5,602,814
Via Vattenfall	5,456,777
Linde	7
DE (scope 1)	100,514
DE (scope 2)	37,805
Total TSN Upstream 1 & 2 (74%)	**11,197,915**
TSN Upstream Scope 3	
Purchased goods and services (including coal and ores)	2,249,415
Transport raw materials to IJmuiden	386,960
Investing in new installations	333,262
Fuel and energy-related activities	120,189
Waste processing	27,112
Employees commuting	13,000
Total TSN Upstream Scope 3 (21%)	**3,130,938**
TSN Downstream Scope 3	
Processing of products by customers	469,216
Transport to customers	108,700
Processing of the product at the end of their service life	105,240
Business travel	1,000
Total TSN Downstream Scope 3 (5%)	**684,156**

Scope 3

Indirect emissions of CO_2 are classed under scope 3.For Tata Steel Nederland this includes raw materials (for the most part coal and iron ore), parts, services and fuels (other than scope 1 and 2) that we need from other organisations in order to be able to produce. This also includes emissions from commuting and business traffic, waste processing, logistics, transport to and from our site and the processing of steel at the end of its service life.

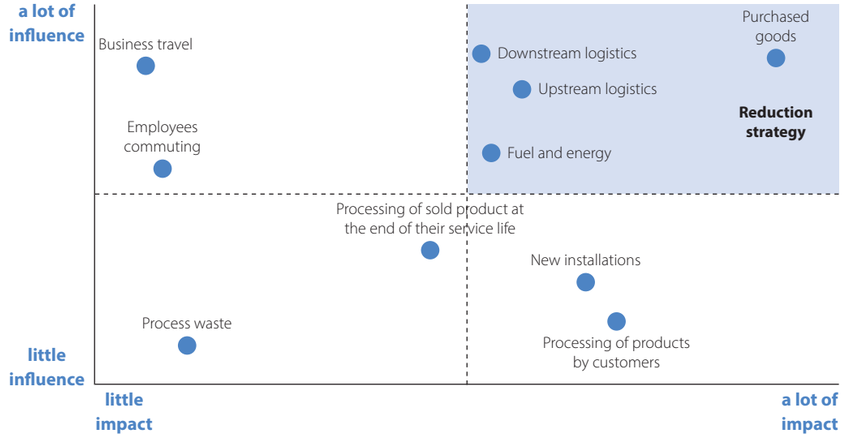
- 0.4 million tonnes due to transport (upstream) of for example coal and ore to IJmuiden.
- 2.2 million tonnes in the production of, for example, burnt lime, alloying elements and (grey) hydrogen, which we do not produce, but purchase from suppliers (including emissions from raw material suppliers and methane emissions from coal mines).
- 0.12 million tonnes due to extracting, processing and transporting fuel and energy from suppliers.
- 1.1 million tonnes due to, among other things, waste processing, transport to our customers, recycling our steel and the processing of our product by customers.

We are increasingly able to specify our scope 3 emissions, because more and more companies in the chain (supply, distribution, processing) are able to supply their own data. Step by step, we succeed in replacing previous theoretical calculations based on literature research with more rigorously calculated data. This will soon enable us to develop a reduction target, a reduction strategy and a reduction approach (probably in 2024), based on emission data from practice.

More focus on scope 3

For the accelerated reduction of our indirect CO_2 emissions, we are focussing on the emissions of goods and fuels that we purchase. This is where we have the most influence, and on the logistics choices for the supply of material to our customers and in how we bring in raw materials and auxilary materials on to site.
Ultimately, we want to reduce indirect emissions as much as possible, at and with suppliers, buyers and other partners. In the near future, we will be able to take into account the reduction performance or effort of our market partners in our sourcing decisions, in addition to aspects such as price, reliability of supply and quality.

Focus Scope 3 Approach



Zero Carbon Logistics

The commitment to reducing indirect emissions consists of concrete programmes and results. The Zero Carbon Logistics programme, launched in 2020, is a successful example of this.

Zero Carbon Logistics focuses on reducing CO_2 emissions when transporting our product to the customer. The ultimate goal is a CO_2 reduction of 30% compared to the reference year 2019.

At the end of the 2022-2023 reporting year, we've achieved a reduction of 19%. Dozens of projects contributed to this. Including the switch to trucks running on HVO100 (vegetable fuel) and electric trucks. In addition, we are working on making our maritime transport more sustainable. We have conducted nine biofuel pilots on multiple routes, with both larger and smaller ships. We are also investigating, together with partners, the possibilities of deploying ships powered by hydrogen and e-methanol.

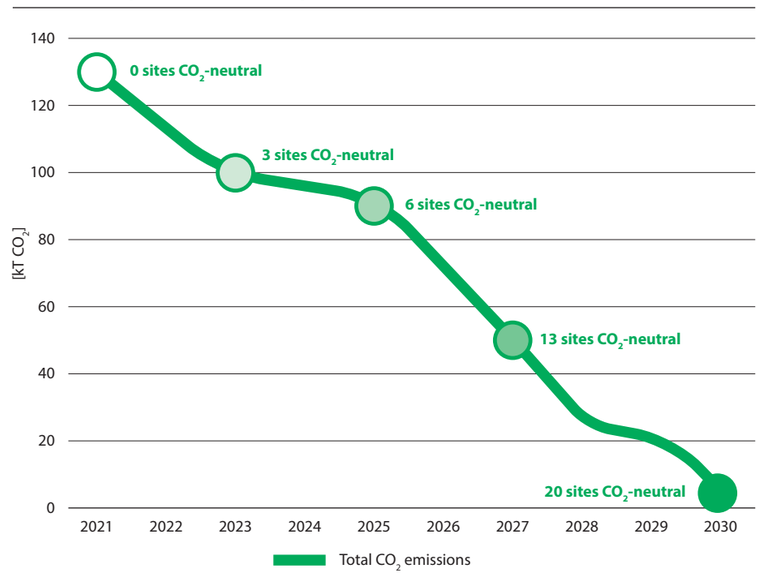
Downstream sites

As announced in the previous annual report, we are for the first time reporting on scope 1 and scope 2 emissions from Tata Steel Downstream Europe sites. This involves a total of eighteen production sites in Europe and two in the United States, grouped into five business units: Tubes, Building Systems, Colours, Distribution and Plating. Together, these companies process steel from IJmuiden for a vast range of applications and products.
It is our ambition that all downstream sites are CO_2 neutral in 2030. The Tata Steel Downstream Europe sites vary greatly in size, location and activities. And with that also in their development in the field of decarbonisation.

The production furnaces at some sites, such as Maubeuge in France and Hille & Müller in Germany, demand a lot of energy, while other sites focus on less energy-intensive processes, such as cutting and shearing. Nevertheless, the ambition is to have all sites operating CO_2 neutral by 2030. Eight of the eighteen are expected to achieve this status before 2025, while the sites in Naantali in Finland and Halmstad in Sweden will be operating CO_2 neutral as early as this reporting year. Naantali has already been externally verified as CO_2 neutral Scope 1 and 2, while Halmstad has been verified internally; external verification will follow in the course of the calendar year. The branch in Geldermalsen in the Netherlands may follow shortly.

Each site has now listed and recorded its own CO_2 emissions and has its own CO_2 reduction programme either in place or in preparation. The speed of becoming carbon neutral depends on the 'ease' at which the switch away from natural gas can be made, among other things. Electrification of logistics, the use of HVO (vegetable fuel) and energy generation by solar panels and wind turbines are also being considered. Despite the sites having their own programmes and challenges, best practices are shared to accelerate.

Ambitious Scope 1 and 2 reduction plans for Downstream sites



Insight into the CO_2 impact down to workplace level

Besides reducing our CO_2 impact, we're also working to raise awareness among employees in this area. For example, we are looking for ways to make it clear how the choices an employee makes in their daily work impacts on CO_2 emissions. This way, CO_2 reduction becomes real for everyone. One such example is a new software feature that shows the CO_2 impact of the different distribution modalities of a coil of steel. In other words: when considering a deviation from the standard option (for example by road instead of rail), our employee is shown how much extra CO_2 emissions this involves and can discuss this with the customer.

Agreement hydrogen

On 27 October 2022, Tata Steel Europe, together with approximately 60 other parties, signed the hydrogen in heavy mobility agreement. The aim of this collaboration is the creation of a comprehensive network of service stations and hydrogen vehicles in the province of North Holland.

Research started into sailing with hydrogen

We can also further reduce CO_2 in the sea transport of our coils of steel. That is why in 2022 we partnered up with Van Dam Shipping to develop a ship powered by hydrogen.
The vessel to be developed is a so-called Short-Sea Vessel with a loading capacity of approximately 5,000 tonnes and will be the first vessel of this type. Hydrogen-powered shipping currently consists mainly of inland vessels and small ferries.

Reporting Tata Steel Group

Through Tata Steel Group, Tata Steel Nederland submitted consolidated annual reports to the CDP (Carbon Disclosure Project) on its scope 1, 2 and 3 emissions. Recently, Tata Steel Group upgraded its rating from B to A-, the second-highest score. The score represents the appreciation of environmental and sustainability policies and leadership in the field of climate change.

Radical change of direction for the climate

In 2021, a new strategy was created by which we want to further reduce the impact of our production on the environment as quickly as possible. Tata Steel Nederland is committed to 'green steel in a clean environment'.

We want to reduce CO_2 emissions as soon as possible. To this end, we initially focused on capturing and storing CO_2 in empty gas fields under the North Sea, the so-called CCS route (Carbon Capture and Storage). That would contribute to CO_2 reductions in the short term already and create room to introduce new CO_2 neutral production technology by 2050 on a structural basis.

In the summer of 2021, the European Commission launched plans to reduce CO_2 emissions by 55% quicker, as early as in 2030. As a result of the plans by the European Commission, more and more of our customers showed an interest in steel with a lower carbon footprint, as reflected in our periodic market surveys.

Growing concern about impact

In the meantime, local residents have become increasingly concerned about the impact of our production on the local environment. Whereas society attached ever broader and more urgent importance to combating climate change and making the steel industry more sustainable, we saw a decline in public support for the intermediate step with CCS.

The FNV trade union pressed for further research into the possibilities of accelerating the transition to cleaner steel production. Together, we decided to explore the opportunities of the aforesaid CCS route as well as DRI technology (Direct Reduced Iron).

The conclusion of this independent study was that both technologies are suitable for achieving the intended CO_2 reduction targets. They both meet the quality requirements of Tata Steel. However, the CCS method would only be a temporary option. With DRI technology, which is already being applied in other parts of the world, pig iron can be made on the basis of hydrogen or natural gas. Although it requires a radical change in the production process, it does pave the way for faster replacement of older installations, resulting in a substantial improvement for the local communities.

Review of the climate strategy

In September 2021, the Board of Directors therefore decided to review its climate strategy and to fully focus on the production of green steel via the hydrogen route. It is better for the climate and also brings greater benefits for the environment. We call this 'green steel in a clean environment', because it embraces our ambition to produce steel with clean and green hydrogen: CO_2 neutral and without the emissions associated with coal. Via this route, together with the measures from Roadmap Plus, the burden on the local environment is greatly reduced.

We are now fully committed to having the first installations produce steel using this process by 2030. To achieve this, a large part of our production will be changed: new installations will be built, after which one blast furnace and Coking and Gas Plant 2 can close. The first important steps have been taken. You can read more about this in the next paragraph.

The road towards clean technology

Tata Steel Nederland is transforming its steel production in IJmuiden to a radically different process. In doing so, the use of coal will become superfluous. For example, we have the ambition to achieve a CO_2 reduction of about 35 to 40% as early as 2030. In the year under review, we worked on, among other things, the designs for the plants required for this.

In order to drastically reduce CO_2 emissions, Tata Steel Nederland is switching to a radically different production process. Traditional blast furnaces and coking and gas plants will be replaced with new installations that produce pig iron using natural gas or green hydrogen. Not only do the new installations make green steel possible, together with the improvements from the Roadmap Plus programme (see Chapter 3.1) they also reduce the burden on the environment.

Our ambition is to start producing pig iron with DRI technology for the first time from 2030 onwards. A proven technology that replaces the use of coal with hydrogen or natural gas. In both cases, it sharply reduces CO_2 emissions.

It paves the way for production based on green hydrogen, as soon as it is sufficiently available. Growing production capacity of offshore wind energy is an important factor in this.

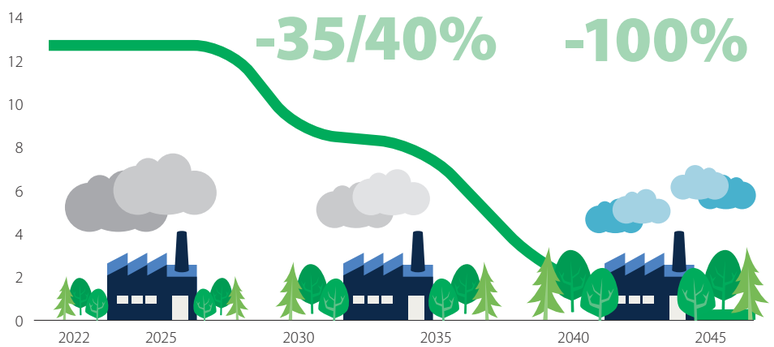
Site

By opting for green steel, we have started the biggest change in the history of our company. Within a few years, the IJmuiden site will look very different, with fewer chimneys and cleaner plants. An area of 60 football pitches will be transformed for this purpose.

Tightened climate ambition

By 2030, TSN has the ambition of achieving a CO_2 reduction in line with the Dutch Climate Agreement and the Coalition Agreement and is studying the feasibility of a reduction of 35% to 40%. This will reduce CO_2 emissions by up to five million tonnes per year by 2030 (compared to the baseline of 12.6 million tonnes per year).

Ambition CO_2 reduction in steps



Phasing to green steel

In 2021 it was decided to replace the heart of our production process with DRI technology to make steel production in IJmuiden more sustainable. This is a technology in which oxygen compounds in iron ore are burned on the basis of natural gas or hydrogen, instead of coal. Tata Steel has the ambition to replace a blast furnace and Coking and Gas Plant 2 with new, cleaner installations, even before 2030. When we do, the use of coal can be largely discontinued.
And once this step has been completed, we will also replace the last blast furnace with associated cooking and gas plant as soon as possible.

We expect this second phase to be completed around 2035. We are also taking the latest additional measures, making it possible to produce carbon-neutral steel IJmuiden before 2045, provided that sufficient green hydrogen is available by then.
With the decision to build DRI installations, Tata Steel is preparing for the hydrogen economy in the Netherlands and we are giving a solid baseload for the production of (green) hydrogen in our country. If hydrogen is still insufficiently available in the future, the new installations can initially also operate on the basis of natural gas or renewable gases.

DRI technology benefits

CO_2 emissions
The use of green electricity and hydrogen considerably reduces the CO_2 emissions from the primary steel process compared to the blast furnace process.

Hydrogen
Replacing coal by green hydrogen also brings about an improvement of the direct living environment.

Scrap
Using scrap allows us to make steel in a circular manner.

Quality
The technology yields the same high-grade steel as the blast furnace technology.

Video towards green steel

Watch how we want to make green steel in 2030 here.

Expression of Principles

In the summer of 2022, we signed an Expression of Principles with Minister Adriaansens. This is a joint expression of the importance that Tata Steel Nederland and governments attach to more sustainable and clean production of steel in the Netherlands.

Permits

In the year under review, we have made some important steps in the field of permits. In November 2022, the Provincial Executive of the Province of North Holland took the decision for an expedited permit procedure. With this, the provincial authorities indicate that the transition to green steel qualifies for fast-track processing. Thanks to this decision, we can start building the necessary installations faster than via the usual permit process.

In March 2023, the provincial authorities took the decision to Notify Intention of Participation. This was the start of our participation process (see next page). For a few weeks, local residents were involved in the plans through information evenings.

This is also one of the steps to arrive at an Environmental Impact Assessment (EIA). The EIA will be worked on during 2023, after which we expect to be able to submit it in the course of 2024.

Subsidies

In February 2023, we secured a grant for a scaled DRI/electric furnace installation pilot, which R&D can use to experiment with over the next four years. The pilot is financed with a Top Sector Energy Subsidy from the Ministry of Economic Affairs worth approximately EUR 926,000.

Achieving green steel in 5 steps

THE ENTIRE PROCESS OF SWITCHING TO DRI TECHNOLOGY CONSISTS OF FIVE STAGES:

1 Design
(finalised)

In this phase, we selected the suppliers of the new installations. Contracts have now been signed with three companies that will further prepare the technical aspects for the next phase. The combined efforts for this next phase involve an amount of EUR 65 million.
In the meantime, TenneT has started building a transformer station on the border of our site for the connection to wind energy, that will soon be needed for the production of green hydrogen.

2 Engineering and detailed engineering
(summer 2022 - early 2024)

In the phase, we work out in detail how the new installations function, how they are powered, how they are connected to surrounding installations, including the Steel Plant, and where the residual flows are reused in the production process.
The associated permit process has now been started as well. This has to be completed with due care. This procedure is necessary to make 2030 feasible.

3 Construction preparation
(2022-2026)

In this phase, we will be preparing the construction, including making room on our site for the new installations. In the meantime, the details of the plants and supplies are being worked out and we continue with the permit process.

4 Construction
(2026-2028)

This phase, in which the construction of the new installations takes place, can start as soon as the permit process has been successfully completed. Our goal is to deliver the installations by the end of 2028. We limit air and noise emissions by having the construction preparations take place elsewhere as much as possible and, where possible, supplying installations fully assembled.

5 Start-up
(from 2029 onward)

After completion of the new plant, we will start them up step by step. When everything works properly, we can shut down the first blast furnace and Coking and Gas Plant 2. We expect this transition period to last approximately one year. The production of the new installations will be built up, as the blast furnace production is phased out.

Preconditions

Making our production process more sustainable is an extensive and complex operation. The necessary speed at which we want to realise the switch to hydrogen makes it essential that a number of conditions are met. Conditions that enable our steel production and the wider industrial sector in the Netherlands to become more sustainable are:

- New infrastructure for sufficient green electricity, hydrogen and natural gas including the connection of the steel company to these networks.
- Timely and prudent permit approvals: this is essential for the accelerated transition to green steel in a clean environment. The final permit is required by early 2026 at the latest to meet current time lines.
- We expect we need 100 kilotonnes of hydrogen from 2030. This can be scaled up to a maximum of 220 kilotonnes of hydrogen during the first phase.
- Financial support to facilitate the necessary investments.
- Financial support mechanisms and a level playing field (fair competition) at European level: all this is necessary to ensure the operational costs of green steel production will be economically viable. To that end, the availability of affordable green hydrogen is critical.

Major steps

December 2021:
Agreement with TenneT for connection with national green electricity network.

January 2022:
Start draft engineering for new installations (EUR 40 million).

July 2022:
Signing of adjusted Expression of Principles with government.

July 2022:
Start of series of supplier meetings to work together on opportunities and challenges on the green steel route.

August 2022:
Start of basic engineering (EUR 65 million).

December 2022:
Outline agreement with the trade unions on Green Steel Social Contract.

February 2023:
Green industrial zone agreement offered by the business community to regional politicians.

March 2023:
Approval from the North Holland provisional authorities for the green steel production procedure to start.

April 2023:
Kick-off of participation process with various meetings to involve local residents in the green steel route.

May 2023:
Member of the new trade association for hydrogen in the Netherlands.

June and July 2023:
In-depth discussions and theme meetings with various stakeholders as part of the participation process.

In addition, periodic administrative consultations take place with all NZKG municipalities as part of the North Sea Canal Area Administrative Consultation to accelerate the energy transition and to create support for our plans.

Recent external developments, such as worsening economic and market conditions, energy crisis, nitrogen issues and the government's additional climate measures, may affect our green steel plan. Therefore, we are investigating whether our plan needs adjustments. Input from the participation process and the recent RIVM and OVV reports will also be taken into account. Our goal remains the same: realisation of green steel around 2030 and accompanying closure of a blast furnace and Coke and Gas Plant 2.

Participation process Green steel

The route to green steel, which has been dubbed Heracless Green Steel, involves a radical conversion of both the production process and the energy infrastructure. To carry out this project, the correct legal procedures must be completed. These can be divided into three processes: a project decision for adjusting the environmental plans, the environmental impact assessment and the permits for construction, the environment, water and nature.
Tata Steel invites various stakeholders to think along with each of these processes.

These stakeholders are: local residents, municipalities, nature and environmental organisations, local businesses, education, science and knowledge institutions and employees.
To organise this properly, a Participation Plan has been drawn up indicating when participation is possible and for which components.
The participation process is expected to take approximately 2.5 years, up to and including 2025.
More about this at **www.tatasteel.nl/participatie**

In the midst of all the discussion surrounding the company, Jeroen Klumper leads the process that will make Tata Steel IJmuiden carbon neutral in 2045. He takes the lead in both the transition of the production process and in the Participation process.

What’s the biggest challenge?
“That we switch to clean, green steel in a short period of time. This will make a huge social contribution. This applies to our impact on the environment, particularly also because our carbon footprint will be greatly reduced. This is now the largest in the Netherlands and will be minimal after the transition. How often in your career do you get the chance to make such a difference?”

You do have a big responsibility, don’t you?
“Of course, but I’m not alone in this. Hundreds of professionals, from both inside and outside our company, are intensively preparing for the transition. And that number is growing. Moreover, the technology is available and the infrastructure for hydrogen should be ready on time as well. The things that bother me are the number of permits we have to obtain as they determine the timeline. I put a lot of energy into the Participation process to involve all stakeholders as much as possible.”

How is the environment doing now?
“I guess you are referring to the fact that, as a company, we’ve some catching up to do on this point. And rightly so. We’re doing everything we can to regain trust. The better we succeed in this, the sooner we can switch to hydrogen and start making green steel. This is of a general interest, as well as in the interest of the immediate environment, our employees and the more sustainable hydrogen economy in our country. Fact is that in IJmuiden, we will soon be using a substantial amount of green hydrogen. This will give this production sector a solid base. And it will make many other initiatives possible at the same time.”

Energy saving and reuse

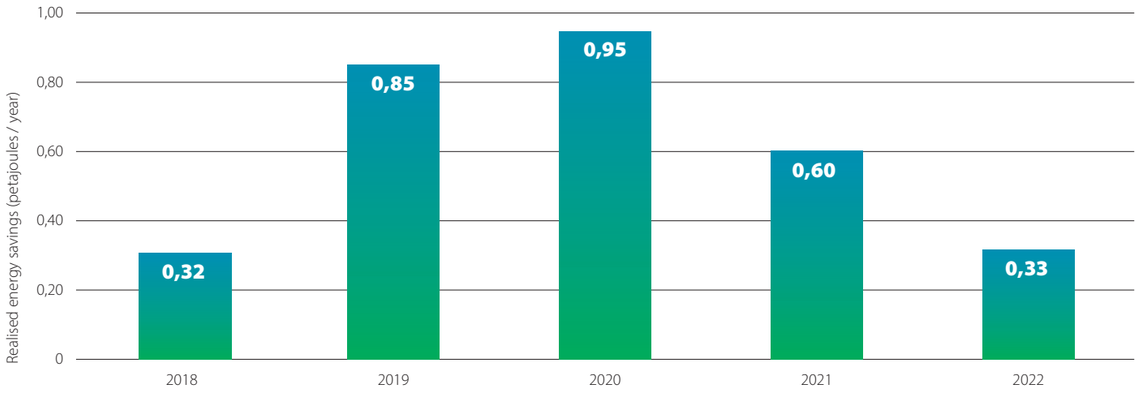
With the countless motors, steam systems and ovens within our site, improvements can still be made in terms of energy consumption. We are constantly working on that. In the year under review, we again achieved new savings.

For more than 30 years now Tata Steel has been using its innovative power to use energy more efficiently in steel production and has great ambitions for the coming years. Since 1989, we have achieved a 34% improvement in energy efficiency. Total energy consumption at Tata Steel IJmuiden in 2022 was 13,577 million kWh.
Energy conservation is therefore an important point of attention in making our steel company more sustainable. We re-use many of the residual energy streams, such as combustible gases and steam, in our own production. What remains is used at Vattenfall's power plant to produce electricity, which is sufficient for our company's average electricity needs per year.

For many years now we've made agreements with the Dutch government about achieving further energy efficiency. Since 2023, the provincial authorities have been our partner in this, and we report to the North Sea Canal Area Environment Agency. We also benchmark our energy consumption with other steel companies.

Realised energy savings

Average of ± 0.6 petajoules/year for the last 6 years. This is equivalent to ± 12,000 households and represents 1% of the total energy consumption of Tata Steel in IJmuiden.



Examples of major projects that contributed to this:

Reducing coking gas consumption KGF2
- Improving furnace settings
- Various operational initiatives, 2017 and 2018
- **Savings: 125,000 Gj/year**

New coking gas holder ENB
- New, larger coking gas holder realised in 2019
- Reducing flare losses
- **Savings: 50,000 Gj/year**

Furnace cooling water ENB
- Connecting users to hot water network Hot strip mill 2
- **Savings: 80,000 GJ/year**

New electric wind machine
- Reduction steam demand
- **Savings: 490,000 Gj/year**

More efficient coils tunnel furnace DSP
- 17 coils installed, Nov 2022
- **Savings: 26,000 Gj/year**

High-turbulent coil cooling WB2
- Improved cooling, using less water, realised summer 2022
- Reduced electricity consumption pumps
- **75,000 GJ/year**

*Realised savings in PJ/year (MEE scope, primary energy, until 2020, EED scope, final energy, > 2020)
Site consumption (MEE scope: 65.32 PJ/year - AP17 baseline, EED scope: 52.77 PJ/year - EED report TSIJ Dec 2020)

We approach energy saving on a project basis. In recent years, large and small projects have led to energy savings of 417 million kWh (2020 and 2021 combined). Examples include the heat network on our site, which uses residual heat from the hot strip mill, and the improved compressors for compressed air at the blast furnaces.

In the year under review, we started using 'dry rollers' at the Direct Sheet Plant (see box) and had the pickling line permanently aligned with the cold strip mill. In doing so, we achieved savings of 108 million kWh. A greater saving (167 million kWh) will be achieved in 2023 when the planned new walking beam furnace in the hot strip mill is taken into service.

Outlook

As part of our statutory duty to save energy that came into effect on 1 January 2023, all energy-saving measures with a payback period of less than five years must be implemented. Together with the environment agency, we have set out the main lines for this.
In that context, we will be working out plans for these improvements in the coming years. First of all, we will be investigating the improvement potential of the thousands of electric motors for pumps and fans on our site. We will do the same for all steam systems. We will draw up our plan for these improvements in consultation with the Environment Agency. In addition, a programme is underway to accelerate the replacement of all halogen lamps in the works with LED lighting.

Innovation: Dry rollers prevent the furnace from cooling down

In the Direct Sheet Plant, steel is poured and immediately processed into coils of steel. After casting the slab, the slabs are guided through the tunnel furnace by rollers. These rollers were water-cooled, which at the same time extracted a lot of energy from the furnace. That is why we developed dry rollers, that do not require cooling. By the end of 2022, 17 rollers of the new type had been installed. This saves us 50% of natural gas in the furnace section, which amounts to 7 million kWh per year.

We are economical with raw materials and energy

Tata Steel IJmuiden strives to use raw materials and energy as efficiently as possible. Virtually all substances released during our processes are reused. Not only does this yield business economic advantages, we also save on natural raw materials, reduce our CO_2 emissions and prevent the generation of waste.

Residual materials are reused via an intricate and complex system of waste flows. When making steel, the residual material from one plant is often the raw material for the next. For example, the refractory material in steel ladles is used again as raw material in the blast furnaces after replacement. Our blast furnace slag finds its way to the construction and concrete industry as a high-quality raw material for cement.

For the production of 6.3 million tonnes of liquid steel in current financial year, Tata Steel needs about 13.2 million tonnes of raw materials. In the year under review, Tata Steel was able to reuse more than 1.011 kilotonnes of residual material, and therefore did not have to purchase a comparable quantity of raw materials.

In addition, we are using more and more scrap. Scrap from third parties contributes to the reduction of CO_2 emissions in our production, because it only needs to be melted down. A large part of the used scrap comes from the metal processing sector, the demolition sector, the waste processing sector and our Downstream sites. In the year under review, Tata Steel used 624 kilotonnes of this, which amounts to 12% of the total steel volume sold. Our aim is to increase this percentage in the coming years.

Scrap also comes from our own production. This is mainly regarded as a loss of efficiency, in which iron and steel have leaked out earlier in the production. We make every effort to reduce this as much as possible, to recover all lost material from production and reuse it in the production of steel. In the year under review, this amounted to 458 kilotonnes.

Heat and electricity

We reuse the captured residual gases from our own processes in order to reduce the consumption of natural gas. The remainder are converted into electricity in the Vattenfall power plants in Velsen-Noord. Vattenfall generates a considerable amount of electricity through residual gases; about 2.8 billion kWh, which is comparable to the energy consumption of 345,000 households. This energy is largely used in our production processes again.

Green steel changes recycling

The planned production of green steel in the near future means that the recycling of residual flows from our production processes will change. Current residuals will disappear and new residuals will be created. The goal is and will remain to reuse as much of these as possible within our company. Tata Steel is working intensively with scientists, industries and other partners to predict and adapt to these changes.

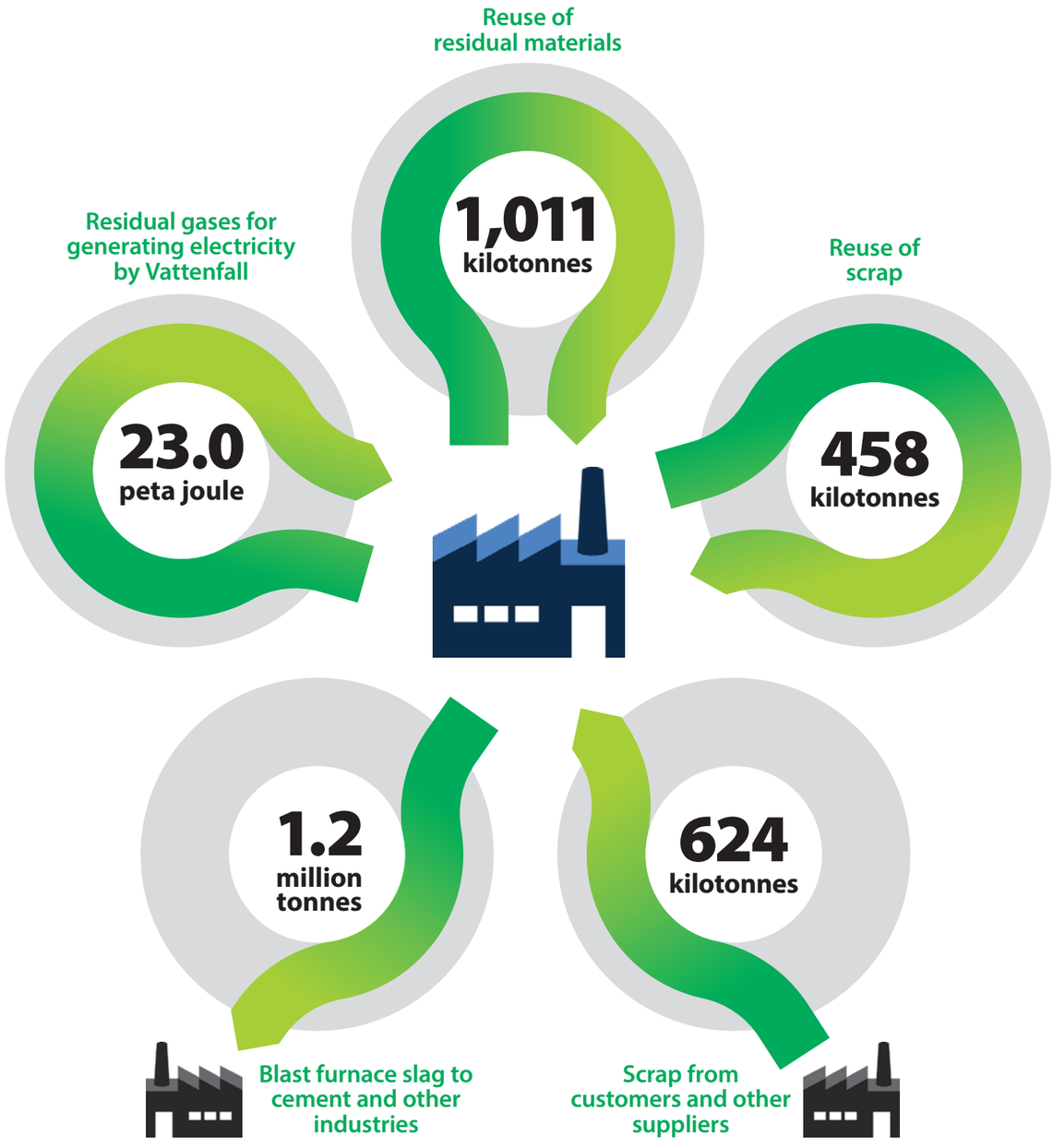
For example, the switch to hydrogen-based steel production could have an impact on the chemical composition of slag. That is why we also include this aspect in the basic design of the new DRI installations and electric furnaces. Mainly, the slag from this installation must find a sustainable application. To this end, we regularly coordinate with the cement industry and we are already conducting small trials.

The first blast furnace and coke and gas plant shut down in 2030, and the resulting residual flows of blast furnace gas and coke gas will cease as well. These gases are currently still fully used for the energy that our production processes need. To this end we will obtain the required energy from green electricity or natural gas as far as is possible. For example, we have concluded an agreement with TenneT for a direct connection to the national electricity grid for green electricity.

Overview of reuse of residuals and by-products

In 2022, a total of 98% of all residuals and by-products had a useful application, both in our own operations and those at third parties. Only 2% could not be reused and remained in the form of waste material. Although this is already a small amount, we are still striving to further reduce this percentage.

98% of the residual material is reused



Responsibility in the chain, up to the mines

High-quality steel requires a variety of raw materials. Not only iron ore, but also other scarce rare earth minerals. Tata Steel Nederland strives to source these raw materials as responsibly as possible. Together with our suppliers, we map out the supply chain all the way to the mines.

We also refer to responsible sourcing as International Responsible Business Conduct (IRBC). We have been following the OECD Guidelines for Multinational Enterprises for some time now. In addition, we are working to map out our supply chain step by step and we conduct research into the conditions in the mines where our raw materials come from. As a first step in this process, we've joined the Metals Covenant in 2019. This is an initiative of 12 companies in the metal sector, NGOs, government and the largest trade unions in the Netherlands.

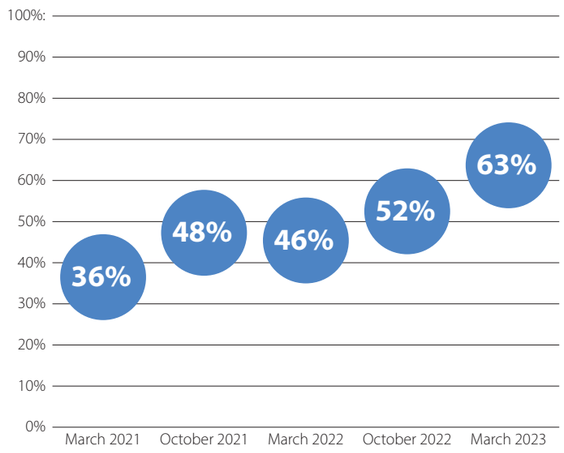
As a member of the Metals Covenant, we contribute actively. In line with our parent company's values, we take responsibility for the community we are part of. That is why we endorse the OECD guidelines and make every effort to detect and tackle malpractices in the chain.

The Maturity Assessment tool of the Metal Agreement helps us measure our progress in implementing the OECD Guidelines.

Metals Covenant, supported by the sector

Dutch metal companies mostly depend on the import of raw materials for their production. The 'CSR Sector Risk Analysis' report, carried out by KPMG on behalf of the government, shows that the metal sector poses an increased risk of violating human rights, fundamental labour rights and environmental and biodiversity standards. With the Metals Covenant, participants make a joint effort to identify, prevent and tackle negative impacts.

Tata Steel Nederland MAT score



0 - 20%:	Starting
21 - 40%:	Basis
41 - 60%:	Improving
61 - 70%:	Embedded
71 - 80%:	Advanced
81 - 100%:	Near completion

The Maturity Assessment Tool is used by the members of the Metal Agreement to measure their progress in implementing the OECD guidelines.

Fifteen high-risk materials selected

During the year under review, we continued to work on mapping out the supply chain in order to properly prioritise our actions. Earlier we came to a defined approach to our risk analysis. This led to a risk score for our five principles of sustainable procurement (see box on page 75) per type of material and supplier. Based on this, we were able to select fifteen raw materials posing an increased risk. Their supply chains will be worked out in the near future to find out from which mines the substances originate.

New actions in the year under review

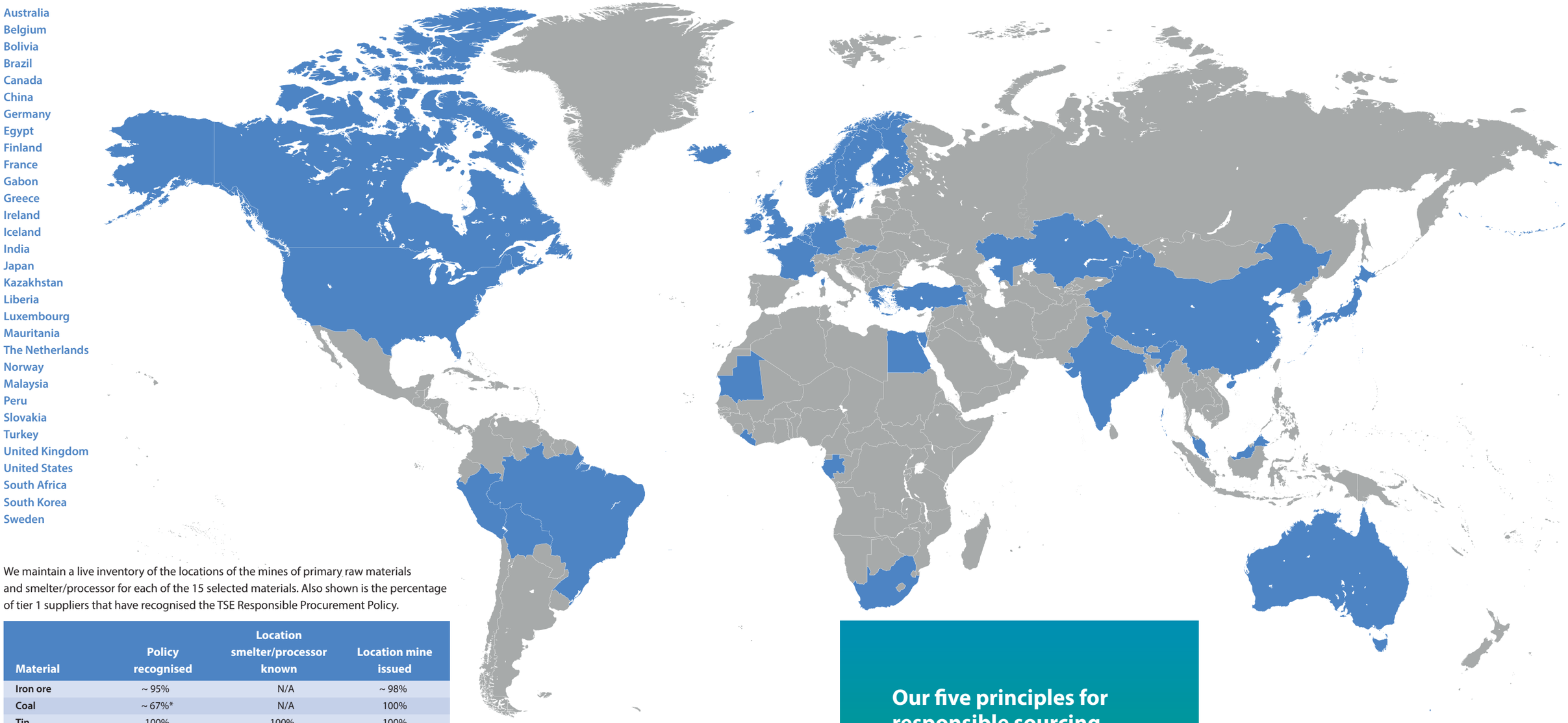
First of all, we've updated our responsible sourcing policy based on the new insights. In March 2022, we updated our Responsible Procurement Policy and Supplier Code of Conduct. In addition, we developed a long-term strategy for responsible sourcing, in which we are already preparing for new supply chain due diligence legislation and certification for ResponsibleSteel at our site in IJmuiden in the next financial year.

An important step was the establishment of a Community of Practice in September 2022. This group of buyers from Tata Steel meets regularly to discuss relevant information about the fifteen selected high-risk materials. A second goal of this knowledge group is to monitor progress in gathering new knowledge about these materials and associated supply chains. Our main focus is on transparency within the supply chain, research results and reports with new facts.

ResponsibleSteel

The aim of ResponsibleSteel is to increase steel's contribution to a sustainable world. This standard was designed in collaboration with companies, civil society organisations and technical experts. Internationally recognised sustainability standards benefit customers and companies. They help people in supply chains and their environment. They are also useful to achieve sustainable development goals such as clean water, reduced greenhouse gases and responsible production and consumption. We aim to get our IJmuiden site certified in the next financial year.

Origin of 15 selected materials mapped out (mines and processors of raw materials)



Australia
Belgium
Bolivia
Brazil
Canada
China
Germany
Egypt
Finland
France
Gabon
Greece
Ireland
Iceland
India
Japan
Kazakhstan
Liberia
Luxembourg
Mauritania
The Netherlands
Norway
Malaysia
Peru
Slovakia
Turkey
United Kingdom
United States
South Africa
South Korea
Sweden

We maintain a live inventory of the locations of the mines of primary raw materials and smelter/processor for each of the 15 selected materials. Also shown is the percentage of tier 1 suppliers that have recognised the TSE Responsible Procurement Policy.

Material	Policy recognised	Location smelter/processor known	Location mine issued
Iron ore	~ 95%	N/A	~ 98%
Coal	~ 67%*	N/A	100%
Tin	100%	100%	100%
Cobalt	100%	100%	100%
Zinc	100%	100%	100%
Ferro Manganese	100%	100%	~ 90%
Ferro Chromium	100%	~ 60%	~ 60%
Ferro Niobium	100%	100%	100%
Ferro Vanadium	100%	100%	100%
Ferro Silicon	100%	~ 60%	~ 30%
EMM	100%	0%	0%
Chromium (aq)	100%	0%	0%
Bentonite	100%	100%	100%
Magnesium	100%	100%	~ 30%
Scrap	~ 94%	100%	N/A

* Relatively high number of spot deals sometimes leads to a lower percentage of policy recognition

Our five principles for responsible sourcing

- Health and Safety
- Fair trade
- Environmental protection
- Human rights
- Together with our suppliers, we contribute to the developments of stable local communities.

Project mines in Peru and Bolivia

Within the context of the Metal Agreement, TSN and Wuppermann Staal Nederland BV have recently started working as partners in a collective project to improve health and safety conditions in mining in Peru and Bolivia. The project is led by CNV International and received a subsidy from the Responsible Business Fund (FVO) in the year under review. Together we want to map out the risks of employees in this supply chain for metals.

Audit Responsible Sourcing

At the end of March 2023, we again successfully completed the external audit for our BES 6001 certification. BES 6001 allows manufacturers of building products to guarantee and subsequently demonstrate that their products are made from responsibly sourced materials.

Manganese mission to South African mines

In response to a report from Actionaid in June 2021 about the conditions in the mining of manganese, we started talking to producers and traders within our chain, as well as with parties such as CSR advisers, NGOs and ministries. These talks led to us visiting two mines in South Africa in the summer of 2022, together with a supplier and supported by a consultant and NGOs. Incidentally, Tata Steel does not purchase its manganese directly from these mines, but obtains it from producers in the form of ferro-manganese.

The findings of our study:

Health and Safety

The mines we visited apply very high health and safety standards.

Fair Business Practices

Our Tier 1 supplier has its own code of conduct and responsible sourcing policy. It imposes this on its suppliers (the manganese mines in South Africa).

Protection of the environment

South African mining legislation is very strict, including in terms of environmental protection. This was confirmed by all parties. Mining companies have to comply with the strict regulations to be able to operate their business and maintain their operating permit.

Human rights

Both our supplier and the mining companies have policies and procedures in place to protect human rights. During our visit, we saw many women working in the mines. Not only in the office, but also on site. We spoke to both female management and other employees and both groups confirmed that men and women have equal opportunities in the company.

Development of local communities

South African mining companies are required by law to invest one percent of their EBITDA in the local community. During our visits to the mines, we have seen evidence of these social investments (construction of schools, health clinics, sports facilities, water supplies and houses).

We continue to monitor the situation in South Africa and are working with our supplier to improve our joint approach. The knowledge and experience we have gained in the Metal Agreement suit this situation well.

"MORE AND MORE TRANSPARENCY ABOUT THE SITUATION AT OUR SUPPLIERS"

Marjon Langereis works at Tata Steel Group Strategic Procurement, which purchases raw materials for the six steel plants in India, the UK and the Netherlands, with a focus on achieving further sustainability improvements in the purchase of iron ore, coal and coke. This way, our supply chain becomes increasingly transparent about issues such as human rights and CO_2 emissions.

How do you ensure that suppliers open up more?
"It all starts with a positive relationship between our buyers and suppliers. We want to find out as much as possible about our suppliers through questionnaires. For example, about human rights and corruption, but also whether they manage residual material properly and how they deal with biodiversity, forests and indigenous people. A very interesting field of work that also includes risk management. For example, by analysing per country where the greatest risks of malpractices lie."

What do you do if that information is not given?
"The main thing is that we want to improve sustainability together with our suppliers, here and now. If we don't have enough information, it's important to gain more knowledge ourselves when our buyers visit the suppliers/mines. In doing so, they use the Rapid Mine assessment tool which allows them to gain a quick insight on how the suppliers are performing on 11 points and, if necessary, to ask further questions."

So Tata Steel mainly wants to work with suppliers to improve the situation here and now. What plans are there?
"Our company has partnerships with key suppliers, with projects focussing on CO_2 reduction and the use of biofuels. We want to expand the number of projects with more suppliers."

Tata Steel sources raw materials from 60 suppliers from 19 countries worldwide. This makes your impact big. How does the parent group in India view this?
"Tata Steel India is working on transparency in the chain as well. They have subjected their suppliers to an extensive assessment in the field of Responsible Supply Chain, which we are now also working on in the Netherlands. This will bring us yet more insights.

PEOPLE AND SOCIETY

This chapter reports on the fourth and final theme of our sustainability strategy. We provide insight into how Tata Steel Nederland is committed to the health, well-being and employability of all its employees. Priority is placed on safety, a healthy working enviroment and equal opportunities for all employees. Our training and leadership development efforts are discussed in this chapter as well.

Ambition

Tata Steel Nederland strives for a good working climate and embraces cultural diversity in an inclusive environment. The safety of our employees is our top priority. Investment in the sustainable employability of our employees includes a vitality programme and training.

Scope

Tata Steel IJmuiden

Goals

- An inclusive working climate: By 2027, at least 99% of employees should feel they can be themselves in the workplace.
- Cultural diversity: 25% in 2027 (CBS Netherlands: 25%).
- More women in technical vocational positions: 5% in 2027.
- More women in decision-making positions: 30% in 2027.

Results financial year 2022/2023

- An inclusive working climate: 96%.
- Cultural diversity: 15%.
- Women in technical vocational positions: 2.5% of workforce.
- Women in decision-making positions: 17% of workforce.
- The wage gap between women and men at Tata Steel Nederland as measured by AWVN (general employers' association) is very low: 1% (nationally 2 to 3%).
- 431 employees followed a level-raising training to senior vocational level and 112 to Bachelor level.
- We have launched a new leadership programme.
- A trial with shared bicycles from Beverwijk railway station was highly appreciated.

SDGs

Health and well-being

Quality education

Gender equality

Investing in well-being, health and vitality

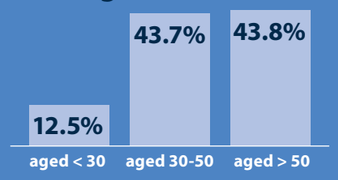
Tata Steel Nederland has traditionally been a company with a social heart. We stand by our employees, because they have made our company what it is today. And now that our company is transforming to the production of green steel, we continue to take good care of our employees.

TSN employs highly specialist and motivated staff. Many have long service records and many even trained at our own Tata Steel Acadamy. We deem it our responsibility to keep all our employees motivated and to contribute to their vitality and well-being. Safety is given top priority throughout TSN. In addition, we are committed to diversity and an inspiring, inclusive work environment with equal opportunities. We continue to invest in the training and development of all our colleagues, whether they are employed or otherwise associated with us.

EMPLOYEES
REPORTING YEAR 2022-2023

Number of employees
12,299

Age structure



Number of female staff
1,265

New employees
1,108

Staff turnover
4.1%

Social contract due to transition to green steel

The transition to green steel means that in ten years' time the Tata Steel IJmuiden site will look completely different. Some installations will even disappear entirely. To offer the people who work there also longer term prospects, TSN agreed in principle the Green Steel Social Contract with the trade unions during the year under review. This created a clear perspective for employees whose jobs will eventually disappear as a result of the transition. An employment pact will guarantee new jobs, good working conditions and income. In addition, intensive personal conversations will be held with career coaches and we will be looking for tailor-made solutions for every indiviual affected. There will also be a financial incentive for employees who continue to work at their respective installations until closure.

Social safety high on the agenda

Social safety and transgressive behaviour were topical themes in 2022. We have actively managed company policies in this regard for many years. In addition, our platform of confidential advisers organised team sessions within TSN on the topic of social safety in 2022, with the aim of jointly raising awareness of undesirable behaviour. After a lesson on social safety and transgressive behaviour, colleagues discussed these topics with each other guided by the road map "That's alright, isn't it?"

Cycling to work encouraged

In 2021, we investigated how employees travel to and from work and what opportunities they see to do this in a more sustainable way. Many of our colleagues are considering switching to public transport, but are not yet doing so due to the lack of good connecting transport for the last stretch to our business park.

To address the issue, we started a trial in September 2022. Fifty employees were given a public transport card with a special travel app, allowing them to reserve a bicycle at Beverwijk railway station for a period of three months. The app also provided insight into the reduced CO_2 emissions of their choices. Despite train strikes and problems with the NS Railway timetable, the trial proved successful:

- The trial was rated by participants with an average score of 8.6 out of 10.
- 80% of the participants would like to see this concept implemented.
- Most participants can see financial benefits.
- The majority of trips were made by public transport.
- During the pilot, 40% less CO_2 was emitted compared to travelling by car.
- Approximately 75% of the cycling participants notice positive effects in terms of their own (mental) health.

In 2023, we will assess to what extent this mobility concept is scalable and what is needed to be able to implement it on a large scale.

Bicycle-friendly company certificate

On 19 May 2022, we received the Gold certificate for bicycle-friendly company from the Dutch Bicycle Association. We sought to be certified to learn how we can become even more bicycle-friendly. Every day, 650 employees cycle to work. Tata Steel provides many facilities for this, such as changing rooms, showers, bicycle sheds and the highly popular bicycle scheme.

Green Teams: youth network for sustainability

Many young professionals at Tata Steel Nederland feel the need to actively contribute to our sustainability ambitions. They discuss their ideas and take action in a network called Green Teams. We collect the best ideas within this network. They are ideas that contribute to CO_2 reduction in the short term or that help raise awareness. After a selection of the most feasible ideas, the Green Teams develop these into a project within our company.

Not only does our network of Green Teams provide good ideas for sustainability, it also has a unifying effect within our organisation. The projects involve collaboration with knowledge holders and professionals who have been working at Tata Steel for some time. This way, knowledge is transferred, with various layers and positions in the organisation working in groups towards a common goal.

Examples of Green Team improvement projects in the year under review:

- Better insulation of steam pipes.
- Investigation into a carbon-neutral ship for the transport of our coils of steel.
- An alternative solution for disposable cups.
- Study into co-investing in sustainability projects.
- Making packaging processes more sustainable at Downstream Europe.
- Making further sustainability improvements in the Direct Sheet Plant.
- Electrification of our locomotives.
- Making commuting more sustainable.
- Electrification of commercial vehicles on site.
- Shore power for ships moored in our harbour.
- Energy label for all our office buildings.

Arriving and leaving work without injury

The industrial conditions of our steel company in IJmuiden and sites elsewhere constantly place high demands on the health and safety of our employees. Our Health & Safety management system is therefore continuously evolving. This way, we guarantee that a structural effort is made to prevent personal injury, unsafe situations in business operations, personal accidents, major process safety incidents and exposure to hazardous substances and other work-related risks.

To further improve the level of safety on our sites, we are implementing an additional strategy aptly named 'Safety Differently'. This is a 'reversed' approach in which we, in addition to having an eye for incidents (safety issues), create more focus on the circumstances and moments in which the work runs smoothly (safety). In other words, we look for the causes or reasons that contribute to safety, as a result of which risks, consciously or unconsciously, are eliminated.
An important aspect of Safety Differently is safety awareness among employees, both with regard to themselves and colleagues, and the associated behaviour and communication.
With this approach we also link up with the three leadership principles, Care, Connect & Change, that underline individual responsibility for your own safety and that of colleagues.

HEALTH AND SAFETY FIGURES

2022-2023

Number of fatalities

Employees	Company personnel
0	0

Number of lost-time accidents

Employees	Company personnel
13	13

Number of recordable incidents

Employees	Company personnel
74	55

Sickness absence

5.7%

Process safety

Process Safety Management is one of the main pillars in preventing major process safety incidents. As part of this, more emphasis was placed on the reporting of identified High Potential Incidents and their follow-up, in the year under review. In addition, further efforts were made to guarantee the integrity of our installations by tailoring maintenance regimes more specifically to the type of installation. The procedure for securing process installations during stoppages and shutdown has been adapted and rolled out in the various units.

Another important part of Process Safety Management is barrier management.
A key question is whether barriers placed to prevent (more serious) incidents or to reduce the effects thereof, both technically and procedurally, function properly and are reliable. A lot of energy has been put into embedding barrier management in the relevant systems.

HIRA

Central Hazard Identification and Risk Assessment (HIRA) is used to create an overview of all possible safety risks and associated measures. This overview is shared with the different operating units.
During the year under review, automation of task-risk analysis for work permits for third parties (contractors/companies) led to a more efficient process. As a result, administrative burden was reduced and this created more space to discuss safety.

Health

The vision of the Health Roadmap is: 'We work in optimal conditions to be able to live and work in a healthy and vital way'. This shared vision emphasises the importance of sustainable employability and preventive sickness absence.

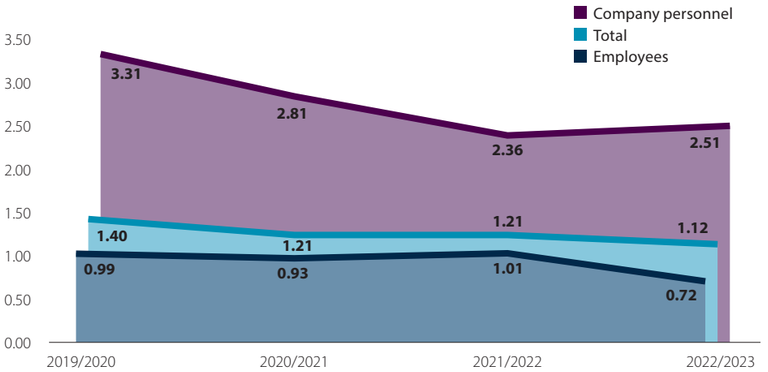
Preventing exposure to hazardous substances is one of the spearheads with the aim of avoiding occupational diseases, for example as a result of working with hazardous substances or due to physical or mental strain.

The chance that employees may experience extreme temperatures is inherent in our processes. To remove (and to list and catalogue) the risks, we are working on an app that employees can use to manage their 'heat stress'. Further efforts in the past year included a campaign to draw employees' attention to the importance of respiratory protection in specific situations. Another campaign that was started revolves around hygiene on the site with the aim of promoting 'clean eating and drinking'.

In the background, we optimised various guidelines (QHSEs) to translate legislation into the workplace, as well as the asbestos bureau and the radiation protection unit. In doing so, we safeguard relevant legislation in our processes.

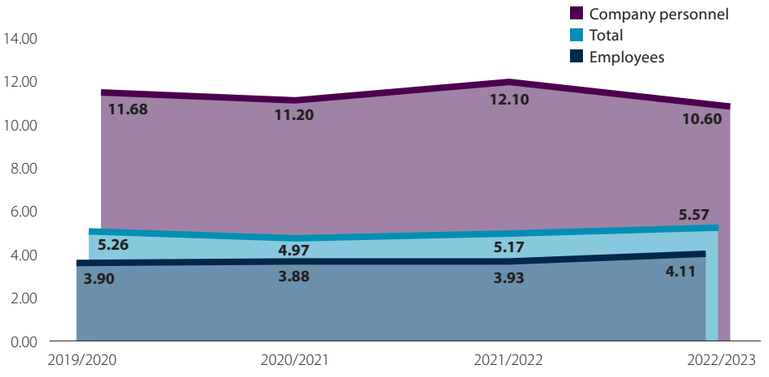
No fatal incidents incidents at Tata Steel Nederland in the past 5 years

Lost-Time Injury Frequency Rate



The Lost Time Injuries Frequency Rate (LTIFR) indicates the number of incidents resulting in sickness absence per million hours worked. The past financial year shows a drop in the number of accidents involving lost-time accidents among our own staff and a slight increase of company personnel.

Total Recordable Injury Frequency Rate



The Total Recordable Injury Frequency Rate (TRIFR) indicates the number of medical treatments not resulting in sickness absence per million hours worked. The past financial year shows a slight increase in the TRIFR among own staff and an overall decrease for company personnel.

From generic to specific

Our site in IJmuiden is a complex environment involving many processes and logistics. This only works well if everyone involved is well informed, trained, supported and aware of their surroundings. To this end, we have procedures and processes in place which we strive to refine and improve continuously. We have included a non-exhaustive overview of training and innovation programmes below:

- To be permitted access to the company grounds, employees and contractors must complete general safety training (BVO, B Basis Safety Training).
- Process Safety Training is mandatory for specific groups of employees.
- Safety awareness training is organised on a regular basis, covering various topics related to health and safety.
- To prevent exposure to hazardous substances as much as possible, each substance to be supplied must be known and approved for the specific application.
- For the IJmuiden site, we have established the 'IJmond Safety Platform' in which 53 contractors are represented. This group discusses matters on a regular basis, sets priorities on safety and develops (annual) action plans.
- Employees can use a tool to assess for themselves whether physical health screening is required.
- We are investigating the possibilities of using exoskeletons to carry out heavy work.
- We are investigating robotisation for various tasks and activities, such as in potentially stressful or high-risk situations.
- We are continuously looking at whether moving parts can be shielded more effectively.
- We use drones to inspect hard-to-reach places.
- In collaboration with the Kennemerland Security Region, we enforce an Emergency Response Plan (revised in 2021-2022).

Broad involvement

Health and safety are broadly embedded in our company, up to and including the highest levels of management. Periodic consultations are held with the Board of Directors and the European and Central Works Councils on the subject of health and safety. In addition, our specialists consult at European and national level and with the various operating units per site.

Fire safety

The IJmuiden site has its own fire brigade made up of six teams of volunteers, all of whom are employees. A team of at least eight professionals is on standby seven days a week, 24 hours a day. Underlying the deployment of this brigade is the Fire Prevention Policy, which is regularly updated. New knowledge and techniques are included in this policy, as are insights from fire research. Naturally, relevant legislation is also incorporated. Fire safety is indispensable for the IJmuiden site and our locations elsewhere. This aspect is naturally included in the preparation of changes, whether they be small or large. Fire safety continues to be a conditional element in the planning of process changes for the coming years. Continual checks and inspections are conducted on site, in buildings and around installations, which, in addition to being reported to the relevant authority, also lead to remedial actions and measures.
On average, the brigade is called out about 100 times a year, for smaller roadside fires and fires in installations, but also for assistance in the event of traffic accidents. A few cases involve an animal in distress, such as a seagull that got its leg stuck.

Healthy employees contribute to a future-proof steel company

Tata Steel IJmuiden cannot do without employees who are energetic, motivated and competent. Our challenges are too diverse and numerous for that. However, we are dealing with an ageing workforce, increased flexibility in the labour market and an ever-increasing technologisation of labour. Sustainable employability is therefore receiving increasing attention at all levels.

Sustainable employability

People are Tata Steel's most important asset. That is why Tata Steel wants them to be able to do their work safely and healthily and to enjoy their work. Sustainable employability is one of our spearheads, with efforts focusing on health, competencies, norms and values at an individual level.

We continue to discuss these topics through employee surveys. We also encourage our employees to consciously work on their own employability. We provide numerous tools and facilities for this purpose. Concrete policy and modern terms and conditions of employment contribute to this as well.

A survey was conducted in this context in 2022, assessing the needs of employees in relation to the most current topics of sustainable employability.

The themes that are considered important by our employees are:

- More autonomy over working hours in shifts
- Improving (sports) facilities at work
- 24/7 childcare facilities
- Facilitating insight into personal finances
- Continuing diversity and activities promoting inclusion
- Continuing lifestyle-promoting workshops and training
- Encouraging healthier food choices and improving the range of food in our restaurants

Before August, we hope to investigate how we can further meet these needs.

Absence management is shifting to prevention

Since 2017, we have worked with employability coaches who coach managers in the rehabilitation of their employees. In the past we hired external coaches. In 2022 however, the deliberate choice was made to use our own employees in order to keep the lines of communication as short as possible. The focus of our employability coaching is shifting from a reactive approach in the event of illness to prevention. We are organising this shift in conjunction with the responsible HR advisors.

The majority of absences are less than two weeks in duration. Most of our efforts go into tackling this short-term absence. In 2022, a new system of absense management was introduced. The system is now more robust and time is now ringfenced for the prevention of illness.

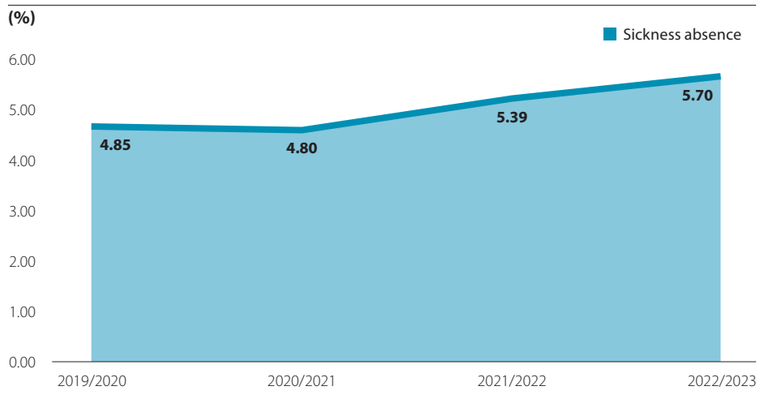
The new system deals with sickness absence in a more targeted manner. On the third day of illness, the manager receives a questionnaire. If he indicates that the sickness absence may be long-term, the assistant to the company doctor is alerted. The assistant contacts the manager to discuss how best to deal with the case. In this way, together with the manager, we can estimate which sick employees are at risk of long-term absence, allowing us to take timely measures to prevent this.

The time that is saved as a result of this efficient approach will be spent on initiatives to enhance the health and wellbeing of employees and to prevent absence. This may take the form of information meetings, training courses and workshops.

Employee resources

Tata Steel offers employees a wide range of tools and resources, in line with our Sustainable Employability approach. These are divided into the categories Work, Norms & Values, Competencies and Health. All these topics can make a positive contribution to the sustainable employability of our employees. A special website provides access to these resources, so that employees can respond and act independently. Managers can also introduce tailor-made activities for their team or deploy an employee from the team, in line with current needs.

Health results Tata Steel Nederland



The sickness absence rate of 5.7% is slightly higher than last year and is evenly distributed among the various employee groups. This sickness absence rate is below the industry average (6.5% in 2022 - Statistics Netherlands sickness absence in industry).

Diversity and inclusion are of strategic importance

Besides being of social significance, diversity is also of strategic importance. When our people represent a fair reflection of society and all of us feel recognised and involved, we can count on the best possible decision-making, more innovative power, greater appeal on the labour market and more retention of employees, among other things.

Tata Steel IJmuiden runs a programme to encourage and promote diversity and inclusion. The programme sets the following main goals for the next four years:

- An inclusive working climate (in 2022: 96%, target in 2027: 99%)
- Cultural diversity: (in 2022: 15%, target in 2027: 25%)
- More women in vocational technical positions (in 2022: 2.5%, target in 2027: 5%)
- More women in decision-making positions (in 2022: 17%, target in 2027: 30%)

Inclusivity

In 2022, an internal survey showed that the vast majority (96%) of employees feel that they can be themselves at work. However, a majority of employees with a non-Western migration background and many women do not feel this way. The majority of these employees also feel treated differently by colleagues or managers. We will perform another in-depth study based on these findings. Tata Steel Nederland strives for a more inclusive working climate.
In our company, as in others, undesirable behaviour occurs in the form of discrimination, intimidation, aggression and bullying at work. Naturally, interventions take place whenever this is encountered.
This may involve our platform of confidential advisers and/or training courses for managers and teams.

Cultural diversity

A second main goal is to strive for more cultural diversity in all job categories. In 2022, Statistics Netherlands (CBS) changed the definition of cultural diversity. Tata Steel applies this definition, namely the percentage of people not born in the Netherlands and/or of whom one or both parents were not born in the Netherlands. According to Statistics Netherlands, more than 25% of the Dutch population falls under this definition, whilst at Tata Steel IJmuiden the figure is 15% (2021: 14%). It is our ambition to reflect society in this respect. We therefore apply the annual Statistics Netherlands figure as target, in this case 25%.

More female technicians and managers

Our third and fourth main goals are to have more women in vocational technical positions and in decision-making positions. As far as technical positions are concerned, we want to employ 5% women by 2027. Tata Steel performs below the average in the Netherlands on this point and we will have to become a more attractive employer for this target group. Incidentally, Tata Steel Academy (see below) has a growing percentage of female students: reaching 6% in 2022. We strive for a better balance between men and women in decision-making positions. In 2022, the share of women in these positions was 17%. This should be at least 30% by 2027.

Tata Steel IJmuiden has an extensive programme of activities to promote inclusivity and diversity, including communication campaigns, inspiration sessions and participation in Diversity Day. We also organise training courses aimed at becoming aware of unconscious bias. In addition, meetings are held under the motto of 'Future Female Leadership'. At the same time, we are investigating other options, such as 24/7 childcare, workwear with a fit for women and the (FE)male network.

Training course on unconscious biases

We all have unconscious biases. They are ingrained mechanisms that stand in the way of diversity. Leadership, for example, is still automatically associated with men. In order to become more alert to this and to respond better to it, all board members, managers, recruiters and HR professionals within TSN received training during the year under review.

The board of Directors paints staircase after setting up Rainbow Community

Rainbow community founded

At TSN we think it is important that everyone feels recognised at our company. All our employees must be able to be themselves, also at work. In 2022, to underline this, we painted a set of steps outside our convention centre in rainbow colours and we hoisted the rainbow flag. This initiative marked the start of the newly established rainbow community, the Tata Steel Pride network in IJmuiden. One of the first concrete activities of this network is to ensure that employees with LGBTIQ+-related questions are able to find the support they need. The new community is supported by the Board of Directors.

Equal pay

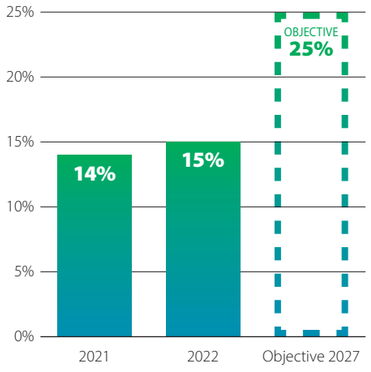
Research by the general employers' association (AWVN) has shown that Tata Steel in IJmuiden mostly abides by the equal pay principle for men and women. A difference of 1% on average has been measured, to the disadvantage of women. This means that we score well compared to the market average. Recent, national research by AWVN shows a wage gap of 2% to 3%.

Strengthening the position of women

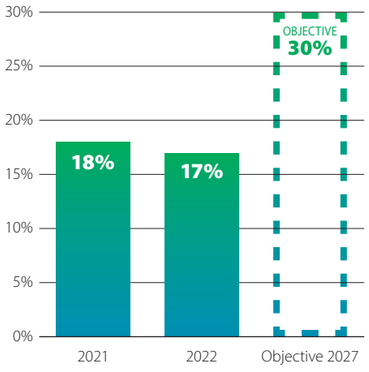
To increase the talent and personal power of women in our organisation, we work with the Future Female Leaders agency. They put together three different programmes to strengthen the leadership qualities of the female talent within our organisation. The training attracted a total of 65 participants.

Diversity and Inclusion programme Tata Steel IJmuiden

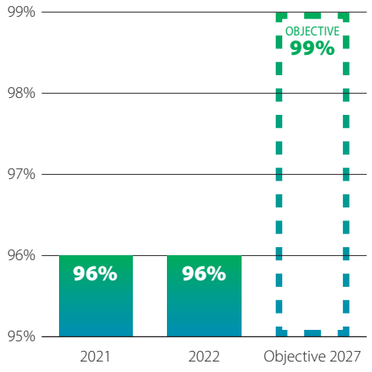
Ethnic-cultural diversity in all job categories



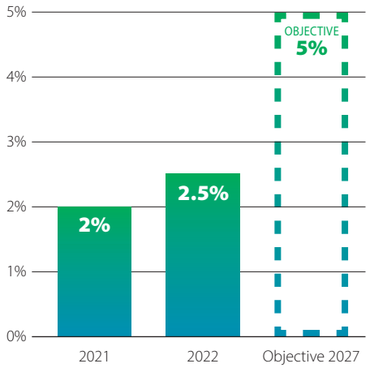
More women in decision-making positions



Inclusive working climate



More women in vocational technical positions



Quality enhanced by an ambitious training programme

Numerous technical training programmes are organised by Tata Steel Academy. Not only is our training centre open to employees of all levels, we also welcome 170 new technical students every year. We also work closely with local schools.

Tata Steel Academy

The training programmes at Tata Steel Academy are highly rated by Keuzegids, an independent consumer guide that compares the quality of all study programmes in the Netherlands. In early 2020, our Process Engineering course was rated the best technical training programme. The success rate in this financial year was 82%, compared to a national average of 65%.

Running for over 80 years, our business school is the oldest in the Netherlands. Almost half of our employees started here. The training programmes continue to enjoy great popularity.

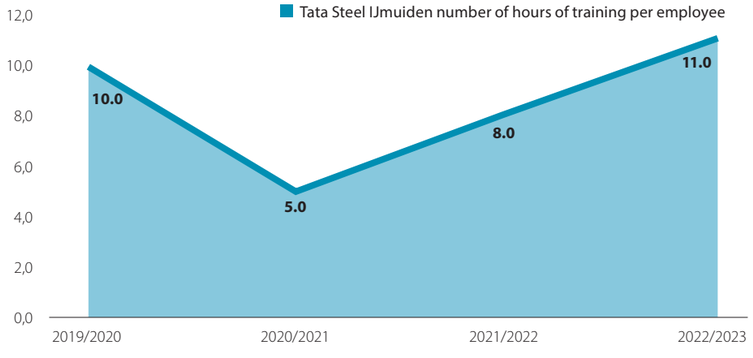
Each year, the Academy recieves more applicants than we can have place for. Nova College provides theoretical tuition for Academy students, whilst Tata Steel provides practical training. Upon achieving their vocational qualification, students are guaranteed a job at Tata Steel. In addition to secondary school students, we welcome mature candidates. More than 90% of academy graduates still work at Tata Steel after ten years.

Academy retraining employees

The Tata Steel Academy is increasingly focusing on training existing employees from a non-technical background. These lateral entrants can be trained to prepare them for new positions in our production units for our production process, by completing the Basic Process Technology course. We expect the need for this type of training to grow and the scheme will be extended to more disciplines.

Training results

(number)



The average annual number of hours of training per employee in IJmuiden has increased steadily since 2021, following the COVID-19 period

Level-raising training programmes

Existing employees can also participate in technical training at Tata Steel Academy. Certain programmes offer motivated employees a chance to progress their career. In total, more than 543 employees participated in 2022: 431 at senior vocational level and 112 employees at a bachelor level.

We expect major changes to training requirements in the near future. The production process will change drastically upon the transition to steel production using hydrogen. Retraining and further training will therefore become increasingly important. In addition, we pay a lot of attention to training courses in the field of sustainability. All Academy students chose to follow the Sustainability module. This was given in the form of presentations and workshops by experts.

Hydrogen technology now part of the programme

Tata Steel Academy is preparing its students for the transition to green steel produced with hydrogen as an energy source. The 'Hydrogen' learning modules will be introduced for vocational training courses in Electrical Engineering, Mechanical Engineering, Process Engineering and Logistics. We started developing these learning modules in the year under review. For example, there will be a laboratory for experiments with hydrogen and students will build a kart that runs on hydrogen.

Traineeships

The Tata Steel trainee programme in IJmuiden supplies young talent for top positions. We pay attention to competencies such as dealing with change, organisational sensitivity, collaboration and contribution to innovation. The trainee programme lasts two years. In the year under review, Tata Steel IJmuiden employed 63 trainees, divided into the following disciplines: Business trainees (5 women, 10 men), Technical trainees (7 women, 34 men), Finance trainees (2 men) and International Technical Downstream Trainees (6). In recent years, it is striking to see that many of our trainees have chosen to participate in projects related to our sustainability ambitions.

Leadership programme

The leadership programme is in fact a culture programme through which we want to internalise the revised direction of the company at all levels of the company. The goal is to harmoniously develop all energy, from thoughts to acts, towards a meaningful, sustainable company. In 2021, a training programme was started under the motto 'connect-change-care', which will gradually reach the workplace.

The guiding principle of this programme is that the strategy towards clean, green and circular steel can only be successful if it transcends the written intentions. There is a strong awareness that the strategy must be widely supported, felt and put into practice. That requires different thinking and different skills, starting at the top. That is why the Board of Directors in particular completed an intensive training programme during the year under review. Subsequently, a group of senior managers (the so-called top 100) were trained in a similar way (taking nine weeks to complete).

Parallel to this, a major programme for the large group of line managers was started. Over the course of five weeks, these employees will be trained on the basis of e-learning modules, peer sessions and behavioural experiments. In the year under review, some 300 employees completed these training courses, in addition to specific groups such as HR employees.

The leadership programme was well-received in 2022-2023 and will continue to be rolled out in 2023-2024. This is when it will also reach shift supervisors and team leaders, albeit in an adapted form.

In June, the Young Board, together with 150 junior Tata Steel employees, presented a letter to Greenpeace. The letter asked Greenpeace to work with us towards building a better world for the next generations.

TSN has had a Young Board since November 2022. The board represents the younger generation to ensure future-proof decision-making. Nico Diroë has been a member from the very start. How is he doing in the boardroom?

How did you become a member of the Young Board?
"I saw on Intranet that our company was looking for young people on the Young Board. So I applied straight away. There are now six of us, all from different areas and disciplines within our company. We complement each other really well."

Are you a true 'board', in the sense that you participate in decisions?
"We do this in addition to our current job. Management believes it is important that the company is open to change. And that the younger generation is involved in future-proof decision-making. For example about sustainability, but also about other issues that young people find important. For example, since November we've been working on the question of how we can become a top 3 employer for young people. And recently we've started taking turns attending meetings of the Board of Directors. We are allowed to ask questions, give our opinion and make suggestions."

Sounds valuable, for both the company and for you…
"Yes, the sounding board effect and exchanging ideas is very educational. It provides new perspectives for management, because young people have their own vision and ask critical questions. And it's also incredibly educational for us of course. I now work with colleagues from completely different business units, with whom you would not normally be in a working group."

So you will be a member for some time to come?
"The intention that we rotate, so that new people are introduced to keep things fresh. They in turn can build on the experiences of the previous members. But it could also very well be that this new group does things entirely its own way. Isn't that what young people like? And that keeps exciting at the same time…"

HOW WE REPORT

Against the background of developments in our society, from our local environment to those on a global level, Tata Steel is in the spotlight. This applies to our ambitions and plans, but certainly also to the performance and results in the field of sustainable, responsible and future-oriented business practices. Since we are aware of our position and role, and because we take our responsibility seriously, we render account as transparently as possible, both publicly and through the appropriate channels, to stakeholders such as our shareholder, customers, local residents and governments. With this sustainability report, we inform them about our organisation and how we continue to create value in the long term. We use this to report on our non-financial performance.

Scope

In previous years, we published integrated annual reports at group level (Tata Steel Europe Limited). In addition, we published a sustainability report on Tata Steel Europe activities which Tata Steel Nederland and Tata Steel UK come under and, last year, on Tata Steel Nederland B.V. This sustainability report is the first from Tata Steel Nederland. This company consists of two entities and their subsidiaries: British Steel Nederland International B.V. and Tata Steel Nederland B.V. . Both are located in IJmuiden and a wholly-owned subsidiary of Tata Steel Nederland Holdings B.V. (TSNH), a private limited company based in the Netherlands. TSNH is owned by Tata Steel Europe Limited (TSE), a UK-based private limited company. Wherever this report states 'Tata Steel', it is a reference to Tata Steel Nederland.

Financial results are shared at group level and this report can be regarded as a local supplement to that. In its sustainability policy, Tata Steel broadly follows the policy adopted at group level and has also tailored this specifically to the local market.
More information on international policy can be found at **www.tatasteel.com/sustainability/**

Reporting period and frequency

Tata Steel's financial year runs from 1 April 1 to 31 March. This sustainability report therefore primarily covers the period from April 2022 to March 2023. Where necessary or important for a proper understanding of matters, we also report on affairs before or after the end of the reporting period.

Guideline

Each year Tata Steel aims to improve its sustainability reporting, appropriate to the nature, risks and opportunities of the organisation. For this sustainability report, we have based ourselves as much as possible on the Global Reporting Initiative (GRI) guidelines, the worldwide standard in the field of sustainability reporting. GRI sets high standards for the quality of its reporting. We have conformed to the new GRI 2021 criteria as much as possible and aim to report fully in accordance with GRI 2021 in the future.

GRI is based on the principle of materiality and requires organisations to communicate their management approach on topics that are material to the organisation. For example, we create focus in the report and report on topics that are important to stakeholders. The GRI Context Index with references is included in the appendix.

Tata Steel works with external institutions, NGOs, industry organisations and government agencies to conduct audits and assessments and to identify priorities for improvement.
We collaborate with more than 30 different parties (government/NGO/businesses) on sustainability-related assessments/audits, including World Steel Association, ISO and EcoVadis. In addition, our policy is based on international treaties, including the Sustainable Development Goals of the United Nations.

Results and targets

The appendix to the report shows the results for most of our material themes. The report itself too contains results and targets, set out in the various chapters where relevant. Not all results and targets are currently available for the whole of Tata Steel Nederland. The footnotes of the key figures indicate the scope of the results. In the coming year, further efforts will be made to obtain a more complete picture of the results and targets of the material themes in the 2023/2024 sustainability report.

Verification

This report has not been subject to an external audit. Senior executives have been involved in this decision and we are seeking external verification of future reports. Note that all content has been checked and validated through a structured internal process by subject matter experts and managers carrying (ultimate) responsibility (up to and including the Board of Directors).

Invitation to stakeholders and readers

Tata Steel is at the heart of society. We want to emphasise and live up to this in our policy and reporting. That is why we are happy to discuss matters such as the future transition of steel production with our stakeholders. We encourage readers of the report who would like to join the discussion or who have comments and/or tips to contact us at **www.tatasteelnederland.com/en**

KEY FIGURES

TATA STEEL NEDERLAND

In the FY21/22 TSN Sustainability Report, the key figures of Tata Steel Nederland B.V. were reported. In the current financial year, the scope of reporting has been extended to Tata Steel Nederland, consisting of Tata Steel Nederland B.V. and British Steel Nederland International B.V. To enable comparison with previous years, the scope has also been applied to the three previous financial years, unless otherwise stated.

Key Performance Indicator	Units	FY19/20	FY20/21	FY21/22	FY22/23
Basic Information					
Crude Steel production	million tonnes	6.62	6.07	6.45	6.16
Liquid Steel production	million tonnes	6.78	6.21	6.61	6.33
Environmental					
TSIJ GHG emissions (based on worldsteel user guide V9.5) [1]					
CO_2 eq. emissions - Total (ws scope 1+2+3) [3,4]	million tonnes	11.62	10.77	11.48	10.95
CO_2 emission intensity (ws scope 1+2+3) [3]	tCO_2/tonnes of crude steel	1.76	1.77	1.78	1.78
TSN GHG emissions (based on worldsteel user guide V9.5)					
CO_2 eq. emissions - Total (ws scope 1) [3,4]	million tonnes	11.82	10.88	11.55	11.03
CO_2 eq. emissions - Total (ws scope 2) [3,4]	million tonnes	-0.13	-0.06	-0.10	-0.21
CO_2 eq. emissions - Total (ws scope 3) [3,4]	million tonnes	0.16	0.17	0.27	0.36
CO_2 eq. emissions - Total (ws scope 1+2+3) [3,4]	million tonnes	11.85	11.00	11.72	11.17
CO_2 emission (for all entities) - (ws Scope 1+2+3) per unit revenue	kg CO_2/€	2.42	2.43	1.64	1.50
TSN GHG emissions (based on Green House Gas protocol)					
Absolute CO_2 eq. emissions - Scope 1	million tonnes				11.2
Absolute CO_2 eq. emissions - Scope 2	million tonnes				0.03
Absolute CO_2 eq. emissions - Scope 3	million tonnes				3.8
Total absolute CO_2 eq. emissions (Scope 1 +2 + 3)	million tonnes				15.0
Energy [1]					
Total electricity consumption [5]	PJ	7.50	7.50	7.87	7.13
Total self-generation of non renewable electricity [6]	PJ	9.85	9.30	10.92	10.95
Total on-site renewable electricity generation	PJ			0.01	0.01
Total use of renewable electricity (inc. REGOs)	PJ	0	0	0	0.01
Renewable energy in relation to total electricity consumption	%	0	0	0	0
Energy intensity [3]	GJ/tonnes of crude steel	19.79	20.22	20.32	19.74
Energy [7]					
Total electricity consumption	PJ	0.46	0.46	0.51	0.48
Total self-generation of non renewable electricity	PJ	0.00	0.00	0.00	0.00
Total on-site renewable electricity generation	PJ	0.00	0.00	0.00	0.01
Total use of renewable electricity (inc. REGOs)	PJ	0.00	0.09	0.09	0.11
Renewable energy in relation to total electricity consumption	%	0.00	0.19	0.18	0.24
Raw materials					
Iron ore consumption for iron / steelmaking [9]	million tonnes	8.83	8.31	8.56	8.19
Specific iron ore consumption	t/tonnes of crude steel	1.33	1.37	1.33	1.33
Coal and purchased coke consumption (inc. coking coal and injection)	million tonnes	4.19	3.91	4.06	3.90
Specific coal consumption	t/tonnes of crude steel	0.63	0.64	0.63	0.63
Scrap consumption (internal and external)	million tonnes	1.15	1.02	1.14	1.08
Total raw material consumption (iron ore, scrap plus coal/coke)	million tonnes	14.18	13.23	13.76	13.17
Specific raw material consumption	t/tonnes of crude steel	2.14	2.18	2.13	2.14
Management					
Share of TSN staff and contractors working at ISO14001-certified locations	%	100	100	100	100

Key Performance Indicator	Units	FY19/20	FY20/21	FY21/22	FY22/23
Environmental					
Scrap recycling [1]					
Externally recycled steel	1,000 tonnes	640	566	670	624
Internally recycled steel	1,000 tonnes	511	453	468	458
Recycled steel – Total	1,000 tonnes	1,150	1,020	1,137	1,082
Recycled steel – %	%	17.4	16.8	17.6	17.6
CO_2 reduced by externally recycled steel [2]	1,000 tonnes	1,030	912	1,078	1,004
Recycling [3]					
Material reused by our process (excluding scrap steel)	1,000 tonnes	1,155	933	954	1,011
Volume of by-products sold (excluding granulated blast furnace slag (GBS))	1,000 tonnes	855	251	226	260
Slag to cement industry (i.e. GBS sales)	1,000 tonnes	1,285	1,110	1,239	1,203
Recycling [8]					
Volume of by-products sold (excluding granulated blast furnace slag (GBS))	1,000 tonnes	9.03	8.76	10.19	7.32
Spend on climate change and environment					
CAPEX Expenditure on climate change and environment	£ million	48.35	51.01	33.52	117.15
Complaints [1]					
Environmental complaints	#	3,519	4,148	2,336	4,285

(1) Production site IJmuiden
(2) The CO_2 saved from the recycling of external steel scrap (i.e. steel products recovered at their end-of-life) is based on a calculation of the avoided emissions related to the making of an equivalent amount of iron from virgin ore via the blast furnace route"
(3) Total (scope 1+2+3): based on Worldsteel methodology, including credits for the supply of slag to the cement industry.
(4) Scope 1 includes direct emissions from the IJmuiden site and emissions resulting from the combustion of our flue gases at Vattenfall. Scope 2 includes the emissions related to the purchase of heat and electricity and credits for delivery of energy to Vattenfall. Scope 3 includes a limited set of upstream emissions related to the production of purchased raw materials (coke, pellet DRI, etc for the production of purchased argon, oxygen, nitrogen and hydrogen) and is reduced by credits for the cement industry's use of our granulated blast furnace slag. Worldsteel's scope 3 does not include emissions related to mining and transportation of raw materials to the site, nor transportation of products from our site to our customers.
(5) Excludes power used by external companies located on the site IJmuiden.
(6) Includes power generated by Vattenfall from our waste gasses.
(7) Downstream Europe without Business Unit Plating
(8) Downstream Europe: site Maubeuge (F)
(9) For this indicator, iron includes fines, purchase pellets and debris.

KEY FIGURES

TATA STEEL NEDERLAND

Key Performance Indicator	Units	CY2019	CY2020	CY2021	CY2022
CO_2 emissions [1]					
CO_2 eq. emission - (audited EU ETS emissions) [10]	million tonnes	6.35	5.79	5.96	5.82
CO_2 emitted by Vattenfall due to combustion of our waste gasses [10]	million tonnes	5.50	4.98	5.62	5.26
Air emissions [1]					
Dust	tonnes	1,881	1,801	1,569	1,518
Dust intensity	kg/tonnes of crude steel	0.28	0.30	0.24	0.245
NOx (Nitrogen Oxides)	tonnes	6,034	5,132	5,349	4,956
NOx (Nitrogen Oxides) intensity	kg/tonnes of crude steel	0.91	0.85	0.83	0.80
SO_2 (Sulphur dioxide)	tonnes	3,159	3,035	2,793	2,928
SO_2 (Sulphur dioxide) intensity	kg/tonnes of crude steel	0.48	0.50	0.43	0.47
Air emissions [2]					
Dust [3]	tonnes	1.73	1.57	1.76	1.86
NOx (Nitrogen Oxides) [4]	tonnes	49.95	54.69	47.47	43.16
SO_2 (Sulphur dioxide) [5]	tonnes	0.86	0.90	0.74	0.46
Water [1]					
Water consumption	million m^3	32.6	32.3	32.5	32.2
Specific water consumption	m^3/tonnes of crude steel	4.93	5.20	4.88	5.19
Waste water discharge volume	million m^3	194	185	213	212 [9]
Waste water discharge intensity	m^3/tonnes of crude steel	29.0	30.4	32.1 [11]	34.2
Water [2]					
Water consumption	million m^3	3.13	2.81	2.81	2.50

Key Performance Indicator	Units	CY2019	CY2020	CY2021	CY2022
Waste [1]					
Waste	1,000 tonnes	218	201	170	211
Waste - material reused, recycled by third parties	1,000 tonnes	170	159	127	151
Waste - material sent to landfills	1,000 tonnes	42	36	38	52
Waste - utilisation	%	78.3	79.1	74.7	71.6
Waste [2]					
Waste	1,000 tonnes	58	64	73	82
Waste - material reused, recycled by third parties	1,000 tonnes	55	60	69	80
Waste - material sent to landfills	1,000 tonnes	0.44	0.58	0.66	0.81
Waste - utilisation	%	95%	94%	96%	98%
Emission to water [1]					
Mass emissions into water, hydrocarbons	tonnes	1.4	1.7	1.1	1.2
Mass emissions into water, suspended solids	tonnes	285	302	203	259
Mass emissions into water, COD	tonnes	557	584	532	599
Emission to water [2]					
Mass emissions into water, hydrocarbons [6]	tonnes	0.3	0.1	0.4	0.6
Mass emissions into water, suspended solids [7]	tonnes	1.8	1.6	2.1	2.1
Mass emissions into water, COD [8]	tonnes	15.3	9.9	12.2	10.3

(1) Production site IJmuiden
(2) Downstream Europe without Business Unit Plating
(3) Maubeuge, TSIM, Oosterhout, Zwijndrecht, Layde
(4) Maubeuge, TSIM, Maastricht, Oosterhout, Layde
(5) Maubeuge
(6) Maubeuge, Maastricht, Oosterhout, Zwijndrecht
(7) Maubeuge, TSIM, Layde
(8) Maubeuge, TSIM, Oosterhout, Layde
(9) Including 157 million m^3 of seawater for cooling
(10) Direct emissions scope 1: formal and audited emissions according ETS. These figures relate to calendar years.
(11) From 2021, unrecorded cooling water of 9.5 million m3 will also be included.

KEY FIGURES

TATA STEEL NEDERLAND

Key Performance Indicator	Units	FY19/20	FY20/21	FY21/22	FY22/23
Social					
Safety					
Fatalities - Employees	#	0	0	0	0
Fatalities - Contractor personnel	#	0	0	0	0
Fatalities - Total	#	0	0	0	0
Lost Time Injury (LTI) - Employees	#	18	17	19	13
Lost Time Injury (LTI) - Contractor personnel	#	13	9	8	13
Lost Time Injury (LTI) - Total	#	31	26	27	26
Lost Time Injury Frequency Rate - Employees	Index	0.99	0.93	1.01	0.72
Lost Time Injury Frequency Rate - Contractor personnel	Index	3.31	2.81	2.36	2.51
Lost Time Injury Frequency Rate - Total	Index	1.40	1.21	1.21	1.12
Recordables (employees)	#	71	71	74	74
Recordables (contractors)	#	46	36	41	55
Recordables (total)	#	117	107	115	129
Total Recordable Injury Frequency Rate - Employees	Index	3.90	3.88	3.93	4.11
Total Recordable Injury Frequency Rate - Contractor personnel	Index	11.68	11.20	12.10	10.60
Total Recordable Injury Frequency Rate - Total	Index	5.26	4.97	5.17	5.57
Sites with ISO45001	#	6	7	9	9
Sites with ISO45001 as a percentage of all TSN sites	%	24	28	36	36
Human Resources Management [4]					
Number of employees	#	11,669	11,480	11,608	12,299
Number of female employees	#	1,284	1,252	1,249	1,265
Percentage of female employees	%	11.0	10.9	10.8	11.0
Number of permanent employees by gender	#M/#F	9,999/1,214	9,853/1,198	9,777/1,188	10,245/1,265
Number of agency employees by gender	#M/#F/#not recorded	386/70	375/54	582/61	718/41/101
Number of full-time employees by gender	#M/#F	9,359/659	9,216/656	9,315/654	9,717/775
Number of part-time employees by gender	#M/#F	1,021/624	1,012/596	1,044/595	1,197/610
Number of new employees by gender	#M/#F/#not recorded	404/59/0	372/39/0	523/46/46	935/173/0
New female employees as a percentage of the total	%	12.7	9.4	7.5	15.6
Total labour costs	€ million	1,049	1,034	1,200	1,156
Employee productivity (steel volume) - IJmuiden site	tonnes of liquid steel/employee/year	768	708	739	677
Turnover rate	%	2.2	2.8	3.1	4.1
Turnover of female employees	%	3.5	3.5	4.9	4.6
Average age	#	46.3	46.2	45.9	46.0
Employees aged over 50 (i.e. 51 and above)	#	5,332	5,212	5,138	5,366
Employees aged between 30 and 50 (i.e. 30-50)	#	4,849	4,840	4,945	5,346
Employees under the age of 30 (i.e. 29 and under)	#	1,476	1,428	1,525	1,532
Age distribution of the workforce (>50)	%	46	45	44	44
Age distribution of the workforce (30-50)	%	42	42	43	44
Age distribution of the workforce (<30)	%	13	13	13	12
Percentage of female managers	%	8.6	8.3	8.0	19.8 [3]
Percentage of female TSN Board members	%			14	14
Employees who are members of a trade union [1]	#	4,339	4,759	4,585	4,466
Percentage of employees who are members of a trade union [1]	%	48.4	54.3	51.6	48.3
Percentage of employees who are covered by a collective agreement [1]	%	98.0	98.0	98.1	98.3
Number of hours of training [1]	hours	94,524	49,235	78,836	106,249
Number of hours training per employee [1]	hours/employee	10.0	5.0	8	11
% of staff that have had performance reviews [1]	%	88.1	88.5	97.8	97.4
Sickness absence rate	%	4.9	4.8	5.4	5.7
Annual total compensation for the organization's highest-paid individual to the median annual total compensation for all employees [5]	ratio				7.6

Key Performance Indicator	Units	FY19/20	FY20/21	FY21/22	FY22/23
Economics & Governance					
Financial					
Gross Turnover	€ million	4,889	4,520	7,146	7,471
Ethics [2]					
Whistleblower reports - Received in year	#	51	48	34	19
Whistleblower reports - Closed during the year	#	51	48	34	17
Ethics training or Tata Code of Conduct - number of persons	#	180	135	105	0
Supply chain					
Active suppliers [6]	#	3,462	3,129	3,329	3,389
Active suppliers made aware of Responsible Procurement Policy	%	88	90	91	100
Intellectual capital					
Patents granted	#	133	142	202	161
Patents filed	#	36	19	15	22
Collaborations/memberships of academia and technical institutes	#			158	162
R&D Expenditure	€ million	57	54	62	64
R&D Expenditure - % of revenue	%	1.16	1.19	0.87	0.86
New products developed and launched	#	19	12	10	10
Share of new products assessed with sustainability assessment tool	%	100	100	100	100
R&D employees	FTE's	311	300	299	307
Investment in new processes and products: CAPEX + R&D	€ million	111	56	66	74
IInvestment in new processes and products: CAPEX, % of turnover	%	2.27	1.24	0.92	0.99
Community [1]					
Number of applications received for financial or in-kind support	#	69	24	30	78
Number of approved applications for financial or in-kind support	#	23	17	24	51
Number of youngsters attending Tata-Kids of Steel events	#	3,090	1,363	4,683	4,337
Number of Tata-Kids of Steel events	#	6	2	6	5
Number of Events	#	25	13	59	50
CSR expenditure	€ million	0	0	0.16	0.25
Legal [1]					
Cases for which fines have been imposed	#	4	4	1	17
Cases for which non-monetary sanctions have been imposed	#	1	6	6	9
Fines for cases of non-compliance	€	228,037	87,625	302,000	135,021
Penalty payments imposed	€				402,200

(1) Production site IJmuiden
(2) Tata Steel Europe results untill FY22/23, TSN results for FY22/23.
(3) Scope broadened compared to previous years. Now as % of the entire Business Senior Manager and Group Senior Manager population.
(4) Only FY22/23 scope is TSN B.V. + BSNI B.V.
(5) Calculation according to definition GRI 2-21. IJmuiden Payroll data only.
(6) TSN procurement spent in financial year > € 0

Employee information by region. Reporting Period: FY22/23

	Number of employees (head count)	Number of permanent employees (head count)	Number of non-guaranteed hours employees (head count) i.e. temporary contract	Number of full-time employees (head count) i.e. >=0.95 FTE	Number of part-time employees (head count) i.e. < 0.95 FTE
Netherlands	10,155	9,453	702	8,512	1,643
Germany	641	591	50	593	48
France	571	546	25	529	42
USA	246	246	0	246	0
Belgium	184	184	0	170	14
Spain	155	150	5	134	21
Switzerland	115	113	2	86	29
Turkey	83	78	5	83	0
Sweden	63	63	0	60	3
Finland	43	43	0	42	1
Norway	23	23	0	22	1
Poland	8	8	0	8	0
Italy	7	7	0	4	3
Czech Republic	4	4	0	3	1
China	1	1	0	1	0

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GRI 2: General Disclosures

Standards	Disclosure	Reference
1. The organization and its reporting practices		
2-1	Organizational details	- Chapter 1 – Tata Steel Nederland, Priorities and Governance
2-2	Entities included in the organization's sustainability reporting	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - Chapter 6 – How we report
2-3	Reporting period, frequence and contact point	- Chapter 6 – How we report
2-4	Restatements of information	- Chapter 6 – How we report
2-5	External assurance	- Chapter 6 – How we report
2. Activities and workers		
2-6	Activities, value chain and other business relationships	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.1 Tata Steel Nederland
2-7	Employees	- Key Figures - Social – Human Resources Management
2-8	Workers who are not employees	- Chapter 1 - Tata Steel Nederland, Priorities and Governance - 1.4 Stakeholder Dialogue - Chapter 5 - People & Society - 5.2 Health and Safety at work - Key Figures - Social – Safety - Social – Human Resources Management
3. Governance		
2-9	Governance structure and composition	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.6 Governance
2-10	Nomination and selection of the highest governance body	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.6 Governance
2-11	Chair of the highest governance body	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.6 Governance
2-12	Role of the highest governance body in overseeing the management of impacts	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.6 Governance
2-13	Delegation of responsibility for managing impacts	- Chapter 1– Tata Steel Nederland, Priorities and Governance - 1.6 Governance
2-14	Role of the highest governance body in sustainability reporting	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.6 Governance
2-15	Conflicts of interest	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.6 Governance
2-16	Communication of critical concerns	- Key Figures - Economics & Governance - Ethics
2-17	Collective knowledge of the highest governance body	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.6 Governance
2-18	Evaluation of the performance of the highest governance body	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.6 Governance
2-19	Remuneration policies	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.6 Governance
2-20	Process to determine remuneration	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.6 Governance
2-21	Annual total compensation ratio	- Key Figures - Social – Human Resources Management

Standards	Disclosure	Reference
4. Strategy, policies and practices		
2-22	Statement on sustainable development strategy	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.3 Sustainability Strategy
2-23	Policy commitments	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.2 Our Objective, our Mission, our Vision
2-24	Embedding policy commitments	- Chapter 4 – Decarbonisation & Sustainability - 4.6 Responsible Sourcing - Key Figures - Economics & Governance - Ethics
2-25	Processes to remediate negative impacts	- Chapter 3 – Environment & Community - 3.1 Roadmap Plus - 3.3 Investigating our Impact
2-26	Mechanisms for seeking advice and raising concerns	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.4 Stakeholder Dialogue - Chapter 3 – Environment & Community - 3.1 Roadmap Plus - 3.3 Investigating our Impact - 3.4 Sustainable Relationship with the Community
2-27	Compliance with laws and regulations	- Key Figures - Economics & Governance – Legal
2-28	Membership associations	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.4 Stakeholder Dialogue
5. Stakeholder engagement		
2-29	Approach to stakeholder engagement	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.4 Stakeholder Dialogue
2-30	Collective bargaining agreements	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.4 Stakeholder Dialogue - Key Figures - Social – Human Resources Management
GRI 3: Material topics		
3-1	Process to determine material topics	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.3 Sustainability Strategy
3-2	List of material topics	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.3 Sustainability Strategy

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Topic Specific Standards

Standards	Disclosure	Reference
Material topic: Governance and involvement		
3-3	Management of material topics	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.6 Governance
Own indicator	Cases for which fines or non-monetary sanctions have been imposed	- Key Figures - Economics & Governance – Legal
Material topic: Health and Safety		
3-3	Management of material topics	- Chapter 5 – People & Society - 5.1 Employees make the Company - 5.2 Health and Safety at work - 5.3 Health and Vitality
Own indicator	Number of fatalities, lost time injuries and recordables	- Chapter 5 – People & Society - 5.2 Health and Safety at work
Own indicator	Sickness absence rate	- Chapter 5 – People & Society - 5.3 Health and Vitality
Material topic: Equal opportunities		
3-3	Management of material topics	- Chapter 5 – People & Society - 5.4 Equal Opportunities
Own indicator	Percentage of employees experiencing inclusive working climate	- Chapter 5 – People & Society - 5.4 Equal Opportunities
Own indicator	Ethnic-cultural diversity in all job categories	- Chapter 5 – People & Society - 5.4 Equal Opportunities
Own indicator	% women in vocational technical positions	- Chapter 5 – People & Society - 5.4 Equal Opportunities
Own indicator	% women in decision-making positions	- Chapter 5 – People & Society - 5.4 Equal Opportunities
Own indicator	Number and % of female employees	- Key Figures - Social - Human Resources Management
Own indicator	New female employees as a percentage of the total	- Key Figures - Social - Human Resources Management
Material topic: Local community		
3-3	Management of material topics	- Chapter 3 – Environment & Community - 1.4 Stakeholder Dialogue - 3.4 Sustainable relationship with the community
Own indicator	Number of Events	- Key Figures - Economics & Governance - Community
Material topic: Air emissions		
3-3	Management of material topics	- Chapter 3 – Environment & Community
Own indicator	Reduction of lead, dust, heavy metals, dust deposition, nitrogen, odour nuisance and PAH's	- Chapter 3 – Environment & Community - 3.1 Roadmap Plus - 3.2 Monitoring and Measuring - 3.3 Investigating our Impact
Material topic: Biodiversity		
3-3	Management of material topics	- At the end of FY2022/2023, biodiversity was identified as a rapidly developing material theme. We will report in the next Sustainability Report on this.
Material topic: Decarbonisation (GRI 305: EMISSIONS 2016)		
305	Management of material topics	- Chapter 4 – Decarbonisation & Sustainability
305-1	TSN GHG emissions (based on the Green House Gas Protocol) - scope 1	- Chapter 4 – Decarbonisation & Sustainability - 4.1 Current Carbon Footprint - Key Figures - Environmental - TSN GHG emissions (based on the Green House Gas Protocol)

Standards	Disclosure	Reference
Material topic: Decarbonisation (GRI 305: EMISSIONS 2016)		
305-2	TSN GHG emissions (based on the Green House Gas Protocol) - scope 2	- Chapter 4 – Decarbonisation & Sustainability - 4.1 Current Carbon Footprint - Key Figures - Environmental – TSN GHG emissions (based on the Green House Gas Protocol)
305-3	TSN GHG emissions (based on the Green House Gas Protocol) - scope 3	- Chapter 4 – Decarbonisation & Sustainability - 4.1 Current Carbon Footprint - Key Figures - Environmental – TSN GHG emissions (based on the Green House Gas Protocol)
305-4	CO_2 emission intensity (ws scope 1+2+3)	- Chapter 4 – Decarbonisation & Sustainability - 4.1 Current Carbon Footprint - Key Figures - Environmental – TSIJ GHG emissions (based on worldsteel user guide V9.5)
305-5	TSN GHG emissions (based on the Green House Gas Protocol) - scope 1+2+3	- Key Figures - Environmental – TSN GHG emissions (based on the Green House Gas Protocol)
305-7	NOx (Nitrogen Oxides) & SO2 (Sulphur dioxide)	- Key Figures - Environmental - Air emissions
Material topic: Circularity		
3-3	Management of material topics	- Chapter 4 – Decarbonisation & Sustainability - 4.5 Raw materials efficiency
Own indicator	Material reused by our process (excluding scrap steel)	- Chapter 4 – Decarbonisation & Sustainability - 4.5 Raw materials efficiency - Key Figures - Environmental - Recycling - Environmental - Waste
Own indicator	Scrap recycling - Externally recycled steel, internally recycled steel, recycled steel (%)	- Key Figures - Environmental - Recycling
Own indicator	Volume of by-products sold (excluding granulated blast furnace slag (GBS))	- Key Figures - Environmental - Recycling
Own indicator	Slag to cement industry (i.e. GBS sales)	- Key Figures - Environmental - Recycling
Material topic: Responsible sourcing		
3-3	Management of material topics	- Chapter 4 – Decarbonisation & Sustainability - 4.6 Responsible sourcing
Own indicator	Active suppliers made aware of Responsible Procurement Policy	- Key Figures - Economics & Governance - Supply Chain
Material topic: Long-term profitability		
3-3	Management of material topics	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.1 Tata Steel Netherlands
Own indicator	Gross Turnover	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.1 Tata Steel Nederland - Key Figures - Economics & Governance - Financial
Own indicator	Investments in installations	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.1 Tata Steel Nederland
Material topic: Involving customers in sustainability		
3-3	Management of material topics	- Chapter 2 – Customer & Value - 2.1 The Added Value of Steel - 2.2 Sustainability in our Steel
Own indicator	Number of memberships of industry bodies	- Chapter 1 – Tata Steel Nederland, Priorities and Governance - 1.4 Stakeholder Dialogue
Material topic: Quality and innovation		
3-3	Management of material topics	- Chapter 2 – Customer & Value - 2.3 Investing in the Future
Own indicator	R&D expenditure	- Chapter 2 – Customer & Value - 2.3 Investing in the Future - Key Figures - Economics & Governance - Intellectual capital
Own indicator	New products developed and launched	- Key Figures - Economics & Governance - Intellectual capital

Advisory bodies, industry organisations and/or networks

Tata Steel Nederland is affiliated with or participates in, among others, the following advisory bodies, industry organisations and/or networks:

Advisory bodies:

Advisory Committee on Customised Agreements for Making Industry More Sustainable
This independent advisory committee will advise whether the agreements made by companies and the government are ambitious enough to be further elaborated into concrete customised agreements. (link)

De Nederlandsche Bank N.V. (DNB) is committed to a stable financial system: stable prices, solid financial institutions and a reliable payment system. www.dnb.nl

GGD Kennemerland monitors health risks and aims to promote people's health. www.ggdkennemerland.nl

Netherlands Organisation for Applied Scientific Research (TNO) This is an independent research organisation. TNO's mission is to connect people and knowledge to create innovations that strengthen the competitiveness of companies and the well-being of society in the long term. www.tno.nl

Dutch Safety Board (OVV) The Dutch Safety Board carries out independent investigations. The aim is to formulate lessons learned to make processes and organisations safer. www.onderzoeksraad.nl

Netherlands Enterprise Agency (RVO) has the task of encouraging entrepreneurs in sustainable, agricultural, innovative and international business practices. www.rvo.nl

National Institute for Public Health and the Environment (RIVM) is a knowledge and research institute in the Netherlands, aimed at promoting public health and a healthy and safe living environment. www.rivm.nl

Industry organisations:

Association of European Producers of Steel for Packaging (APEAL) unites all producers of packaging steel. www.apeal.org

Bouwkennis offers structured market data on the built environment. https://bouwkennis.nl/

Bouwen met Staal is active in promotion, advice and information, knowledge transfer and research for the use of steel in construction. www.bouwmetstaal.nl

The German Steel Federation (**WV Stahl**) represents the political interests of steel-producing companies in Germany and its more than 80,000 employees vis-à-vis politics, business and the public. www.stahl-online.de/

Euroconstruct is an independent forecasting network for the construction market. The mission is to provide current, accurate and comparable forecasts for the European construction markets. www.euroconstruct.org

The **European Steel Association (EUROFER)** represents the entire steel production in the European Union. www.eurofer.eu

Eurometal is the European federation of steel tubes and metals distribution and trade. https://eurometal.net/

The **Sheet Metal Federation (FDP)** is a chain organisation in the field of sheet metal and tube. The FDP is responsible for the development, bundling, distribution and exchange of knowledge between companies from the sheet metal chain, research institutions and education. www.fdp.nl

FME is the entrepreneurial organisation for the technology industry. Its 2,200 members are tech-starters, trading companies, small and medium-sized industry and large industry/multinationals that are active in the metal industry, electronics, electrical engineering and plastics sectors. www.fme.nl

Metaal Nederland defends the interests of the Dutch metal industry, including base metal and foundries. www.metaalnederland.com

The **Dutch Aerosol Association (NAV)** represents the entire chain of the aerosol industry. www.nav-aerosol.nl

NLHydrogen is the trade association that connects, strengthens and represents the hydrogen sector, with the aim of achieving a CO_2-free society. https://nlhydrogen.nl/

The **Dutch Packaging Centre (NVC)** is the association of companies that recognise the importance of packaging as an activity within the entire supply chain of packaged products. www.nvc.nl

The **Netherlands Wind Energy Association (NWEA)** is the trade association for the wind sector. NWEA promotes the development of wind energy with a view to a sustainable Dutch energy supply. www.nwea.nl

Stichting Materiaalorganisaties (StiMo) is committed to optimising the life cycle of household and commercial packaging.

VNO-NCW represents the interests of companies of various sizes across all sectors. www.vno-ncw.nl

WorldAutoSteel, the automotive group of the World Steel Association, consists of 20 major steel producers from around the world. WorldAutoSteel's mission is to promote and communicate steel's unique ability to meet the needs and challenges of the automotive industry in a sustainable and environmentally responsible manner. www.worldautosteel.org

Worldsteel, is an industry association, with members in every major steel-producing country. worldsteel represents steel producers, national and regional steel industry associations, and steel research institutes. Members represent around 85% of global steel production. www.worldsteel.org

Networks, rating agencies and others:

Amsterdam Economic Board is a network of hundreds of organisations that are decisive on the way to a new economy: companies, knowledge and educational institutions, municipalities, provincial authorities and social organisations. https://amsterdameconomicboard.com/

Amsterdam IJmuiden Offshore Ports (AYOP) is an active association of companies, regional governments and knowledge and educational institutions that are active in the offshore oil & gas and wind energy sector in the North Sea Canal area. https://ayop.com/

BetterBusiness is an entrepreneurial platform in the Amsterdam Metropolitan Area. www.beterbusiness.nl

Bre is a network of experts to contribute to responsible sourcing, such as via BES 6001 for substantiation of the origin of materials. www.bregroup.com

CDP is a not-for-profit organisation that operates the global disclosure system for investors, companies, cities, states and regions to manage their environmental impacts. www.cdp.net

Economic Forum Holland above Amsterdam This forum brings together regional business associations, employers' organisations and industry organisations above the North Sea Canal for an optimal business climate. https://economischforumhba.nl

Ecovadis is a ratings platform for the assessment of Corporate Social Responsibility and sustainable procurement. www.ecovadis.com

European Clean Hydrogen Alliance (ECH2A) is an alliance aimed at developing the hydrogen economy in Europe. link

IGC (Koninklijke Industrieele Groote Club) is a business club in the Amsterdam metropolitan area. www.igc.nl

Metal Agreement is a partnership between industry, government, trade unions and NGOs to work to improve conditions in the supply chains of the metals sector. www.imvoconvenanten.nl

NQC is a global supply chain risk management & compliance partnership. https://nqc.com/

Port of Amsterdam manages and develops the Amsterdam port region. www.portofamsterdam.com

The **North Sea Canal Area Programme Office (NZKG)** supports regional cooperation in the North Sea Canal area. The office is responsible for the implementation of various programmes in the field of space and energy. www.noordzeekanaalgebied.nl

Responsiblesteel is a non-profit global standards and certification initiative for multiple stakeholders. It strives to be a driving force in the socially and environmentally responsible production of net-zero steel worldwide. www.responsiblesteel.org

Techport is a network of more than 70 schools, companies and governments and is active in the Amsterdam Metropolitan Area, with the Ijmond region as its core. https://techport.nl/

Vigeo Eiris supports organisations in ESG ratings and assessments. vigeo-eiris.com

Zeehaven IJmuiden NV is the owner and operator of the ports, sites and fish auction hall of IJmuiden. www.zeehaven.nl

Subsidiaries of Tata Steel Nederland BV and British Steel Nederland International BV

Tata Steel Nederland

Tata Steel Belgium Services NV
Tata Steel IJmuiden BV
Tata Steel Belgium Packaging Steels NV
Huizenbezit "Breesaap" BV
Societe Europeenne De Galvanisation (Segal) Sa
Halmstad Steel Service Centre AB
Naantali Steel Service Centre OY
Norsk Stal Tynnplater AS
Tata Steel Nederland Technology BV
Tata Steel Nederland Services BV
Demka BV
Tata Steel International (Italia) S.R.L.
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Thomas Steel Strip Corp
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Tata Steel International (France) SAS
Tata Steel Maubeuge SAS
Unitol SAS
Degels GmbH
Tata Steel Germany GmbH
Tata Steel International (Germany) GmbH
Fischer Profil GmbH
FP Produktions-Und Vertriebs GmbH
Service Centre Gelsenkirchen GmbH
Hille & Müller GmbH
S A B Profil GmbH
Tata Steel Nederland Tubes BV
S A B Profiel BV
Montana Bausysteme AG

British Steel Nederland International BV

Tata Steel Istanbul Metal Sanayi ve Ticaret AS
Tata Steel International Iberica SA
Service Centre Maastricht BV
Tata Steel International (Czech Republic) S.R.O.
Corus Ireland Ltd
Tata Steel International (Poland) Sp. Z o.
Layde Steel SL
Tata Steel Denmark Byggesystemer A/S
Norsk Stal Tynnplater AB

Abbreviations and glossary

AVA General Meeting of Shareholders
BVO Basic Safety Training
CAO Collective Agreement
CAPEX CAPital EXpenditures
CCS Carbon Capture and Storage
CEO Chief Executive Officer
CFO Chief Financial Officer
COD Chemical Oxygen Demand. This value indicates the amount of oxygen that would be needed to (almost) completely oxidise all organic substances
This is a measure of the amount of organic matter in water and is often used to measure the amount of pollution.
COR Central Works Council
CSR Corporate Social Responsibility
CY Calendar
1 January t/m 31 December
DRI Direct Reduced Iron
DSP Direct Sheet Plant
eMJV Electronic Environmental Annual Report
EMM Electrolytic Manganese Metal
EWC European Works Council
EPD Environmental Product Declaration
FVO Responsible Business Fund
FY Financial Year. At Tata Steel, the financial year runs from 1 April to 31 March.
GHG Green House Gas
GLEC Global Logistics Emissions Council
GRI Global Reporting Initiative
HSSE Health, Safety, Security & Environment in IJmuiden
IMVO International Corporate Social Responsibility
KPI Key Performance Indicator
LTI Lost Time Injury
LTIFR Lost Time Injury Frequency Rate (LTIFR) indicates the number incidents resulting in sickness absence per million hours worked.
EIA Environmental Impact Assessment
NGO Non-Governmental Organisation
OECD Organisation for Economic Cooperation and Development
OVV Dutch Safety Board
PAH Polycyclic Aromatic Hydrocarbons
RIVM National Institute for Public Health and the Environment
RvB Board of Directors
RvC Supervisory Board
R&D Research and Development
SDG UN Sustainable Development Goals
SER Social and Economic Council
TRIFR Total Recordable Injury Frequency Rate (TRIFR) indicates the number of medical treatments not resulting in sickness absence per million hours worked
TSC Tata Steel Chess Tournament
TSDE Tata Steel Downstream Europe
TSE Tata Steel Europe
TSIJ Tata Steel IJmuiden
TSL Tata Steel Limited
TSN Tata Steel Nederland
TSNH Tata Steel Nederland Holdings B.V.
VROM Ministry of Housing, Spatial Planning and the Environment

Disclaimer

"This report contains forward-looking information about Tata Steel Nederland and its subsidiaries ("TSN"). This information includes plans, objectives and expectations regarding future activities, performance, intentions, goals and aspirations of TSN, including plans to reduce its emissions, including CO_2. Forward-looking statements are identified by the words "believe", "expect", "anticipate", "goal", "accelerate", "ambition", "estimate", "likely", "could", "outlook", "plan", "strategy", "will" and similar expressions. Forward-looking statements include all statements other than historical facts. While TSN's management believes that the stated expectations are reasonable, TSN notes that forward-looking information and plans are subject to numerous risks and uncertainties, many of which are difficult to predict and are generally beyond TSN's control, as a result of which the actual results and developments may differ materially and adversely from those expressed in, or implied or projected by, the forward-looking information and plans. More in particular, TSN's CO_2 targets based on current assumptions regarding the costs of implementation (including the costs of green hydrogen and its development), government and community support for the reduction of CO_2 and the development of the necessary technology and infrastructure, which may not match TSN's current assumptions in the future. TSN assumes no obligation to publicly update its forward-looking statements as a result of new information, future events or otherwise."

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