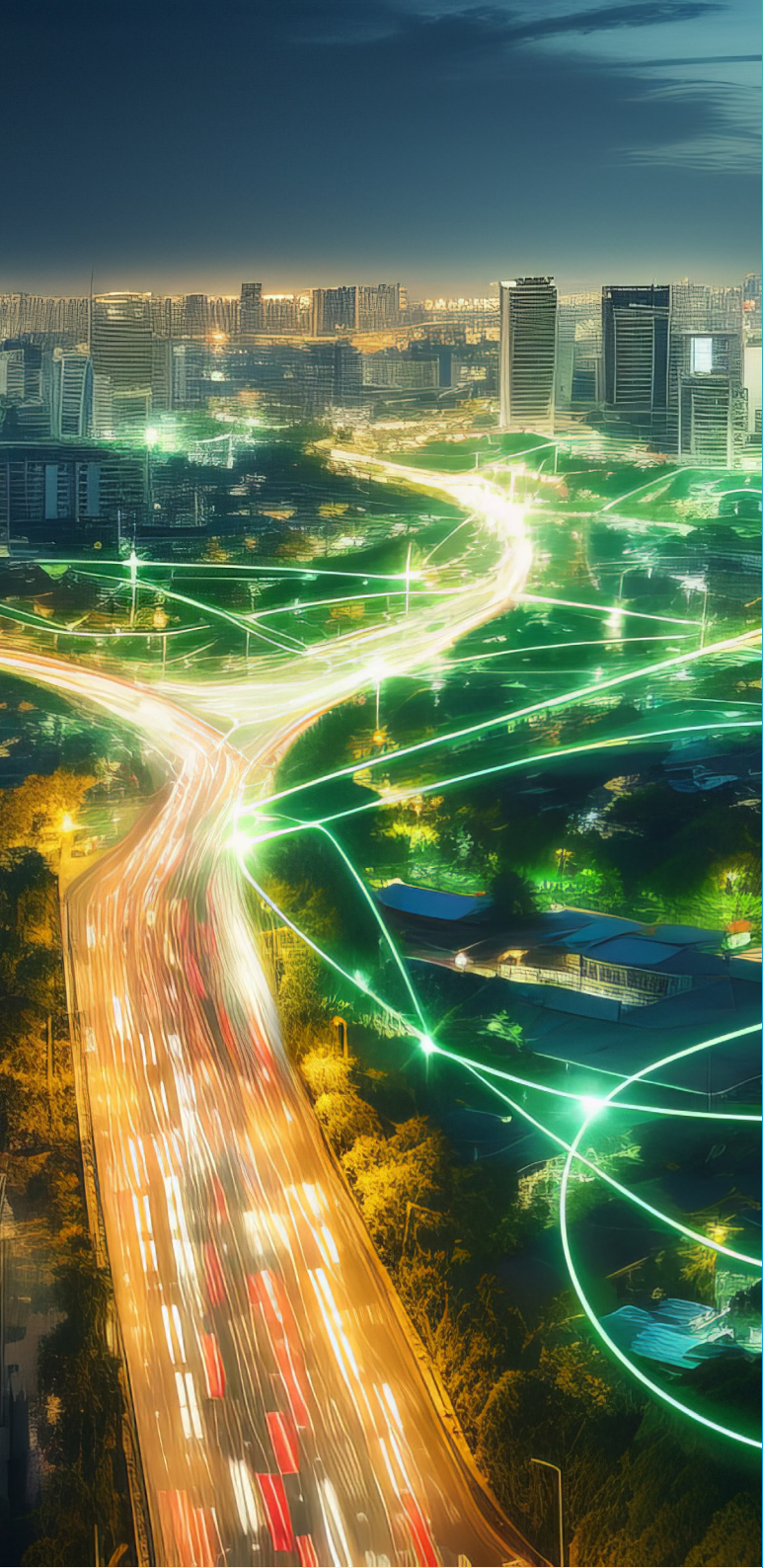




MATERIALS SERVICES

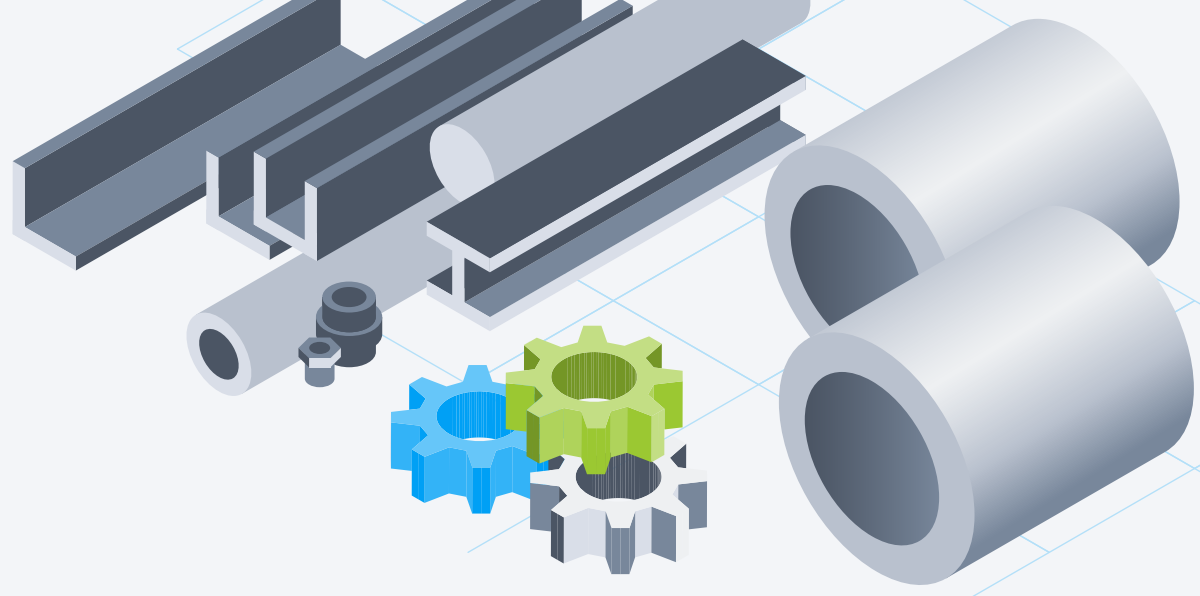
CO₂ REDUCTION IN THE MOBILITY SECTOR

Innovative solutions for decarbonised supply chains

statista 


thyssenkrupp

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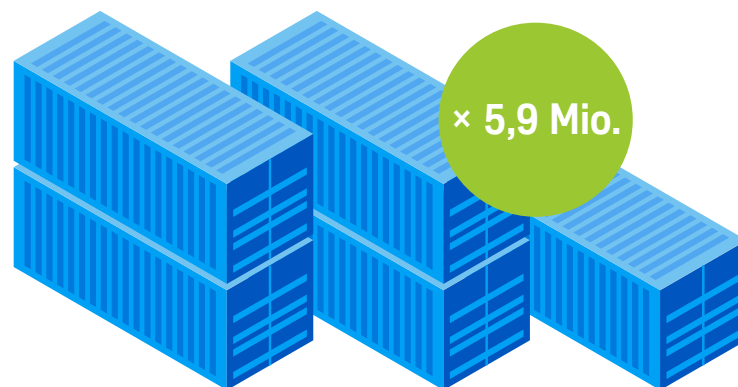
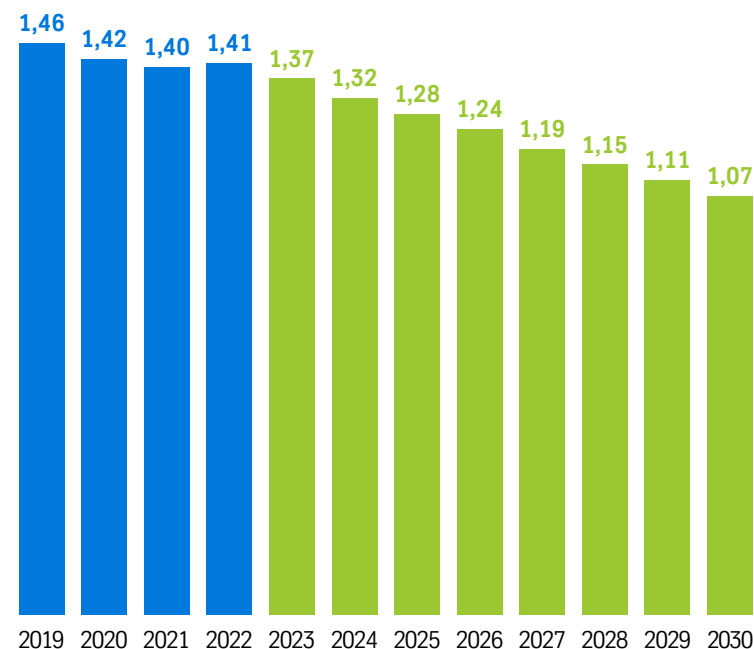
THE INDUSTRY MUST BECOME MORE TRANSPARENT



The steel industry bears great responsibility. It is responsible for 5% of CO₂ emissions in the European Union and 7% of global CO₂ emissions.¹ It is therefore necessary to drive change in the industry - and this is only possible with transparency. Companies must increasingly take responsibility for their environmental footprint and focus on sustainability. Sustainability must meet the requirements of customers, investors and legislators without jeopardising their own competitiveness.

For these reasons, product carbon footprints (PCFs) are becoming increasingly important. A PCF measures all greenhouse gas emissions that occur throughout the entire life cycle of a product, from the extraction of raw materials to production, transport, use and disposal. At thyssenkrupp materials services our PCFs are calculated according to the cradle-to-gate scheme, excluding use and disposal as metal can be used to manufacture countless products whose final utilisation is vastly different and therefore no longer measurable for us.

Direct CO₂ intensity of the iron and steel sector worldwide from 2019 to 2022, with forecast to 2030 (in tonnes of CO₂ per tonne of steel)³



5% of the European Union's CO₂ emissions are caused by the steel industry. That is **more than 150 million tonnes of CO₂ equivalent** which could fill **more than 5.9 million** 20-foot containers.²

With our PCFs, companies can comply with regulations and guidelines relating to their emissions and fulfil the desire of many customers for transparent information on the environmental impact of their products. With increased transparency, you can fulfil the great responsibility of the industry and create a baseline for a sustainability strategy with a clear view into the future.

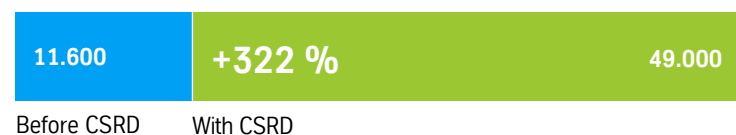
¹ As of 2022; source: EU Joint Research Centre ² Source: iContainers ³ The forecast shows the CO₂ intensity required to achieve the goal of climate neutrality by 2050; source IEA

SUSTAINABILITY BECOMES A COMPETITIVE FACTOR

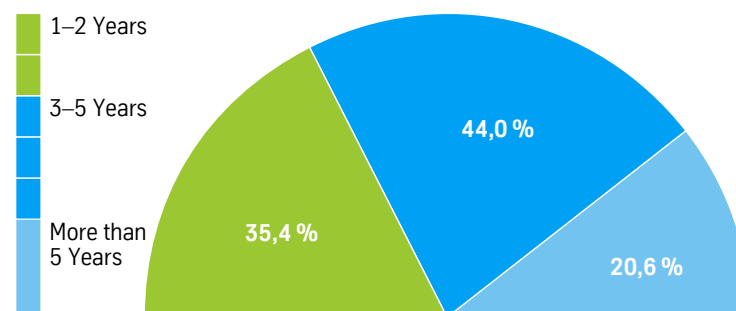
The 27 member states of the European Union want to become climate-neutral by 2050; this goal was set out in the European Green Deal. By 2030, greenhouse gas emissions are to be reduced by at least 55% compared to 1990 levels. The EU wants to achieve its targets and exert pressure on industry with various packages.

The Corporate Sustainability Reporting Directive (CSRD) obliges companies to submit detailed sustainability reports to provide transparent information on their CO₂ emissions and energy consumption. Similarly, the Carbon Border Adjustment Mechanism (CBAM) ensures that CO₂ emissions must be verified when importing certain groups of goods (including iron and steel) across external EU borders.

Number of companies in the EU that have to publish sustainability reports¹



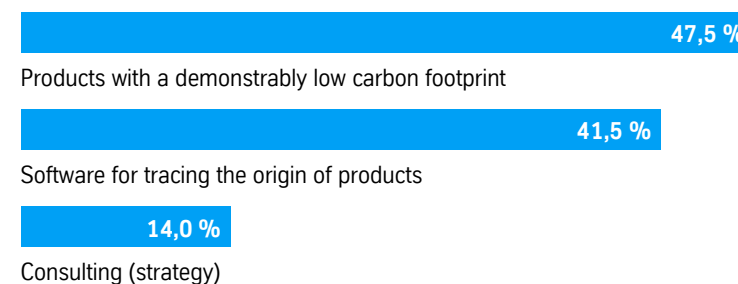
Expected timeframe in which sustainability will be an important factor in purchasing decisions² n = 421



The Corporate Sustainability Due Diligence Directive (CSDDD) was also adopted to ensure that companies comply with environmental and human rights standards in their supply chains.

These laws will have the greatest impact over the next few years and will force the industry to reorganise. Companies will soon have to adjust to reporting deadlines, which will significantly impact existing supply chains. Hence, now is the right time to invest in sustainable solutions. Not only to forge a strategy for the coming years, but also to gain an immediate market advantage.

Most important products and services in the context of sustainability² n = 2.367



Over 35% of customers surveyed already consider sustainability to be a relevant factor in their purchasing decisions. External pressure is also increasing; by 2024, the number of companies subject to CSRD reporting requirements will rise by 322%. To document product emissions, high-quality, production-related data (GHG Scope 3) is required above all.

¹ Estimate; source: CSR in Germany

² Source: Survey of thyssenkrupp Materials Services customers in Europe between 2022 and 2024

INNOVATION FOR A SUSTAINABLE FUTURE: WE THINK AHEAD AND OFFER YOU THE TOOLS FOR CHANGE



greenability transparency - Our PCF reports ensure transparency

Companies can only achieve their environmental goals with transparency. A detailed insight into the carbon footprint of your own products is essential for optimisation decisions. Our PCF declarations and reports provide precise information on the CO₂ emissions of materials, from production to delivery to you. You receive the necessary data at asset level¹, which is required for reporting in accordance with CSRD and, in some cases, CSDDD guidelines. With our PCF reports, you can ensure that your products comply with the applicable environmental and sustainability laws.



greenability services - Sustainable optimisation with our expertise

We support you in the sustainable optimisation of your company. We already offer our comprehensive sustainability consulting services today so that you are optimally prepared for the changes in the coming years. Our sustainability workshops provide you with the knowledge and tools you need to achieve your sustainability goals and increase economic efficiency. You benefit from our practical tips and best practices from the industry.

¹ We only use regional and global averages as a fallback.



We deliver precise and high-quality emissions data, including Scope 3



You receive essential data for your reporting in accordance with CSRD guidelines



We create a baseline that you can use for optimisation decisions and material selection



We provide you with knowledge and tools through our sustainability consulting services



You benefit from our best practices from the industry



MATERIAL EXPERTISE, TRANSPARENCY, SUCCESS: OUR EXPERTISE SETS YOU APART FROM THE COMPETITION



greenability materials - We offer CO₂-reduced materials of the highest quality

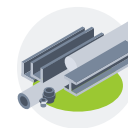
Sustainable materials play a crucial role in the quest for a more environmentally friendly industry. By using CO₂-reduced materials, the total CO₂ emissions of a project or product are reduced, which has a positive impact on the ecological rating. We offer CO₂-reduced variants of steel, aluminium and copper without compromising on quality. Our bluemint steel, for example, satisfies the ever-increasing demand for CO₂-reduced steel. With our CO₂-reduced materials, you can not only make an important contribution to reducing your CO₂ footprint, but also strengthen your market position by positioning yourself as a leader in sustainability.



We offer steel, stainless steel, aluminium and copper CO₂-reduced

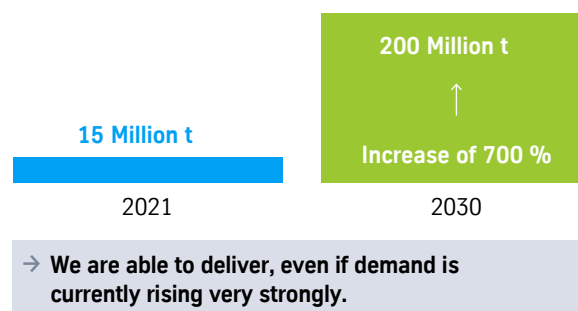


By using CO₂-reduced materials, you will demonstrably reduce your footprint



Strengthen your market position with sustainable materials

Demand for CO₂-reduced steel worldwide in 2021 and forecast for 2030¹



¹ Quelle: McKinsey

We are your partner for the decarbonization of your supply chain: Our range offers comprehensive services and products - from the calculation of a baseline to the choice of material and the marketing of your emission-optimised products. We are at your side!

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HOW GREENABILITY MAKES THE MOBILITY SECTOR MORE SUSTAINABLE



Number of cars with internal combustion engines in Europe whose annual emissions can be reduced by production with CO₂-reduced steel (in millions)¹

2030 40 % CO₂-reduc. Steel  3,5
2035 75 % CO₂-reduc. Stahl  7,2
2040 100 % CO₂-reduc. Stahl  8,1

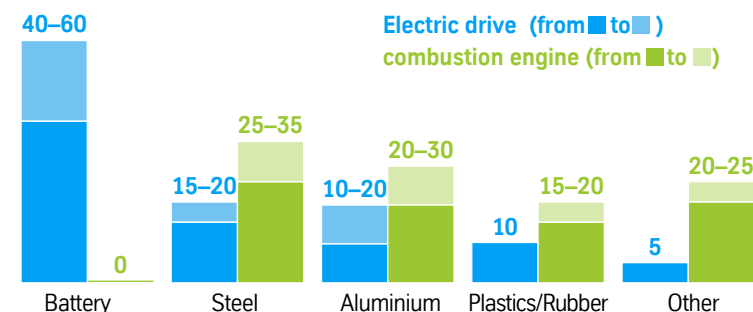
Car production with 75% CO₂-reduced steel could save the production emissions of more than 8% of all new cars in the EU by 2035². In the years to come, the figure will be even higher. With us, you can utilise this potential as a market advantage at an early stage.

Due to the complexity of the products, original equipment manufacturers (OEMs) have many tier 1 to tier 'n' suppliers who are now under increasing pressure to be compliant and transparent. Material consumption is very high in these complex logistics chains. We can keep up with this consumption in quantitative terms by already calculating up to 8,000 batches per day for OEMs and suppliers and scaling this figure further if required. In this way, we provide the necessary transparency to comply with the legal requirements and demands of our automotive customers. With an entire transparent supply chain right up to the factory gate, which we cover with just one declaration, companies can be pioneers and position themselves as "suppliers of choice" at an early stage.

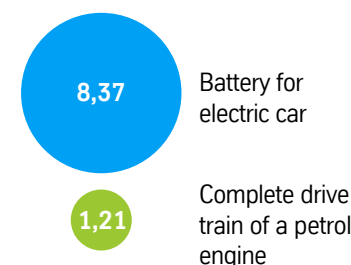
The next step is not only to calculate and report emissions precisely, but also to reduce them. Sustainable materials play a particularly vital role in this project, as material emissions remain relevant for electric cars too. Although the battery accounts for the majority of emissions in electric cars, the use of CO₂-reduced metals still offers an important lever for improving the product's life cycle assessment.

Transparency and sustainable materials are also necessary for bus, rail, and train projects, as the expansion of public transport is regulated by the state. Thus, public sector tenders require detailed sustainability concepts. The same applies to shipyards and other industrial mobility applications, where sustainable innovations are advantageous for lighthouse projects. With our greenability solutions, we help you to maximise your opportunities.

Emissions caused in the production of electric cars compared to cars with combustion engines (in %)³



Greenhouse gas emissions caused by the production of passenger cars by drive type (CO₂ equivalent in tonnes)⁴



→ The proportion of emissions caused by metal in the production of electric cars is only falling because the battery contributes significantly high emissions. The absolute metal consumption remains almost the same.

¹ Source: T&E, Ricardo ² Prognosis; Sources: T&E, Ricardo, ACEA, S&P Global, ICCT, Carbon Connect ³ Source: McKinsey analysis ⁴ Source: VDI

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YOUR SUSTAINABILITY JOURNEY, OUR PRIORITY: SHAPING A MORE SUSTAINABLE FUTURE TOGETHER



Your Contact

Jan Daumann
Sustainability Manager

Phone: +49-173-5335469
E-Mail: jan.daumann@thyssenkrupp-materials.com

statista 


thyssenkrupp



thyssenkrupp

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