

Climate Report 2023

Carbon Footprint according to the GHG Protocol

Prodan in a glance

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Welcome to the 2023 Climate Report of Prodan.

Prodan is one of the **leading material manufacturing companies** in Denmark. Embracing this identity and responsibility, Prodan recognizes the importance of calculating and minimizing emissions to encourage environmental responsibility and adopt sustainable practices. This report encompasses both direct and indirect emissions, underscoring their impact at a local and global scale.

The Importance of Emissions Calculation and Reduction: Local and Global Perspective

Prodan prioritizes to publish a detailed climate report for the third consecutive year, as the calculation and reduction of emissions have become essential in tackling climate change and mitigating the company's environmental footprint.

By quantifying the greenhouse gas emissions resulting from its operations and tracking them throughout the years, Prodan gains invaluable insights into its contribution to the global climate challenge. This understanding enables the company to identify specific areas for reducing emissions, enhance energy and operational efficiency and cultivate a sustainability-focused culture.

The calculation of **direct emissions** comes with firmly embracing local responsibility. These emission are a result of different activities, including the combustion of fossil fuels for heating or transportation purposes or the use of refrigerants. By proactively addressing direct emissions, Prodan recognizes its crucial responsibility in minimizing the ecological footprint it causes, which subsequently motivates the company to seek innovative solutions, optimize its energy consumption, and shift towards cleaner alternatives.

Prodan takes its emission accountability one step further and addresses its **indirect emissions** as well. Indirect emissions include a wide range of environmental impact throughout the entirety of the company's value chain, such as those associated with purchased electricity, supplier activities, distribution, product use, and disposal. This way, Prodan recognizes its interconnectedness with the global system and accepts the responsibility of fostering collaboration with suppliers and clients, and promoting sustainable practices across the lifecycle of its products and services.



In a nutshell

Prodan's mission as a company is to provide quality metalworking and material manufacturing solutions to its clients across multiple industrial sectors, since 2010. Throughout its activity Prodan aims to be recognized as a reliable and innovative supplier, and to foster and environmentally and socially conscious corporate identity.

By being part of the material manufacturing industry, Prodan finds itself in a hotspot across the global economy as far as environmental impacts are concerned.

The manufacturing sector relies extensively upon a wide array of raw



materials, whose extraction heavily affects natural resources, as well as on heavy machinery and energy-intensive operations. Studies have suggested that the manufacturing industry could be responsible for up to 30% of total global industrial emissions. As part of this reality, Prodan makes minimizing its environmental impact an imperative commitment. Through careful effort and strategic action they have not only managed to acquire the ISO 14001 certification, but have set out a series of practices to achieve environmental impact minimization.

These include facility and process optimization, effective waste separation, strategic planning concerning lighting, dust and noise.

Recognizing the use of electricity is one of its main emission sources, Prodan has taken the decision to transit to CO2-neutral Green Electricity

Prodan meticulously assesses its suppliers, and further invests in development of responsible materials alternatives.

Furthermore, Prodan assumes the role of a crucial supplier itself for sectors such as the wind turbine, offshore, agriculture, pumping, process and food industries. By providing high quality and sustainably manufactured products Prodan contributes to the operational efficiency and performance of its clients, while simultaneously having an important influence to promote positive change by demonstrating the benefits of circular production methods and collaboration for a greener industrial sector.

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Climate Carbon action footprint

Climate change is a pressing

global challenge with the Earth's atmosphere acting as a delicate balance, regulating temperature and supporting life. Human activities have disrupted this equilibrium by emitting Greenhouse Gases (GHGs) into the atmosphere. GHGs are gases that trap heat, causing the greenhouse effect.

Carbon dioxide (CO_2) - burning fossil fuels, industrial processes, and deforestation

Methane (CH₄) - natural and human sources like agriculture and landfills

Nitrous oxide (N₂O) - agriculture and industrial processes

Fluorinated gases -synthetic compounds used in various applications

Consequences of climate change include sea-level rise, extreme weather events, altered precipitation, and biodiversity loss, posing challenges for sustainable development.

Global Warming Potential (GWP) is a metric comparing warming effects of GHGs to CO_2 over a specified timeframe. CO_2 serves as the baseline with a GWP of 1. Other gases have higher GWPs, indicating stronger warming potential. Methane, for instance, has a GWP of 28-36, while nitrous oxide has a GWP of about 265-298.



The IPCC (Intergovernmental Panel on Climate Change) is the foremost scientific body dedicated to assessing climate change, providing comprehensive reports that synthesize the latest research and analyse the impacts, risks, and potential mitigation strategies associated with climate change. The IPCC assessment reports serve as invaluable resources, providing a comprehensive understanding of the urgency and complexity of climate change. They reinforce the need for collective action and policy interventions to reduce greenhouse gas emissions, adapt to the changing climate, and foster a sustainable future. Leveraging the findings of these reports empowers stakeholders to make informed decisions and drive transformative change towards a more sustainable and resilient world.



Greenhouse Gas Protocol



The **Greenhouse Gas Protocol** is a globally accepted and widely recognized accounting framework for measuring and managing GHG emissions.

The GHG protocol was developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD), and its purpose is to provide organizations with a standardized methodology to quantify and report emissions. By establishing consistent guidelines and principles, the GHG Protocol enables companies to track emissions over time, set reduction targets, and implement effective emission reduction strategies. The GHG Protocol serves as a valuable tool for organizations seeking to understand and manage their environmental impact. It offers a comprehensive framework for emissions accounting and reporting, helping companies identify emission sources, assess their carbon footprint, and prioritize reduction opportunities. Additionally, the GHG Protocol enables organizations to enhance transparency and credibility in their sustainability reporting, enabling stakeholders, investors, and customers to make informed decisions based on reliable emissions data. By accounting for emissions according to the GHG Protocol, organizations can demonstrate their commitment to addressing climate change, while also improving operational efficiency and reducing costs.



 CO_2

CH₄

NO_Y

Greenhouse Gas Protocol



Scope

Scope 1 GHG emissions are generated from equipment that is owned or controlled by Prodan. This includes the emissions from fuels that are combusted in stationary and mobile sources (vehicles, boilers, generators, etc.). Other GHG emissions like refrigerant and coolant gases are also included in Scope 1 emissions.



Scope

PFCs

CFCs

 SF_6

CH₄

NO_Y

 CO_2

Scope 2 GHG emissions are associated with the purchase of electricity, warm water, steam or cooling. They are generated during the production of the energy consumed by Prodan but occur at sources outside of the company's boundaries.



 CO_2

Scope

 CO_2

SF₆

PFCs

 CO_2

CFCs

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PRODAM

Scope 3 GHG emissions occur throughout Prodan's value chain. They are the result of activities that are not directly owned or controlled by the company but are influenced by its operations. Scope 3 emissions include 15 upstream & downstream subcategories, which are further explained in pages 13-18.

Prodan in a glance Carbon footprint

Approach

According to the GHG Protocol there are three approaches for developing organizational boundaries — the Equity Share, the Operational Control and the Financial Control Approach. Since Prodan has the complete authority to introduce and implement its operating policies, the Operational Control approach is used. This means that Prodan accounts for 100 percent of emissions from operations over which it has operational control of.

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Inventory boundaries determine which of the operations and emissions will be accounted for in Prodan's boundary. Consequently, Prodan's boundaries include all operations that arise from their administration building in Randers, Denmark.

Based on the performed procedures and the obtained primary data, the selected information for the 12 months period that ended on 31 December 2023, has been prepared in

accordance with ethical requirements and GHG regulations.

PRODAM

The fundamental principles of Relevance, Consistency, Transparency, Accuracy and Completement, the Danish Code for Research Integrity and our Business Ethics were applied. An extensive and comprehensive system of collected data for quality control and other procedures regarding compliance with professional standards and ethical requirements is in place. The presented report was composed by an independent team with experience in sustainability reporting. The emissions calculations were performed by Prodan using the Danish tool klimakompasset.

The primary data that Prodan is solely responsible for selecting and providing are as of 31st of December 2023, while the calculations were made as of 20th of March 2024.



Prodan in a glance

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Carbon footprint

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Carbon footprint

Prodan's emissions Scope 1 & 2 Greenhouse Gas Emissions

As part of Prodan's dedication to a greener future, measuring, reporting, and mitigating Scope 1 & Scope 2 GHG emissions is prioritized.

Prodan takes a proactive approach to sustainability, constantly striving to reduce its GHG emissions and to minimize the environmental impact. **Prodan is committed to achieving emissions reductions**, through the implementation of innovative technologies, operational improvements, and employment of renewable energy.

By providing transparent and comprehensive reporting on the Scope 1 and Scope 2 GHG emissions, Prodan aims to foster trust and accountability with stakeholders. In 2023, **Prodan's total Scope 1 GHG emissions amounted to 230.51 tonnes of CO2e**. These emissions arise from the use of the company's **vehicles**, **as well as from** the **stationary combustion** of fuels for heating and processing purposes.

Despite the challenges posed by the increased production and expansion of business, a significant reduction of 56% in Scope 1 & 2 emissions, compared to 2021, is observed. Scope 2 emissions (market-based) have been nullified due to the sourcing of 100% renewable electricity, while Scope 1 emissions show a slow, but steady decrease from year to year.

600 500 400 300 200 100 0 2021 2022 2023 Scope 1 Scope 2

Scope 1 & 2 GHG emissions

Value chain emissions

Scope 3 emissions

Scope 3 Categories in tons of CO2e		
Category	Upstream	Downstream
1. Purchased goods and services	7,059.13	
2. Capital goods	367.67	
3. Fuel- and energy-related activities	70.07	
4. Upstream transportation and distribution	13.05	
5. Waste in operations	0.10	
6. Business travel	1.62	
7. Employee commuting	130.09	
8. Upstream leased assets	14.00	
9. Downstream transportation and distribution		13.81
10. Processing of sold products		0
11. Use of sold products		0
12. End-of-life treatment of sold products		207.66
13. Downstream leased assets		0
14. Franchises		0
15. Investments		0
Total CO2e emissions divided into upstream and downstream (tonnes)	7,655.73	221.47
Total CO2e emissions(ton)		7,877.20
	13	PI



Carbon footprint

Value chain emissions

Scope 3 upstream emissions

Purchased goods and services

This Scope 3 subcategory includes all the upstream emissions from the production of primary and secondary materials and services purchased by Prodan. It includes all upstream (i.e., cradle-to-gate) emissions from the production of products purchased by Prodan in 2023.

For the calculation of the emissions a combination of methods was used, depending on the product, including spend-based method with emission factors from Exiobase v3.3, material-base method with emission factors from InfraLCA and the use of product-specific emission factors. This subcategory played a pivotal role as the biggest contributor to **Scope 3 emissions within Prodan's footprint with 7,059.13 tonnes of CO₂eq in 2023**. This corresponds to more than 89% of the company's Scope 3 emissions. The great impact of this subcategory can be explained by the fact that, as a manufacturing company, Prodan purchases thousands of tonnes of raw materials which normally entail extraction and energy-intensive procedures. There were fewer plastic purchases compared to 2022, and even though a more precise data collection methodology was used, the emissions decreased.

The indirect emissions that are related to Prodan's suppliers, from the purchased **primary materials** and goods that **flow into** the company to the services that Prodan utilizes are known as **upstream emissions**.

Purchased capital goods

This subcategory encompasses emissions arising from the production of capital assets procured by Prodan during 2023. The culmination of this analysis revealed that the emissions associated with the production of capital goods amounted to **367.67 tonnes of CO2e** in 2023.

Fuel & Energy-related activities

Prodan's Scope 3 emissions for fuel- and energy-related activities encompass a broad spectrum, **extending beyond on-site consumption**. These emissions do not account for the electricity, heating or fuel consumption, but encompass the upstream activities involved in the **extraction**, **processing**, **and transportation of fuels**.

Additionally, they encompass transmission and distribution losses in the electricity supply chain and district heating distribution losses. The total GHG emissions from fuel- and energy-related activities in 2023 were equal to 70.07 tonnes CO_2eq .

The emission factors used are sourced from Energinet and Energistyrelsen.



Value chain emissions

Scope 3 upstream emissions

Upstream transportation and distribution

For Prodan, the upstream transportation and distribution Scope 3 emissions, **amounted to 13 tonnes of CO₂e.** These emissions stem from various sources such as transportation of raw materials, intermediary goods, and final products, as well as distribution logistics. Addressing these emissions is crucial for Prodan to minimize its carbon footprint and contribute to sustainability efforts. Implementing efficient transportation strategies, optimizing distribution routes, and exploring low-carbon alternatives are essential steps for Prodan to mitigate its upstream transportation and distribution emissions.

Waste generated in operations

Within this subcategory, emissions are accounted for based on the responsible disposal and treatment of **waste resulting from Prodan's daily operations**. The emission factor used are sourced from Exiobase (waste-type specific method). The emissions from this subcategory were equal to 0.1 tonnes CO₂e in 2023.

Business Travel

This subcategory includes emissions stemming from employee transportation for work-related activities, utilizing third-party operated vehicles. In the emission calculation for flights, Radiative Forcing Index (RFI) is included, therefore taking into consideration that CO2e emitted higher up in the atmosphere have a greater greenhouse effect than those emitted at land. The total emissions related to business travel are **1.62 tonnes of** CO_2e .

Employee commuting

This subcategory includes the emissions generated from employee commutes between the workplace and home. The person-kilometer emission factor used for passenger cars is sourced from UK DEFRA 2023. A total of **130.09 tonnes** of **CO₂eq** were generated by employee commuting in the reporting year.

Leased Assets

This subcategory includes the **emissions** arising from the **leasing of assets from third parties and** it amounted to a total of **14 tonnes of CO**₂**e**.





Carbon footprint

Value chain emissions

Scope 3 downstream emissions

In Prodan's downstream emissions, the focus narrows primarily to **two key categories: transportation and end-of-life treatment** considerations. Within these categories, the company diligently addresses its environmental impact.

Downstream transportation and distribution

Transportation and distribution represents a minor aspect of Prodan's downstream

emissions (13.81 tonnes of CO_2e). As products leave Prodan's facilities and enter the market, through distribution channels or direct delivery to customers. Selling locally improves sustainability practices and the carbon emissions associated with product distribution do not represent a significant part of the value chain emissions (Scope 3).

End-of-life-treatment of sold products

End-of-life considerations encompass the

environmental impact of products once they reach the end of their useful lifespan. Proper disposal and recycling are paramount in mitigating downstream emissions in this category. Prodan takes a proactive approach to product design, incorporating recyclable materials and ensuring ease of disassembly for recycling purposes. By promoting a circular economy mindset and actively engaging in recycling initiatives, Prodan aims to minimize the environmental footprint associated with the disposal of its products. The total amount of GHG emissions is calculated at **207.66 tonnes of** CO_2e .

The zero values of other Scope 3 emissions in the downstream section can be attributed to Prodan's business model and product offerings. Unlike industries with extensive downstream impacts such as agriculture or consumer goods, Prodan's operations are more streamlined, focusing primarily on manufacturing

The indirect emissions that are related to the **utilization** of Prodan's products and services, as they are employed by **customers** and **end-users** in various applications, are recognized as **downstream emissions**

> and distribution. As a result, the downstream emissions are only confined to transportation and end-of-life considerations, with no additional scope for emissions in other downstream categories. For example, Prodan does not own any investments in third companies, thus there are not emissions in this specific subcategory.

> Furthermore, Prodan's commitment to sustainability and environmental stewardship extends beyond emissions reduction to encompass product lifecycle management. By carefully managing downstream emissions in transportation and end-of-life phases, Prodan demonstrates its dedication to minimizing environmental impact throughout the entirety of its operations. This focused approach allows Prodan to effectively manage and mitigate emissions within the downstream scope, contributing to its overall sustainability goals and reinforcing its position as a responsible corporate citizen.



Value chain emissions

Scope 3 evolution

Over the course of reporting years, Scope 3 emissions have exhibited fluctuations, showcasing both rises and falls when compared to the baseline year of 2021. Notably, while there has been an increase from the baseline, there was a subsequent decrease compared to 2022. It's essential to approach these numbers with a nuanced perspective, acknowledging the complexity that underlies them.

The evolution of methodologies used for assessing these emissions has played a crucial role in shaping the reported figures. As the understanding of environmental impact deepens, methodologies have evolved accordingly, striving for greater accuracy and comprehensiveness. However, this evolution hasn't been without its challenges. The consistency between reporting periods and use of methodologies will be strengthened as Prodan will continue to use Klimakompasset for its emissions calculations.

By addressing these methodological challenges and striving for greater harmonization, we can enhance the reliability and usefulness of our emissions data, paving the way for more informed decision-making in our sustainability efforts.





footprint

Total Scope 1,2,3 Greenhouse gas emissions

Prodan places utmost importance on measuring, reporting, and mitigating both Scope 1 and Scope 2 greenhouse gas (GHG) emissions. Adopting a proactive stance, Prodan continually seeks

Scope 1	Scope 2	Scope 3
(tn CO2eq)	(tn CO2eq)	(tn CO2eq)
231	0	8108

2.8% 0.0% 97.2% ■ Scope 2 ■ Scope 3 Scope 1

ways to reduce its carbon footprint through the adoption of innovative technologies and the utilization of renewable energy sources. In 2023, the company achieved a notable 56% reduction in Scope 1 and Scope 2 emissions compared to 2021, with Scope 2 emissions effectively nullified owing to the procurement of 100% renewable electricity. Despite these accomplishments, Scope 3 emissions, spanning upstream transportation

and distribution, waste generation, business travel, employee commuting, and leased assets, exhibit considerable variation across reporting years. Prodan remains steadfast in its commitment to transparency and accountability, actively working to harmonize methodologies and drive emissions reduction initiatives across all scopes, thus reaffirming its dedication to fostering a sustainable future.





Future Steps

Enhanced Data Collection and Reporting:

There are discussions about investing in robust data collection mechanisms to capture emissions data comprehensively across the entire value chain using kilograms instead of DKK spent for the purchased goods. This will enable more accurate tracking of emissions trends and facilitate informed decision-making.

It is also suggested to demand emissions data from the transportation of the goods by third parties for monitoring transportation emissions more accurately.

Supply Chain Optimization:

Further optimization of supply chain operations to minimize emissions intensity. This can be achieved through measures such as sourcing materials from sustainable suppliers that offer their own emissions data for their products, and by optimizing transportation routes by sourcing local products.

Stakeholder Engagement and Transparency:

Fostering greater transparency and dialogue with stakeholders regarding emissions reduction efforts. Engaging with customers, investors, and suppliers to gather support and drive collective action towards a more sustainable future.



