



WindowMaster Sustainability Report 2022

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About this report

WindowMasters' Sustainability Report concerns the financial year 2022.

The Sustainability Report covers statutory reporting on corporate social responsibility as defined by section §99a of the Danish Financial Statement Act.

WindowMaster is listed on Nasdaq First North Growth Market in Copenhagen and is NASDAQ ESG transparency Partner, which means that our complete non-financial information is also available on NASDAQ's ESG Data Portal.

As a signatory to UN Global Compact, we support its principles as well as United Nations' Sustainable Development Goals (SDGs). This report constitutes our Communication on Progress (COP) report for 2022.

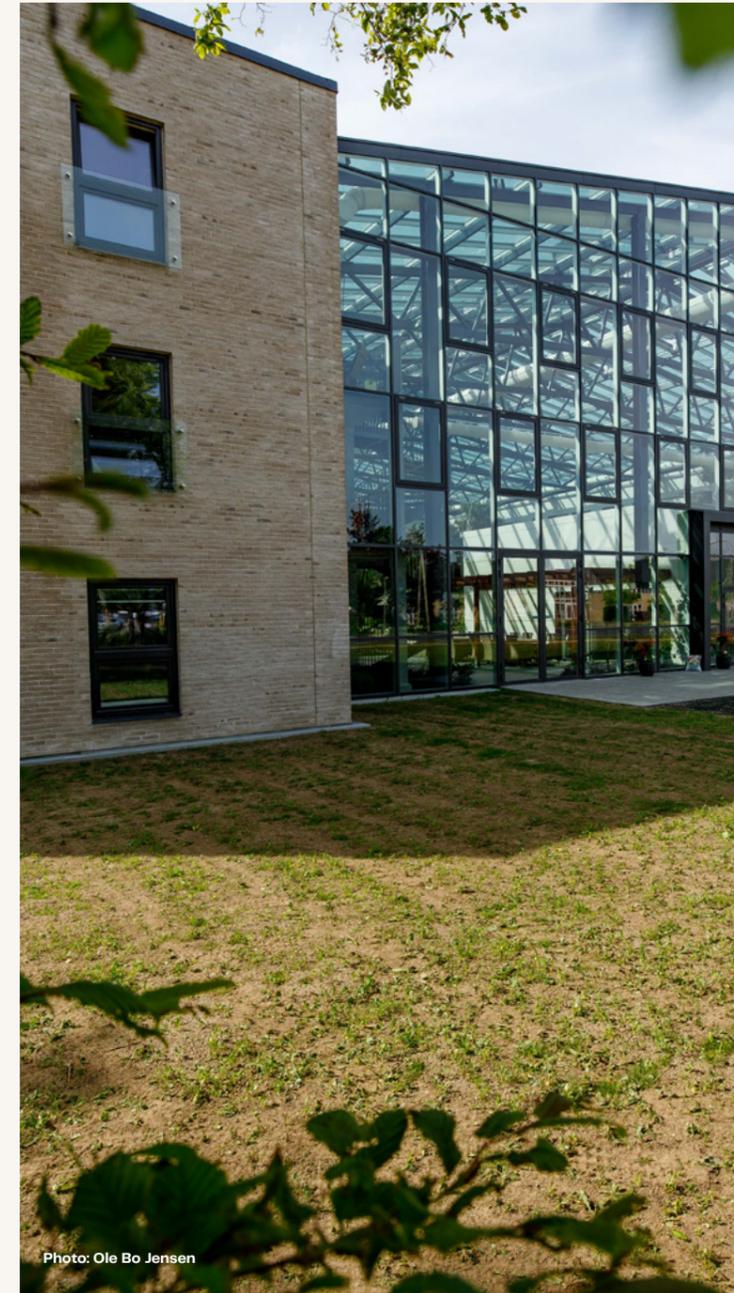


Photo: Ole Bo Jensen

Letter from the CEO



At WindowMaster, sustainability is embedded in our core business and at the heart of what we do. As a cleantech company, we contribute to making buildings more sustainable via a market-leading position in intelligent controlled natural ventilation, which not only saves energy and prevents sickness caused by unhealthy indoor climates, it also improves the everyday lives and productivity of many people.

Buildings account for roughly 40% of global energy consumption, of which more than two-thirds typically originate from heating, cooling, ventilation, and lighting. A transition to net-zero emission buildings is both urgent and

imperative, and building renovation is one of the most important and efficient solutions to address climate change in this industry. Although we are a small company on a global scale, our actions matter! We want to be a frontrunner within sustainability. It is our strong belief that as a cleantech company we have a duty to accelerate the pace of climate adaption and mitigation, and to move the construction industry closer and faster to a green transition.

We are proud to be first mover among Danish small and medium

" Although we are a small company on a global scale, our actions matter! We want to be a frontrunner within sustainability."

sized enterprises (SMEs) with respect to setting Science Based Targets (SBTi) for scope 1 and scope 2 CO₂ emissions. All co-signers of the SBTi initiative are committed to live up to the Paris Agreement and keep the rise in mean global temperature well below 2°C above pre-industrial levels, and work towards limiting the increase to 1.5°C.

We have come far already in terms of sustainable products and solutions, but we still have ample opportunities to do more. In 2022, we have conducted a more thorough double materiality assessment to provide a stronger foundation for setting priorities and ensuring that we measure and manage all relevant Environment, Social, and Governance (ESG) KPIs and risks.

We are especially focused on increasing

our understanding of the impact we have throughout our value chain, and over the life span of our products. It involves deep-diving into how we procure and how our products are produced and handled in our supply chain, as well as the impact that our products have during and after their use phase. In 2022 we updated our Code of Conduct and in 2023, we will implement supplier due diligence and audit processes as part of a new supply chain strategy.

We continuously work on optimising our products in terms of energy efficiency, material-use, production, and exploring recycling possibilities. In 2023, we will publish our first product specific Environmental Products (EPDs) for ventilation products.

We have made a circular promise to be 100% circular in our product chain by 2030. As a first step, starting from January 2023, we have set up a Take-back pilot

project in cooperation with a partner. The aim is to take back and reuse or recycle all products sold in Europe carrying a WindowMaster logo, and we will systematically track and document reuse and recycling.

Another important focus area for us is People & Culture. We will put even greater emphasis on talent attraction and retention in the future. It is important to have the right culture and mindset as well as proper working conditions, tools and frameworks for onboarding and training of employees. To accelerate our efforts, we have created a new People & Culture function. During 2023, we will further develop our ESG strategy and set targets related to people and social aspects.

Thus, we remain fully committed to UN Global Compact's principles and support UN's Sustainable Development Goals (SDGs), and to become a truly sustainable

company in everything we do. For us, sustainability is about taking responsibility for the world we live in and about being a front runner among SMEs in our sustainability commitment.

This year, we have ensured that our Sustainability Report is aligned with section 99a of the Danish Financial Statement Act, although this is not a statutory requirement for a company of our size. Furthermore, it is our ambition to stay ahead of upcoming EU regulatory requirements and to be fully transparent about our sustainability ambitions and business practices.

Erik Boyter
Chief Executive Officer



Highlights – Key figures 2022

Financial



254m DKK
Record high order intake



241m DKK
Revenue

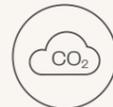


16.7m DKK
EBITDA



5.1m DKK
CFFO

Sustainability



397.8
CO₂ Emissions



29.8
Renewable energy share



131.3
FTEs

WindowMaster in brief

WindowMaster is an international and market-leading cleantech company delivering more sustainable indoor climate solutions based on nature's forces. Today, the company is the world's leading niche producer of natural ventilation. These solutions automate and control roof and facade openings with intelligence for a safe and healthy indoor climate.

We address safety in buildings through our patented heat and smoke ventilation solutions. When tested and approved, these solutions can assist in the secure egress of building occupants by naturally venting the heat and smoke in case of fire.

Today, the company employs cleantech specialists throughout Denmark, Norway, Germany, United Kingdom, Ireland, Switzerland, and the United States of America, as well as a wide network of certified partners around the world. Based on extensive expertise built up since 1990, WindowMaster helps the

construction industry meet its obligations and achieve its architectural and technical ambitions.

The global group functions are located at company headquarters north of Copenhagen in Vedbæk, Denmark. The global supply chain function is based in Herford, Germany which services all our sales subsidiaries and partners around the world. Our production and logistics facility has been ISO 9001 certified since the year 2000. The principles of this quality management standard support our efforts regarding strong customer focus and continuous improvement.



131.3 FTEs
72.9% men and 27.1% women

WindowMaster sales and operation subsidiaries



Visit our website → www.windowmaster.com

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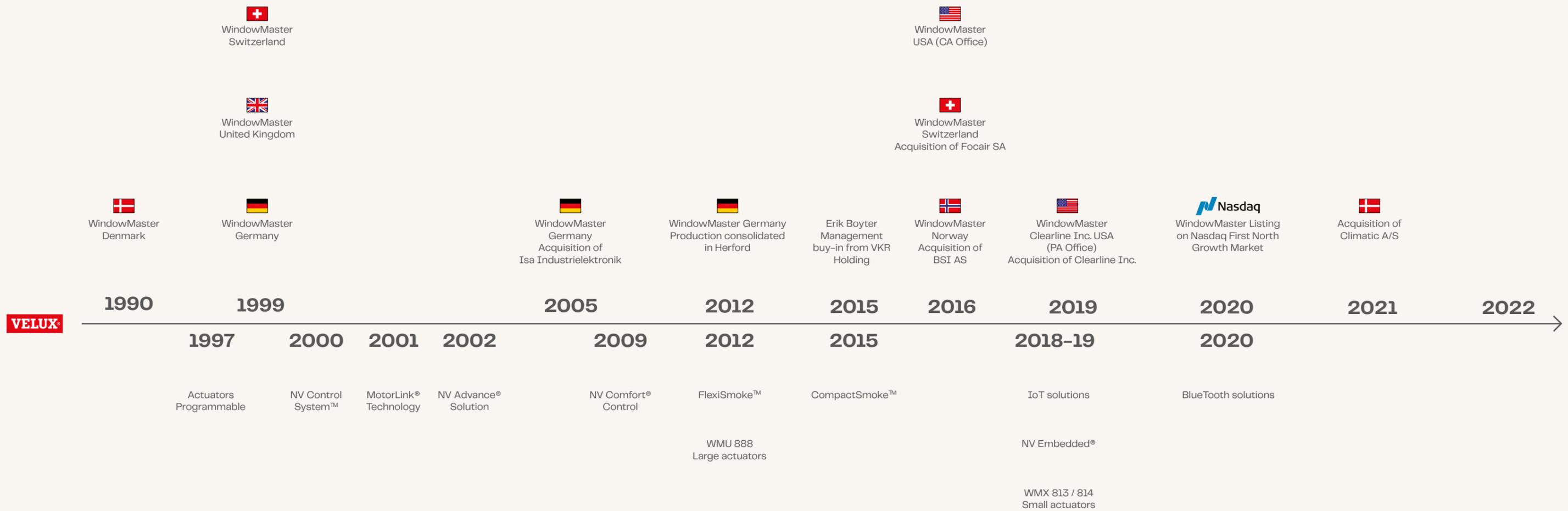


Our history

WindowMaster was originally founded in 1990 as part of the VELUX Group but changed ownership in a management buy-in in 2015 with the mission to provide ventilation solutions to the construction industry and optimize indoor climate. WindowMaster was transferred

to a private investor and is now an owner-led company and was successfully listed on Nasdaq First North Growth Market on October 27th, 2020.

30+ years of growth history



Our vision & mission

Our vision statement captures WindowMaster's aspiration: To provide people with the best & safest indoor climate in the world in the most intelligent & sustainable way possible driven by our mission: To create well-designed natural & smoke ventilation products and solutions that improve the indoor climate for the benefit of people, productivity, and the environment.

With climate change at the top of the agenda all over the world sustainability has gone from being an add-on to being the value generator and is now a performance indicator for companies in line with financial performance, risk management, etc.

We have developed a strong and scalable platform to meet the needs of the industry now and in the future. We focus on commercial clients with the key segments being office buildings, healthcare, culture, educational institutions, sports facilities, and shopping centres. Our vision is the underlying set of principles and guidelines upon which WindowMaster was founded and sets the fundamental baseline for all of our actions to ensure that we keep expanding our mission of "Fresh air. Fresh people."



Our vision

To provide people with the best & safest indoor climate in the world in the most intelligent & sustainable way possible.



Our mission

To create well-designed natural & smoke ventilation products and solutions that improve the indoor climate for the benefit of people, productivity, and the environment.



Our Solutions

WindowMaster offers solutions that ensure optimal regulation of the indoor climate in buildings based on continuous monitoring of CO₂ levels, humidity and temperature that can help increase efficiency and comfort of building users.



Natural ventilation

Natural ventilation solutions are activated based on the indoor temperature level, humidity level, and CO₂ level in a given room. In short, the system regulates a building's indoor climate by exploiting the natural forces created by temperature differences between the interior and the exterior environment, thermal displacement within the building, and winds around the building.



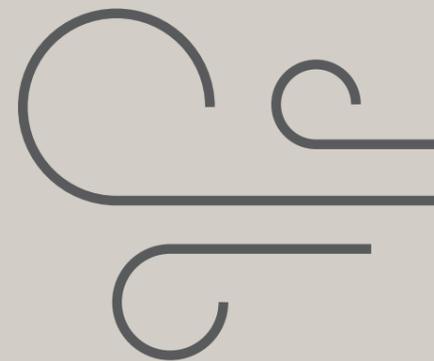
Mixed mode ventilation

Mixed mode ventilation is a combination of natural and mechanical ventilation. In this setup, balanced use of natural and mechanical ventilation occurs so that mechanical ventilation takes over when required by external conditions or when needed in specific areas of the building. In this context, WindowMaster supplies a natural ventilation solution that can be integrated with any mechanical ventilation product or building management system.



Heat and smoke ventilation

Heat and smoke ventilation removes smoke and heat from a burning building, keeps escape routes and fire service access areas free of smoke, and prevent fire flashovers.



Our corporate strategy: Accelerate Core

In 2022, WindowMaster adopted a new strategy “Accelerate Core” and committed to more ambitious financial targets. WindowMaster has a solid foundation for accelerating its core business. The company has established a scalable production platform in Herford (Germany), a streamlined and focused product offering, structured internal processes, and a strengthened market position in Northern Europe including a successful expansion in North America. Sustainability is an integral part of our identity and key business actions and thus it is naturally an embedded part of our new strategy.

Our new business strategy will lift growth and profitability by accelerating our core business and by focusing on three strategic offerings based on our natural, mixed mode, and heat and smoke ventilation solutions:

Integrated offerings of full indoor climate solutions

Integrated full indoor climate solutions typically include sale of products such as sensors, actuators and controllers, sales of hours (project management, installation and commissioning), programming, and various documentation. This offering is especially targeting building owners, contractors, facade builders and fenestration manufacturers. The products are combined in energy efficient ventilation solutions that improve the indoor climate.

Service contracts

Service contracts provide a stable and recurring revenue as well as increased customer satisfaction. Service contracts will typically include annual inspection as well as service and maintenance of moveable components and repair of minor errors and damages.

Refurbishments

Based on the 32-year history of WindowMaster, many of the previously installed solutions are now ready to be refurbished and technological updated, which will lead to improved energy efficiency and sustainability performance.

Financial Targets 2025

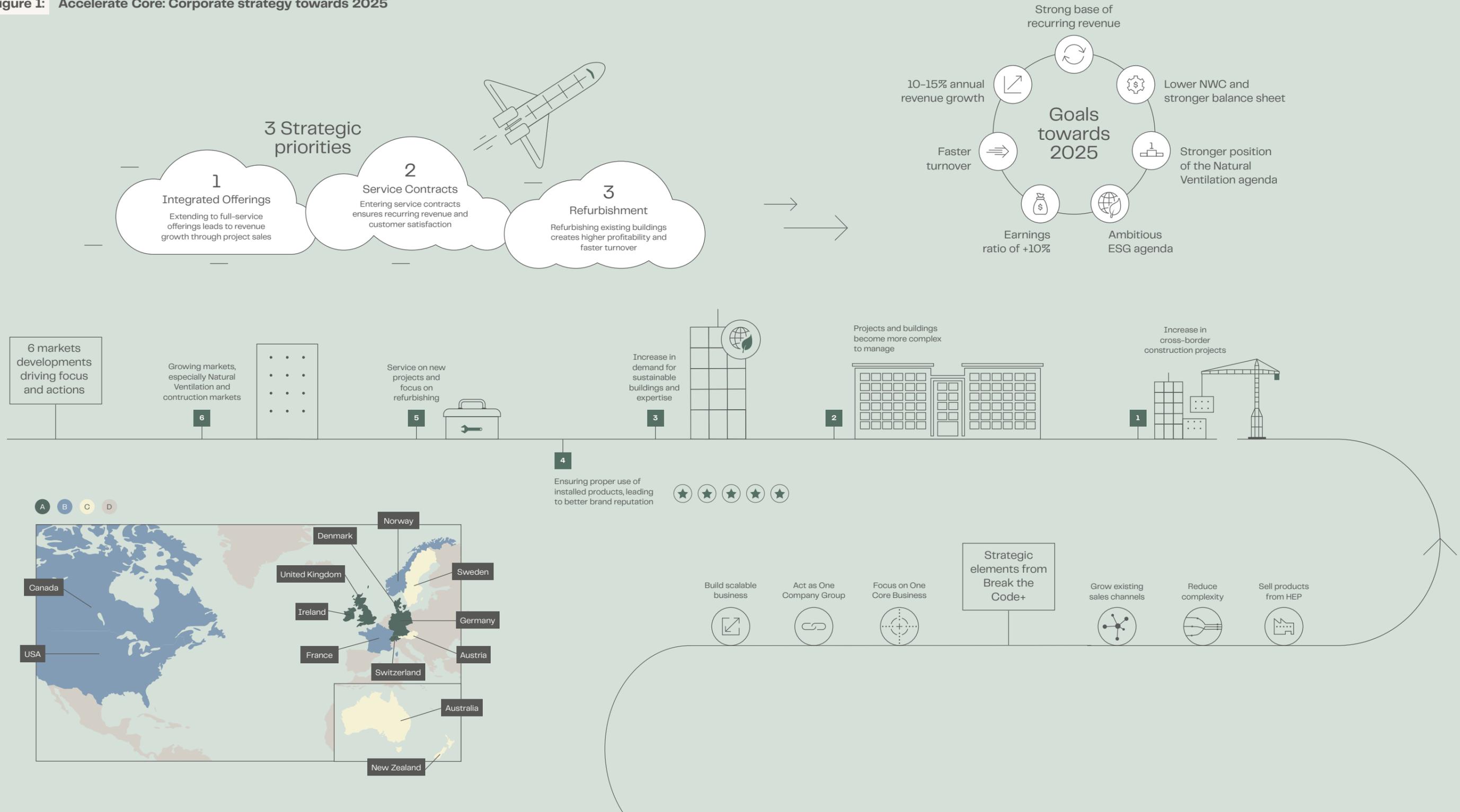
Revenue is expected to grow organically by 10–15% p.a. from 2021 to 2025 and the EBT margin is expected to continually improve reaching a minimum of 10% in 2025.

Revenue growth will be driven by positive underlying market trends and the need for more energy-efficient buildings. Integrated offerings will lead to increased scope and order sizes. Service contracts, geographical expansion and leveraging the installed base for refurbishments will drive increased top-line.

Increased profitability will to a large extent be driven by increased operating leverage as the top-line growth only requires minor increases in the fixed cost base.



Figure 1: Accelerate Core: Corporate strategy towards 2025

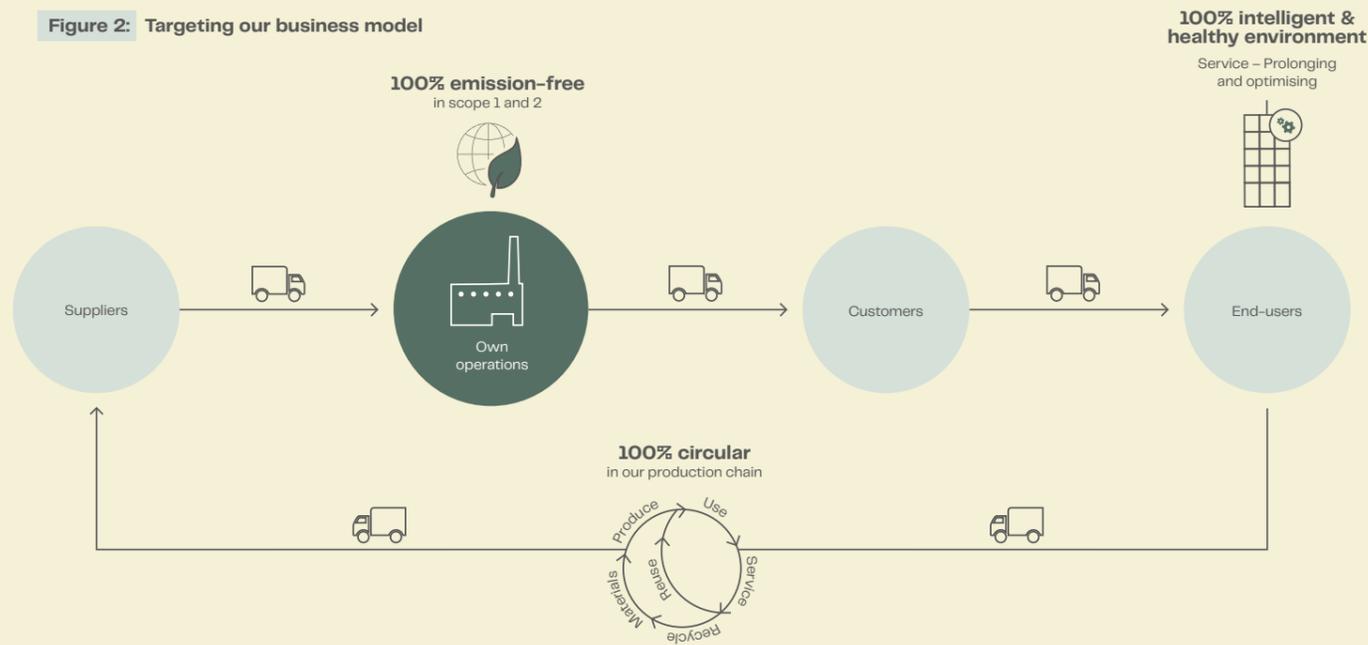


Business model

Provider of integrated intelligent natural indoor climate solutions

Targeting 100% circularity, 100% intelligent and healthy environment and 100% emission free in 2030

Figure 2: Targeting our business model



Main suppliers based in:

Denmark, Germany, UK, Taiwan, China, Thailand and Malaysia

Main components sourced:

- Manufactured steel, aluminium and zinc
- Printed circuit board assembly (PCBA)
- Electrical motors
- Plastic cases

Main services sourced:

- Transportation

Own operations & Resources

- Product Development
- CleanTech specialists
- Assembly facilities & Warehouse (Germany)
- Supply Chain / Technical / Commercial competencies
- Logistics
- Service & Refurbishments
- Staff functions

Main offerings:

- Integrated full indoor climate solutions
- Refurbishments
- Service contracts

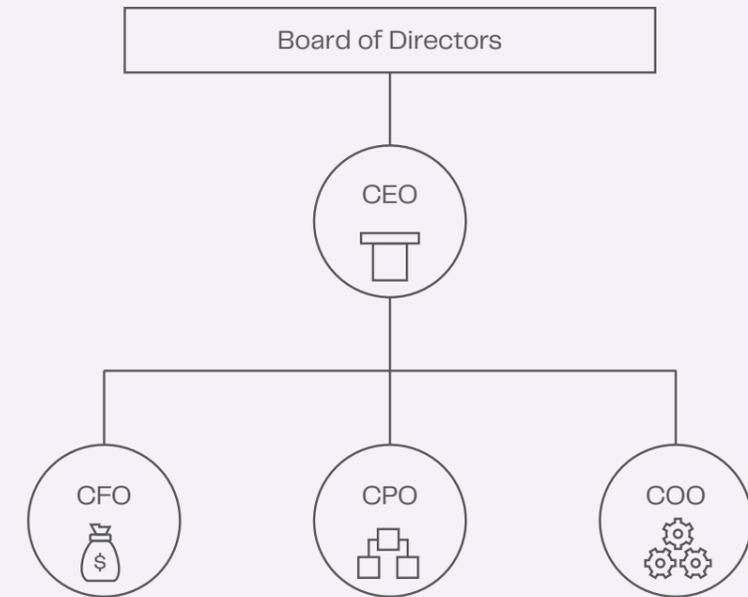
Main customers:

- Building owners
- Contractors
- Facade builders
- Fenestration Manufacturers

Main markets:

- Northern Europe
- US
- Germany

Figure 3: Company management structure



Governance structure

At WindowMaster, the Board of Directors has oversight over sustainability matters as part of its annual strategy review and quarterly business reviews. Two of our Board members, Leif Jensen and Mette Søs Lassen, have particular insights into sustainability related topics.

The CEO holds the main responsibility for driving the Sustainability Agenda, supported by the Chief Operating Officer, the Chief Product Officer, as well as key staff. In addition, the CFO is responsible for handling HR-related issues as well as ESG data and reporting.

It is the Executive Management Team's responsibility to implement the sustainability strategy and to report both externally and to the Board of Directors on the ongoing progress and performance.

Materiality assessment

In late 2022, we updated our materiality assessment from 2020 by initiating a thorough double materiality assessment of our value chain based on the framework provided by the Corporate Sustainability Reporting Directive (CSRD). This assessment resulted in additional identified material topics for WindowMaster to be managed. Based on the results, we will reassess our strategy to ensure that all identified material topics will be addressed in our daily work with sustainability going forward.

In the matrix on the right, we have bundled the identified material topics into larger focus areas and visualized the importance to WindowMaster of these focus areas from both an impact and financial perspective.



2030–Sustainability strategy

Although WindowMaster is an SME, we aim to be a frontrunner on the sustainability agenda. For us, this includes strengthening the transparency and credibility of our work and data, as well as the establishment of a thorough sustainability strategy with clear targets.

In 2020, we developed our 2030 Sustainability Strategy, including milestone targets for 2025. Our purpose is to further integrate sustainability into all aspects of the business.

Based on the double materiality assessment initiated in 2022, we have reassessed this strategy to ensure the reflection of our most material topics such as our climate impact, our contribution to a circular economy and healthy indoor climate in buildings, being a good employer, as well as ensuring transparency and responsibility in our value chain.

Science Based Targets

In 2022 we had our SBTi approved and have thus committed ourselves to 46 percent reduction in our scope 1 and 2. Our ambition is also to reduce our scope 3 towards 2030.

SBTi is an international collaboration that provides companies of all sizes and sectors with a clearly defined path to reduce greenhouse gas emissions in line with the Paris Agreement goals. Targets adopted by companies to reduce carbon emissions are considered 'science based' if they are in line with the level of decarbonization required to keep global temperature increase below 2 degrees C and pursuing efforts to limit warming to 1.5°C.



The Sustainable Development Goals (SDGs)

Since the SDGs were adopted by the United Nations in 2015, many companies and other stakeholders have engaged with the new agenda in one way or the other. The same goes for us. We see these SDGs as a core part of our business and is genuinely incorporated as a differentiating factor to gain your competitiveness.

As a player in the construction industry providing clean tech solutions containing emission heavy materials and with a supply chain in high-risk areas, we understand that we have a large impact and responsibility to successfully manage the related risks. However, we also believe that this provides us with an

opportunity to positively impact the surrounding environment through our products and a responsible way of doing business. WindowMaster is committed to support the Paris Agreement and the Sustainable Development goals.



Good health and well-being

Goal description

Ensure healthy lives and promote well-being for all ages

Our contributions

We want to contribute to a healthy and safe indoor climate for all. Our thoroughly designed cleantech solutions can be installed in various building types contributing to a healthy indoor climate for building occupants through fresh air and smoke & heat ventilation in case of fire.

Relevant targets

3.4



Affordable and clean energy

Goal description

Ensure access to affordable, reliable, sustainable, and modern energy for all

Our contributions

At WindowMaster, we are committed to invest in clean energy within our own operations and promote and encourage our suppliers to prioritize clean energy when possible. As part of our 2030-sustainability strategy, we plan to set clear expectations for using renewable energy throughout our value chain.

Relevant targets

7.3a



Decent work and economic growth

Goal description

Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

Our contributions

At WindowMaster, our biggest asset is our employees. In order to ensure an economically sustainable business, we need to be able to retain and attract the best talent within our industry. We believe that the best way to do this is by ensuring happy and satisfied employees. Therefore, we want to make sure that our company culture makes all employees feel safe, trusted, challenged, equal and included.

Relevant targets

8.5
8.7
8.8



Responsible consumption and production

Goal description

Ensure sustainable consumption and production patterns

Our contributions

We strive to create a circular business model by “Making a circular promise”. This is done by participating in collaborative projects focused on circular initiatives. One of these projects is a take-back system of our products. We also continuously work on enhancing our production processes in our value chain by tracking our environmental footprint and replacing unwanted substances in our solutions.

Relevant targets

12.4
12.5
12.6
12.7



Climate Action

Goal description

Take urgent action to combat climate change and its impacts

Our contributions

In 2021, we committed to a Science-Based Target Initiative of a 46 percent reduction of our scope 1 and 2 from a 2019-baseline. As part of this commitment, we aim to consistently extend our climate actions.

We actively help support our client's sustainability efforts, through our natural and hybrid ventilation solutions that enhance the indoor climate and reduce CO₂ emissions significantly.

Relevant targets

13.2



Partnerships

Goal description

Strengthen the means of implementation and revitalize the global partnership for sustainable development

Our contributions

We believe that collaboration between public, private, or non-governmental stakeholders is essential to move our planet towards a just and environmentally robust future. Hence, if we want to make an impact and be a sustainable frontrunner, we must actively participate in green innovation partnerships. At WindowMaster, we continuously collaborate with various partners on research projects to drive sustainable solutions. It is through these partnerships that we aim to find a solution for a 100% circular business model.

Relevant targets

17.16



2030 strategy overview

Environmental



Corporate level
100% emission free

Cutting emissions

- Committed to 1.5°C SBTi-target with a 2019-baseline year
- 100% emission-free in scope 1 and 2 by 2030 with milestone targets:
 - 100% non-fossil fleet in 2025
 - 100% renewable electricity in all offices in 2025
- Scope 3 milestone target:
25% reduction in Scope 3 emission from transport in 2025

Decoupling growth

Analyze and develop a roadmap in 2022 on how to decouple growth from emissions; relative target



Building level
100% intelligent & healthy environment

Enable the true potential

By 2025 we have enabled the possibilities to automatically analyze and visualize the building- and system performance.

Increase health and enable savings

Investigate the possibilities to establish partnerships with e.g., BMS-, solar shading- and heating companies for incorporation of our technologies.



Product level
100% circular

Circularity promise

Activity towards 2025:
Investigate and formulate the circularity promise.

Products as a service

Activity towards 2025:
Investigate business opportunities by exploring Product-as-a-Service (PaaS)



Social



Best employer

A safe and healthy working environment

- Zero accidents

Governance



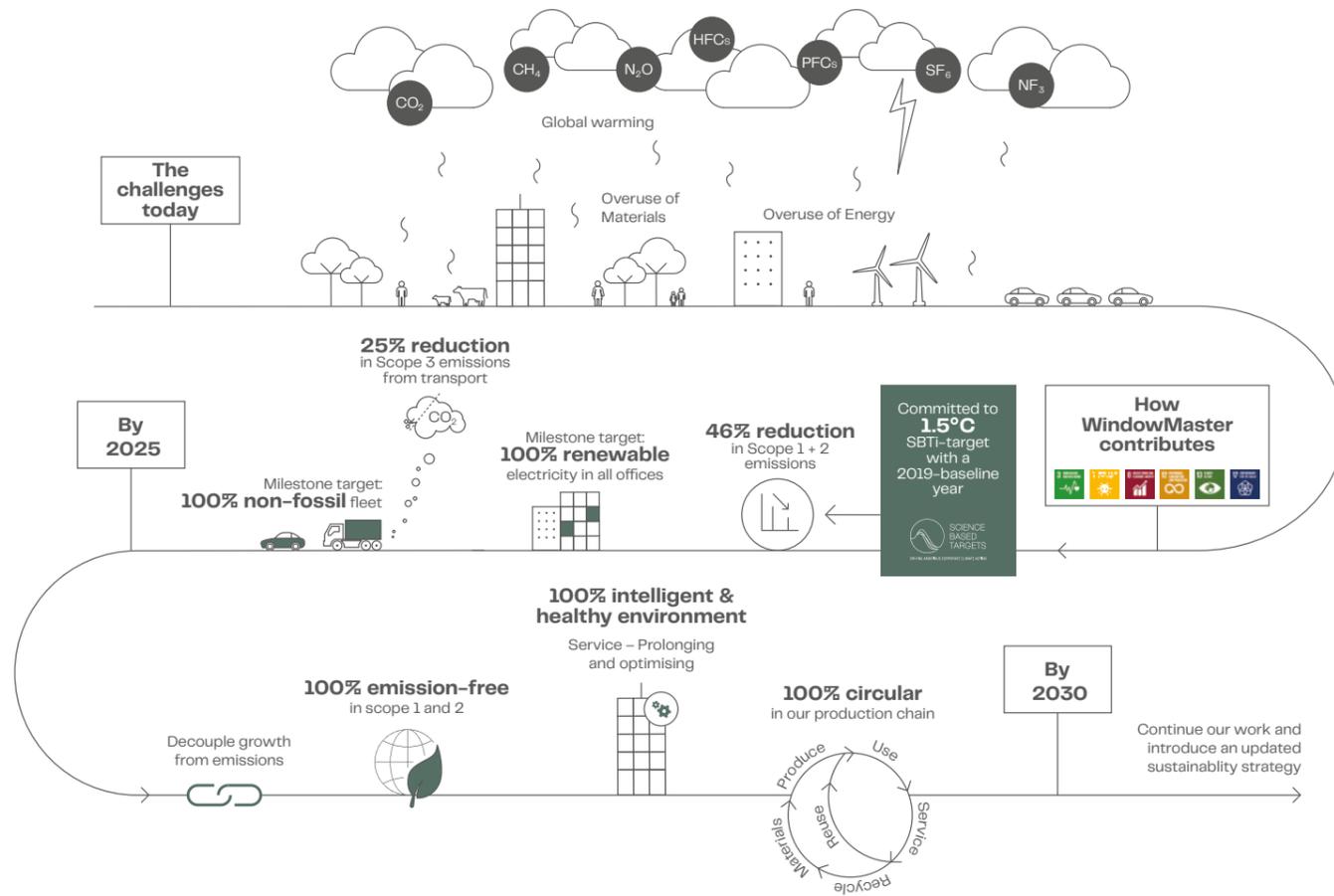
Responsible global citizen

Supplier due diligence

- Code of Conduct signature of 100% of suppliers in 2025
- Milestone target of 60% of volume in 2023
- Implement further desktop and site assessment



Figure 5: Sustainability strategy towards 2030



“Every company, no matter their size, has an impact on the environment and so should strive to be a good global citizen. For WindowMaster, it’s an aim that impacts every aspect of business, from our employee interactions and ways of working to our products and the benefits they bring to the market.”

Erik Boyter,
CEO, WindowMaster International A/S



Sustainable building practices & regulatory requirements

As a product provider to the building and construction industry, ensuring compliance with regulatory frameworks governing our products and the industry, is a must. To stay a front runner, it is furthermore important that we excel in our product development by providing more sustainable solutions that can help reduce the negative impacts of the industry and live up to the various building standards that to a larger degree are being requested in new constructions.

At WindowMaster, we welcome all initiatives that support the green transition of society. We are actively

working to promote industry initiatives in the form of common guidelines for social, environmental, and economic practices on an international level. The goal of streamlining processes for designing buildings with natural ventilation is to make it easier for building owners, contractors, architects, engineers and other stakeholders to understand and choose natural- or hybrid ventilation as a green ventilation solution.

EU regulatory requirements

In line with global sustainability trends, the political landscape has influenced the construction industry by imposing a variety of sustainability regulation and directives on buildings. In 2021, The European Commission adopted the European Green Deal, by which the EU has committed to cutting greenhouse gas emissions by 55% in 2030 compared to 1990 – a key milestone in reaching climate neutrality in 2050. To meet the EU’s climate and energy targets for 2030 and reach the objectives of the European Green Deal, investments must be channelled towards sustainable projects and activities. A key part of EU’s Green Deal is the EU Taxonomy, which is a tool to help investors understand whether an economic activity is environmentally sustainable and to navigate the transition to a low-carbon economy. This is likely to gradually shift the focus of industry stakeholders towards greener solutions like natural and hybrid ventilation to make buildings in the EU more

energy efficient. Though WindowMaster is not yet obliged to report in accordance with the EU Taxonomy, we can support our customers and end users in their pursuit to become aligned with the EU Taxonomy by providing products that are defined as sustainable by the technical screening criteria. It is however our intention to report on the Taxonomy in the future. In 2022, the European Commission further adopted the REPowerEU plan, accelerating the move towards a green future that is less reliant on fossil fuels, are driving increased investments in energy efficiency. EU Member States are encouraged to fast-track and implement additional energy efficiency measures. Furthermore, it is being considered to strengthen the regulatory framework at EU level, including introduction of additional minimum energy performance standards for buildings in order to boost renovations and upgrade the worst-performing buildings. Again, this is something where we at WindowMaster see our products as a key player to meet these targets.

ESG performance

Corporate level 100% emission-free

Our ambition is to reduce our negative impact. Although we are a small company from a global point of view, we aim to be at the forefront and inspire others to take a sustainable path, meaning that we also have to address the risk of our company negatively affecting the climate through our CO₂e emissions. However, sustainability can be tough to define and measure. To accommodate this WindowMaster joined SBTi and thereby setting clear binding targets for our sustainability strategy going forward.

In 2021, we committed to a Science-Based Target Initiative of a 46 percent reduction of our scope 1 and 2 from a 2019-baseline by 2030. Our ambitions is to reach 46 percent reduction already by 2025. Furthermore, we have started setting targets for scope 3 by reducing transport with 25% by 2025.

To ensure we reach this goal, the target is incorporated throughout our entire 2030-sustainability strategy. It is the next logical step on our sustainability journey if we want to transform our ambition into action through initiatives in our scope 1 and 2. We are convinced that we can take this commitment even further. Thus, on a corporate level WindowMaster has set a target of being 100% emission-free in scope 1 and 2 by 2030. We also set a goal of reducing our emissions from transport in

100% emission-free in scope 1 and 2 by 2030

Figure 6: SBTi Greenhouse gas emissions reduction target in Scope 1 + Scope 2 (market-based)

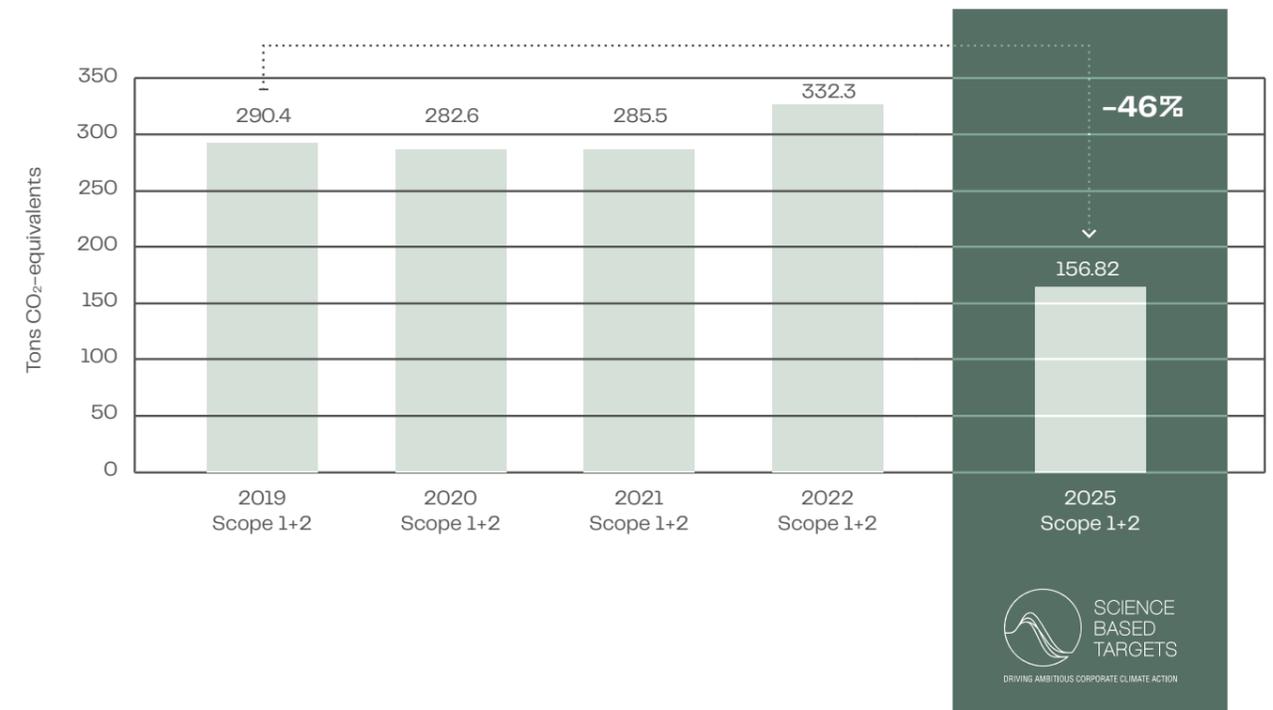


Table 1: Actions and the next steps

Actions we planned for in 2022	Actions we did in 2022	What's next?
Reducing scope 1 emissions	Installed electrical vehicle (EV) chargers in the HQ.	Continuously transfer the company car fleet to EVs.
Reducing scope 2 emissions	Ongoing investigations.	Installing solar cells/buying more renewable energy.
Measuring scope 3 emissions	Ongoing data collection and development of methodology.	Continuously collect the data for adding more scope 3 categories to the reporting.
Reducing our scope 3 emissions	Ongoing data collection and development of methodology.	Evaluate and prepare more projects to reduce transportation emissions for purchased components.
Analyze and develop a roadmap on how to decouple growth from emissions; relative target	Ongoing analysis.	

scope 3 by 25% in 2025. However, we will continuously examine new initiatives to reduce emissions in scope 3.

Cutting emissions

While we are aware that the majority of our emissions stem from scope 3 emissions in our value chain, we are embarking on this journey by focusing on the activities under our direct control.

To reach our goal of reducing our scope 1 and 2 emissions by 46 percent we have in 2022 set up a number of charging stations for EVs at the head office in Vedbæk to not only encourage our employees to consider the option for electrical vehicles, but also over time

Figure 7: CO₂e in tons, 2022



Figure 8: Scope 3 breakdown in 2022



transfer our entire fleet of company cars from gasoline and diesel driven to EVs. We have identified that our largest impact in terms of scope 1 and 2 is related to the buildings we are renting, both for our factory in Germany and our head office in Vedbæk. Therefore, we are evaluating different options for either renting or acquiring new buildings at the end of the lease term that will allow us to use renewable energy to a larger extent. As a result, the major development in our scope 1 and 2 emissions reduction will occur as a result of this move at the end of the lease term.

In addition to our SBTi targets we also commit us to reduce scope 3 emissions. We are aware that this is our main source of, we are committed to continuously strengthen our measurement and reporting on scope 3 emissions. Over the coming years we will continue to add relevant scope 3 categories to our reporting. To meet our targets of reducing 25 percent of emissions related to the transportation in our scope 3, we will invest in EVs and possibly transfer part of the supplier production volume to European suppliers.

**Decoupling growth means
“Doing more with less”**

We need to improve the rate of resource productivity faster than the economic growth rate. WindowMaster



**25% reduction
of emissions** from
transport in 2025

recognizes that sustainable growth is central to mitigating risk, being aligned with climate science, and driving top and bottom-line performance. We have a clear ambition to grow the business organically and through strategic acquisitions, but we want to achieve this while minimizing the negative impact on the planet by decoupling the amount of emissions that come with growing or buying turnover. In 2022, we were to develop a roadmap and measures to ensure this is part of the decision-making process. However, since we have not acquired any new companies this year, we have chosen to use our resources on other activities.

Figure 9: Greenhouse gas emission 2019–2022

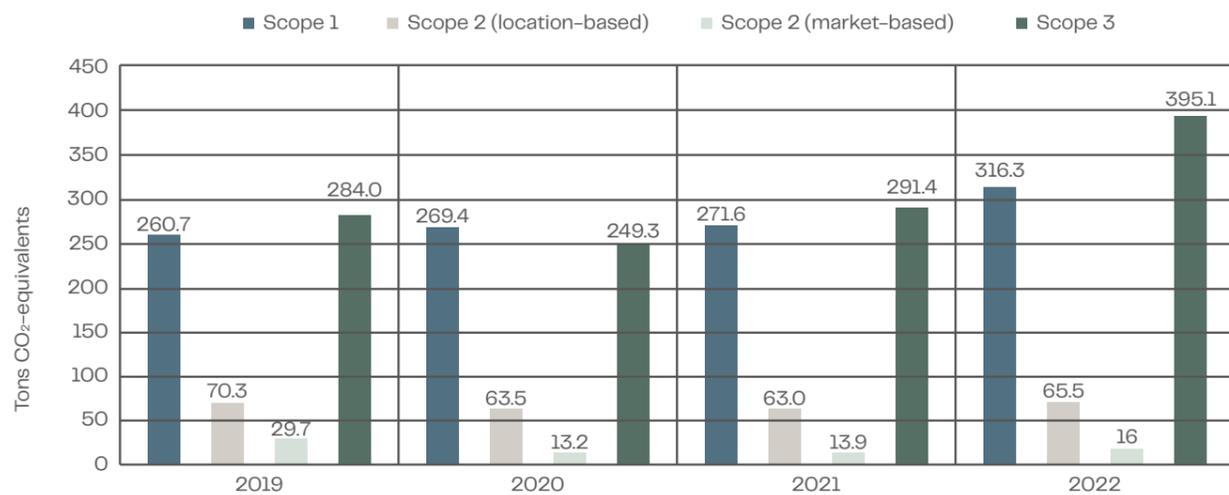


Table 2: Explanation of scopes according to the Greenhouse Gas Protocol, 2016

Scope 1

Scope 1 are direct GHG emissions that occur from sources that are owned or controlled by the company.

Ex. emissions from combustion in owned or controlled vehicles, and heating (natural gas)

Scope 2

Scope 2 accounts for GHG emissions from the generation of purchased electricity consumed by the company ex. light, energy for production etc.

Purchased electricity is defined as electricity that is purchased or otherwise brought into the organizational boundary of the company.

Scope 2 emissions physically occur at the facility where electricity is generated.

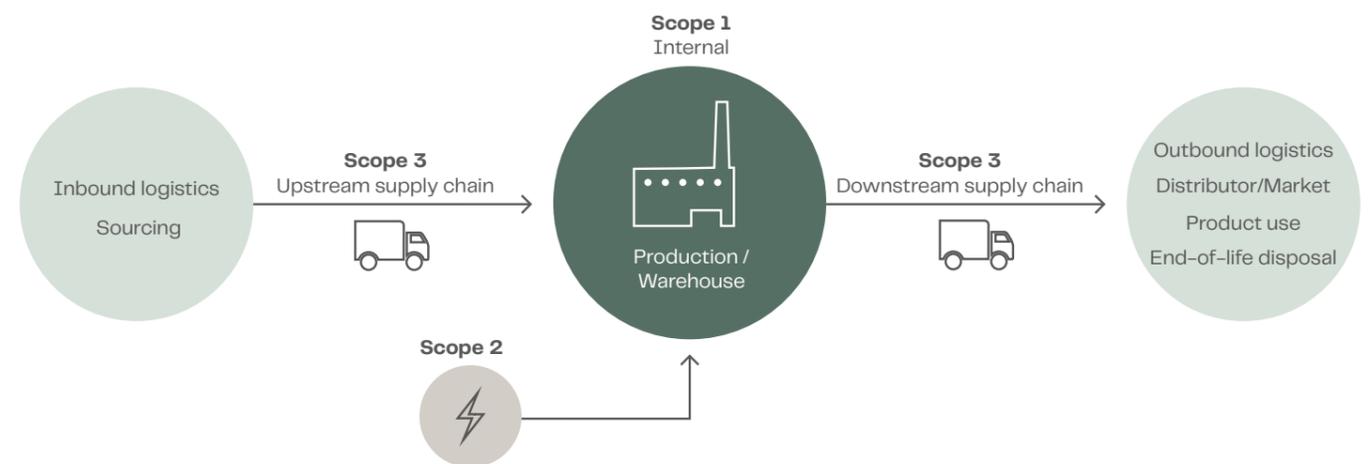
Scope 3

Scope 3 is an optional reporting category that allows for the treatment of all other indirect emissions.

Scope 3 emissions are a consequence of the activities of the company but occur from sources not owned or controlled by the company.

Ex. are extraction and production of purchased materials; transportation of purchased fuels; and use of sold products and services & business travel.

Figure 10: Categorization of scopes in our value chain





Building level 100% intelligent & healthy environment

Enable the true potential

At WindowMaster, we are able to influence the building sector by helping them choose healthier and more environmentally friendly ventilation solutions. We do this by promoting more sustainable choices in society through our products. However, the benefits of natural ventilation can be intangible, therefore, we want to make the invisible visible through different initiatives and projects. In 2022, we started to collect data on energy savings and the indoor climate to publish case-specific data. We also conducted our first Life Cycle Assessment case study comparing natural ventilation with mechanical ventilation systems. We aim to have the results of this study in early 2023. The datasets

will help showcase and emphasize the advantages of natural ventilation to our customers and encourage the use of our product in future buildings.

To further reinforce our impact in the building sector, we want to investigate the possibilities to establish partnerships with e.g., BMS-, solar shading-, and heating companies for incorporating our technologies.

Table 3: Actions and the next stepsns and the next steps

Actions we planned for in 2022	Actions we did in 2022	What's next?
Publishing a case on energy savings and the indoor climate.	Collected data for use in the case.	Finalize and publish the case.
Life Cycle Assessment case study comparing natural ventilation with mechanical ventilation systems	Conducted the first Life Cycle Assessment.	Aim is to use the results in various communication and marketing activities in early 2023 and will become part of our basic knowledge.

Product level 100% circular

Circular promise

WindowMaster has now developed a circular model we have chosen to call our Circular Promise. Our new promise aims to ensure that the materials in our products sold from January 2023 in Europe can be returned at the end of their service life. In this way, they remain in the value chain to be used again.

Our Circular Promise is part of our strategy to become 100% circular in our production chain by 2030. Our products, which include control systems and actuators for natural ventilation and smoke ventilation, contain many valuable metals, electronics and batteries. These generate a risk of negatively impacting the environment,

Table 4: Actions and the next steps

Actions we planned for in 2022	Actions we did in 2022	What's next?
Take-back scheme	Established a framework for the take-back scheme.	First step in Denmark in 2023.
'Long live products and materials'	Results from first pilot presented.	Project will continue in 2023-2024.

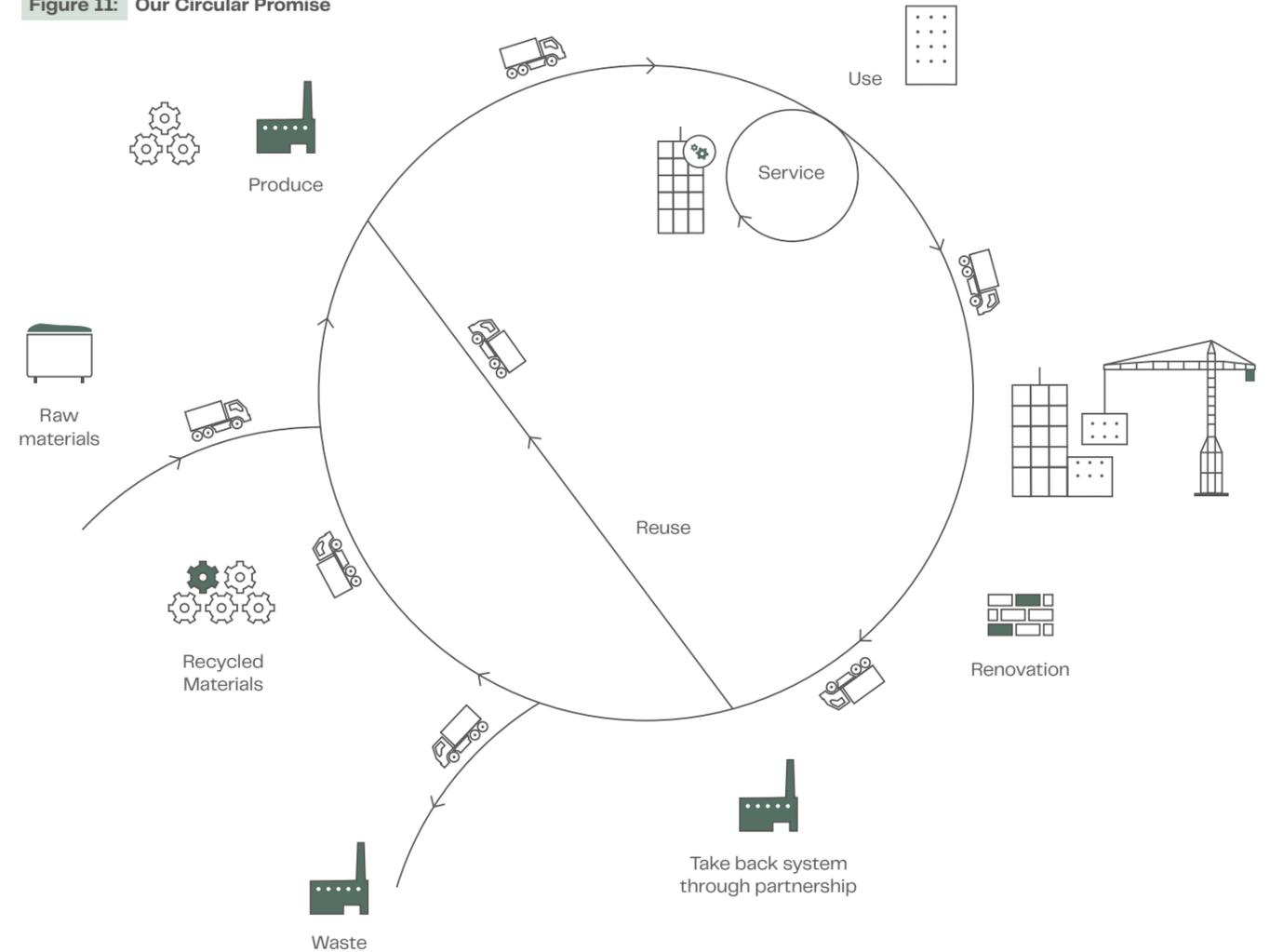
Standardisation for products

In March 2022, the European Commission launched the Sustainable products package which will influence the market conditions for WindowMaster's products in the long term. Part of this Sustainable products package is the EU's new Ecodesign directive. This new Ecodesign directive is a framework that will set a wide range of requirements with respect to product circularity, energy performance and other environmental sustainability aspects. Additionally, all products will be required to have a digital product passport that will provide information about the products' environmental sustainability.

WindowMaster is actively participating in standardization efforts and in influencing product

legislation with respect to sustainability, circular economy, and ecodesign. This happens through the Confederation of Danish Industry (DI) and by chairing the Danish Standardisation Committee for environment and circularity. The two organisations participate in subcommittees under the European Committee for Electrotechnical Standardization who develops standards that support the Ecodesign directive as well as the European chemical legislation (REACH and RoHS) and regulation of waste from electrical and electronic equipment (WEEE). The Committee covers methodologies to measure material efficiency such as durability, repairability, upgradeability, and recyclability.

Figure 11: Our Circular Promise



and thus part of the activities in the sustainability strategy addresses products and how we can minimize overall impacts and increase material-efficiency. It is an important and necessary step in the direction of 100% circularity.

In 2022, we started developing a framework for a take-back system of our products to reuse the materials, which will expand the lives of our products and minimize resources.

In 2023, we will begin this project in Denmark and simultaneously investigate further markets for rolling out this take-back system. Our partner on the project, Scrap Solutions A/S, will collect all products from

renovation or demolishing projects and ensure that all parts of the products are handled correctly, either by reselling the parts that have some value or ensuring correct sorting and handling for reuse. In this agreement, WindowMaster has the option of buying back parts that are of value and to reuse these in new products. This is a solution we will investigate further when we know the volumes of reusable parts. Our partner will ensure that we get the data on how much of our scrap is reused and how much is recycled. It is our ambition to have take-back systems throughout Europe and to ensure that all products sent to market are circular going forward.



Environmental Product Declarations

To understand our potential handprint, we started to calculate our Environmental Products Declarations (EPD) for our products back in 2020. This is a transparent, objective report that communicates what a product is made of and how it affects the environment throughout its life cycle. The process gave us several learnings and has taken us one step further in understanding the impacts of all the components in our products.

In 2022, we started to consolidate our handprint to ensure that we deliver good quality information to our customers and end-users. This required much better data, first and foremost weight on all components. Secondly it required more information on materials. Our previous EPDs were based on a sector EPD developed by VFE in Germany and covered only the motors and control parts of products and thus were neither specific to WindowMaster products nor covering the complete products. To ensure that we live up to our promise of

providing valid and reliable data, WindowMaster decided to do our own EPDs. In 2022 we started collecting data for the EPDs and aim to have the first two EPDs ready for publishing latest in April 2023.

Investing in chemical compliance and improving data

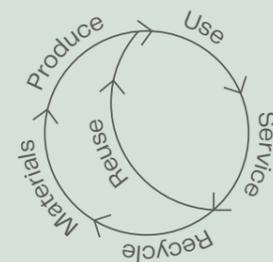
In the past years, WindowMaster has assessed several solutions to handle documentation and information on chemical substances and compliance to relevant legislation. Being able to document chemical compliance and content of certain materials is required more and more often. In 2022, we built a Product Information Management System serving as a tool to handle chemical compliance to ensure that we have the required documentation and detailed knowledge of our products. The tool will be implemented and further developed in 2023. In the coming years, we are investigating tools to integrate this information directly from our mechanical and electronics suppliers.

Furthermore, we are participating in a pilot research project managed by FORCE Technologies with participants from several universities and companies from 2022-2024 titled 'Long live products and materials'. The purpose is to explore business opportunities in the refurbishment of old actuators and get input for new designs or adaptation in current designs. We also hope to get better knowledge on overall product lifetime, etc.

In 2022, we got the first results of this research project, however the first batches of actuators that were taken back had very limited amounts of data to be accessed as they were older models. Due to the limited data, this initial part of the project will continue in 2023, where new data will be collected from new batches of products. The research project will help us to gain valuable insights and provide a significant boost towards a circular economy through sustainable product design, product lifetime optimization and extension, and re-/upcycling for the conversion of materials into new raw materials. We are excited about the potential learnings to be gained towards 2024.

In 2022 we made the promise of ensuring that all products sent to market in Europe in 2023 and onwards with our WindowMaster logo will be part of the take-back solution and be 100% circular – we call this our Circular Promise.

100% circular
in our production chain



Best employer

A safe and healthy working environment

Ensuring our employees' safety, health and well-being is the number one priority and key concern for WindowMaster. We believe that the success of our company is dependent on thriving employees, and we want our people to be both mentally and physically healthy by providing working conditions that allow them to live whole and healthy lives.

Safety related to working in heights is one of our biggest risks related to our employees. We continuously work towards mitigating all potential safety hazards. We ensure to take action and mitigate any potential risks when identified. When we are made aware of potential risks, we conduct a root cause analysis of the incident and implement preventive actions to mitigate future accidents.

At our production site in Germany, we ensure that all employees participate in safety training minimum once a year.

Both our production site and offices have regular visits from the authorities to assess the working environment for our employees. We have always received good reviews and comments after these visits due to our high safety focus.



Table 5: Actions and the next steps

Actions we planned for in 2022	Actions we did in 2022	What's next?
Monitor and report on injuries, do root cause analysis and implement mitigation actions	<ul style="list-style-type: none"> Quarterly reports to Management and Board of Directors regarding safety in production Root cause analysis for all accidents and implementation of mitigation actions Annual safety training for employees at the production site 	<ul style="list-style-type: none"> Implement KPIs for injury rate and injury lost day rate in all areas of the organization Refresh training regarding risk assessments Refresh training regarding root cause analysis Formal safety training for all employees

Figure 12: Injuries at our production site

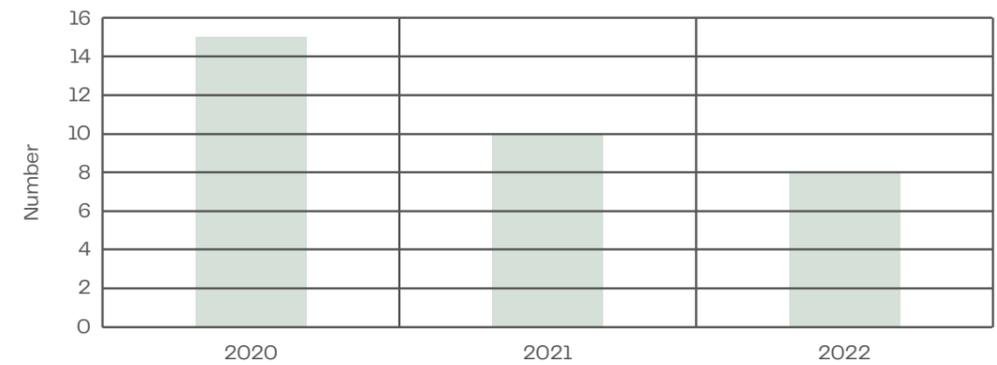


Figure 13: Sickness absence





Employee education at WindowMaster

We believe that attracting and retaining talent is key to drive our business forward. We recognize that we are competing for talent and therefore this is a focus area for us to ensure that we do not risk losing talent to our competitors. To overcome this risk, we want to ensure that our employees are thriving and have the potential of developing in their career within WindowMaster. We do this by investing in our employee's development both within their areas of interest but also to ensure that they have the necessary capabilities to succeed in their position.

Therefore, we have a mandatory onboarding program for all new employees called 'WindowMaster Academy'.

The program aims to ensure that new employees get a good start and foundation on a social and professional level, and that they gain all necessary knowledge of our products, global offices and the right tools, relationships, and information to perform in their daily work. To ensure that the WindowMaster culture



145,215 DKK
invested in education
and training of employees

is successfully implemented on a global scale, all employees in management positions are onboarded at the Headquarter in Denmark during the first 14 days of their employment.

We also continuously train our global business partners in our products and solutions to provide our customers with the best service. Onboarding of employees and training of partners also involves introduction to our manual on business ethics and whistleblower programme.

We plan to further develop our WindowMaster Academy to also include continuous learning possibilities throughout their employment at WindowMaster. To strengthen this, we are currently looking into implementing a system for e-learning and certification purposes. This system will also help us to handle compliance related to our service technicians' necessary certifications and training. We also aim to strengthening our leadership training to ensure that newly promoted managers have the necessary capabilities and tools to support and lead a team.

Table 6: Actions and the next steps

Actions we planned for in 2022	Actions we did in 2022	What's next?
WindowMaster Academy onboarding of new employees	Onboarding new employees and business partners	Develop WindowMaster academy Implement online system for e-learning and HR compliance

Table 7: Expenditure for employee education

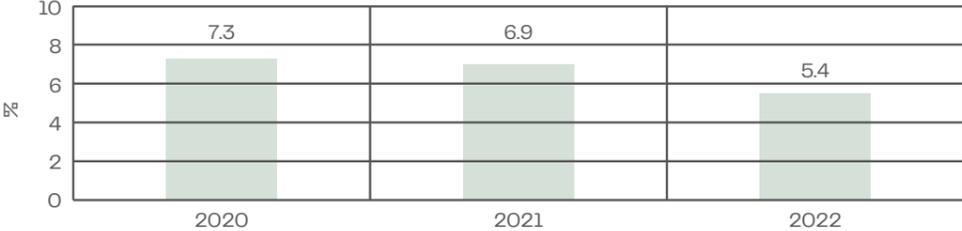
Market/function	2020	2021	2022
Total DKK	171,776	191,712	145,215
Average DKK per FTE	1,431	1,509	1,105



People & Culture resource

In 2022, we acknowledged that with a growing team both at the Headquarters and internationally, we will need a more dedicated resource to handle especially attraction and retention of employees. As new generations enter the workforce, it becomes increasingly important that we observe and adjust to the changing needs and requirements of future employees. A dedicated people & culture resource will also enable us to deliver on our goals for employee education. Thus, we are in the process of hiring a new resource to lead this development and to ensure that we remain an attractive employer for future employees.

Figure 14: Employee turnover ratio



Diversity in our workforce

We believe that a diverse composition of employees strengthens and contributes positively to our company regardless of gender, ethnicity, age, religion, sexual orientation, political opinion, or disability. We aim to foster a workforce where everybody is treated respectfully and fairly with equal access to opportunities and resources. Like all companies, we realize that we hold a risk of unconscious biases in the process of ensuring diversity and inclusion during recruitment processes and in our daily work.

Our work on creating diversity and inclusion in the workforce is focused on ensuring that all job posts cater to a broad scope of candidates in terms of age, gender, ethnicity, educational backgrounds etc. When working with external recruitment firms we also inform them of our wishes for a diverse talent pool. However, our gender diversity remains unchanged for 2022 and we will continue to investigate opportunities to increase the diversity internally.

For our Board of Directors, we have previously set a target to have 33.3–40% of the underrepresented gender by 2022. However, this target was not reached in 2022 as there were no changes to the Board of Directors. During the year we have investigated the opportunities for adding new members to our Board of Directors, however we have not found any candidates fitting the current needs of the company. The target remains unchanged, and it is our ambition to reach this target latest in 2025.



Target of having 33.3–40% of the underrepresented gender on our Board by 2025

Table 8: Actions and the next steps

Actions we planned for in 2022	Actions we did in 2022	What's next?
33.3–40 percent representation of the underrepresented gender in the Board of Directors.	Investigated potential new candidates for our Board of Directors.	We will continue to work towards a more equal gender distribution in our Board of Directors. We aim to reach our target latest in 2025.

Figure 15: Gender ratio across all markets

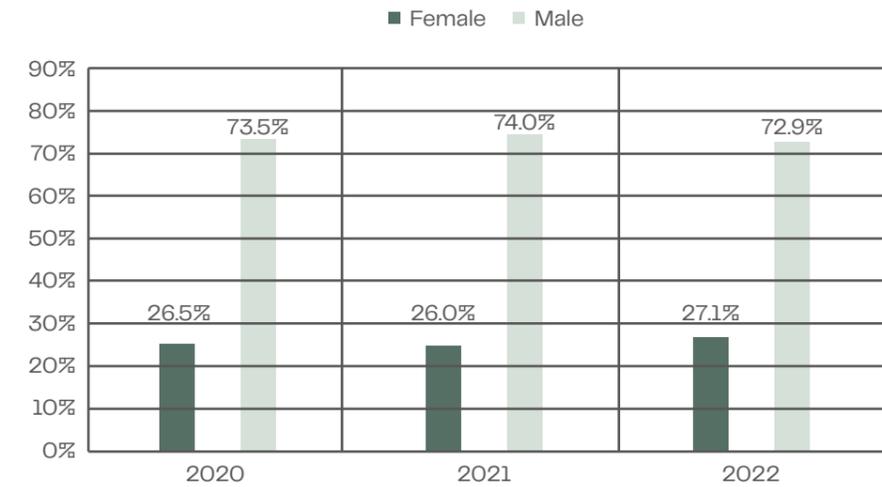
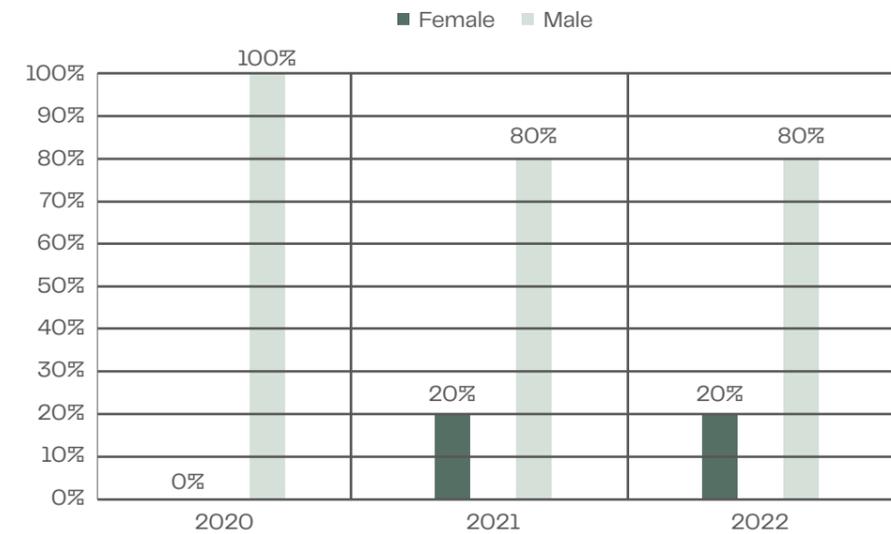


Figure 16: Gender diversity, Board



Responsible Global Citizen

At WindowMaster, we want to conduct our business in a responsible matter throughout our value chain. We recognize that our industry and supply chain entail significant risks related to human and labor rights as well as corruption, and it is therefore a great focus area for us as a company.

WindowMaster recognizes the Universal Declaration of Human Rights (1948) as well as the core labor conventions of the International Labour Organization as reflected in the Declaration on the Fundamental Principles of Rights at Work (1998). WindowMaster also endorses the guidelines and recommendations of the World Trade Organization (WTO) and will, therefore, prefer suppliers from member countries as well as members of UN Global Compact.

We have a zero-tolerance policy for corruption, bribery, and extortion. Our manual on Business Ethics policy demonstrates our consistent and uncompromising adherence to strong moral and ethical principles. All employees and business partners who act on behalf of WindowMaster are subject to policies in place e.g., for

Whistleblower programme

To excel in good business conduct we have a whistleblower program and follow-up mechanisms in place for reporting fraud, corruption, or other corporate wrongdoing. At the current stage, we are communicating both the business ethics guidelines and the whistleblower programme at information meetings, onboarding etc., however we are investigating more formal ways of communicating, e.g. through e-learning courses. In the coming years, we will focus on adding human rights to the list of issues to be reported in the whistleblower channel and work on expanding the scope to external parties as well. There has been no reporting during 2022.

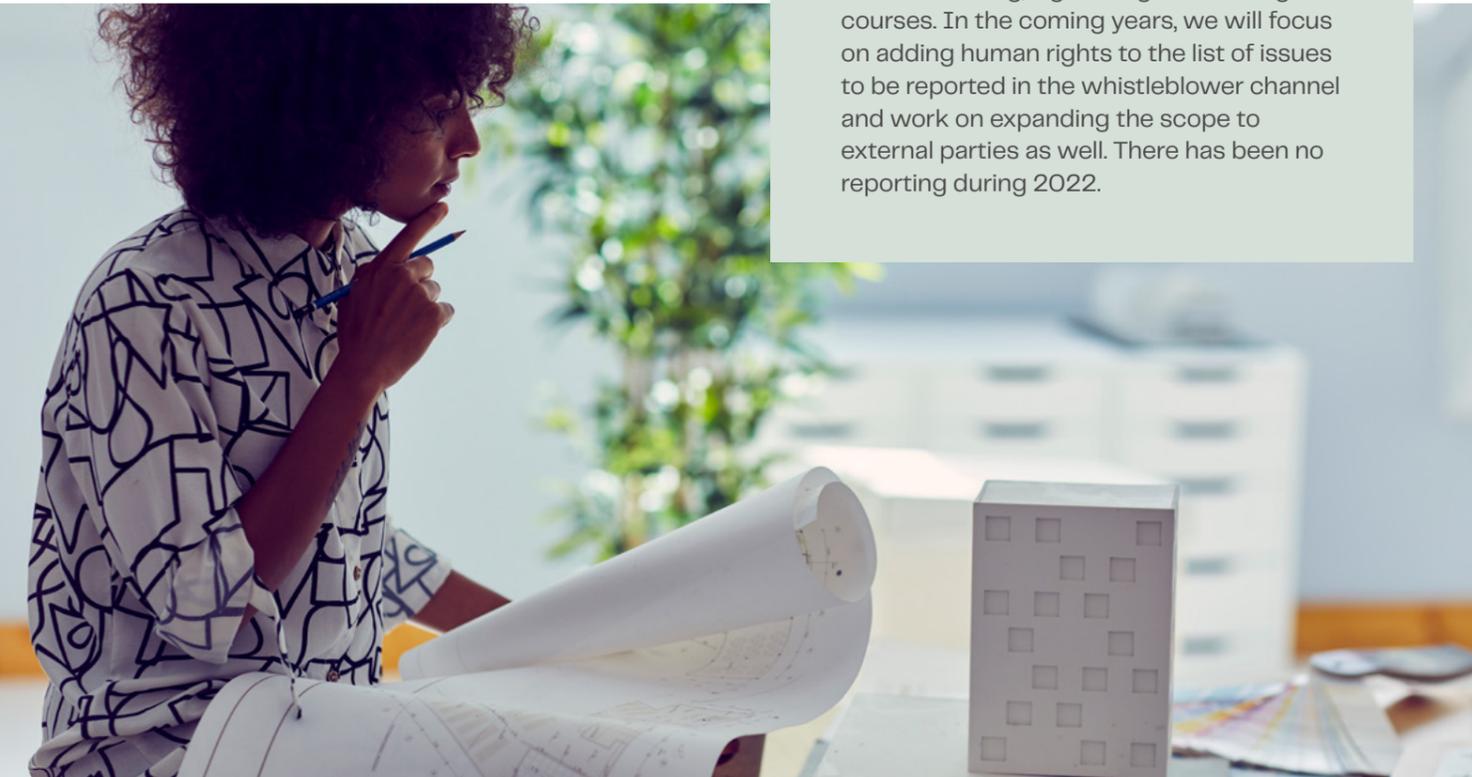


Table 9: Actions and the next steps

Actions we planned for in 2022	Actions we did in 2022	What's next?
Updating the Supplier Code of Conduct	Supplier Code of Conduct was updated to be more comprehensive.	
Asking more suppliers to sign the Supplier Code of Conduct	34% of our spend for direct material purchases is covered with signed code of conducts.	Get minimum 50% of our spend for direct material purchases covered by signed code of conducts by end of 2023.
Conducting supplier due diligence/ screenings	On site visits were difficult because of the restrictions due to the pandemic.	Introducing formal audit sheets and conduct more on site visits.
Informing employees about the whistleblower programme	Informed in information meetings, onboarding etc.	<ul style="list-style-type: none"> Formalizing the awareness about the whistleblower programme through e.g. e-learnings Expanding the scope of the whistleblower programme to external parties Adjusting the whistleblower guidelines to include human rights issues

offering and receiving hospitality, gifts, and which kind of entertainment we participate in. Internationally, we have maintained a solid check and balance system over transactions. Due diligence processes support the continuing lawful conduct of our business and operations are in place as records and transactions are checked and controlled by finance and administration.

Our strong commitment to both anti-corruption and securing labor standards and human rights is an integral part of our relationship with suppliers through our Supplier Code of Conduct.

Supplier Due Diligence

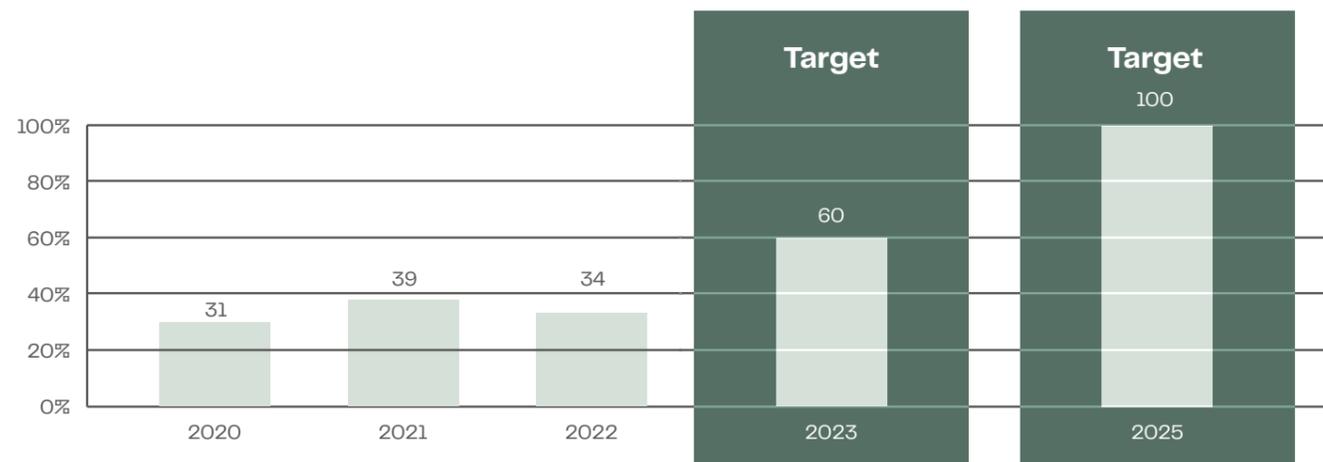
We aim to establish long-lasting relationships with our suppliers as we believe this is to our mutual benefit.

In 2022, we updated our Supplier Code of Conduct to underline our commitment to transparency and to ensure environmentally and socially responsible operations. Our Supplier Code of Conduct includes guidelines on workers' councils, freedom of association, the abolition of forced, compulsory, and child labor, and the elimination of discrimination as well as ensuring equal opportunities for all and diversity in terms of nationality, gender, and cultural background.

Currently, 34% of our suppliers, based on spend, have signed our Supplier Code of Conduct and we are well on our way towards the target.

We have set a target of Supplier Code of Conduct signatures from 100% of our suppliers in 2025 – with a milestone target of 60% measured in product-related procurement volume in 2023.

Figure 17: Supplier Code of Conduct signatures



Implementing supplier audits

In the past, WindowMaster has to a large extent relied on the close relationships with suppliers and although we are confident that our main suppliers are taking the responsibility required from them in our Supplier Code of Conduct seriously, we are planning to engage in more formal audits in the future. With restrictions becoming less and less after the COVID-19 pandemic we expect that we in 2023 will have minimum the same level of on site supplier visits than before 2020. We will start to use formal audit sheets to document the observations at the supplier sites and follow up on corrective actions if necessary.

Relocating procurement volume

In the long term, WindowMaster is investigating options for bringing production back to Europe and we are currently analysing the market for potential suppliers closer to our facilities in Germany. Not only will this have an impact on the transportation-related emissions and the geopolitical risk faced in some of our current supplier locations, but it will also help us ensure that working conditions and human rights are to a larger extent governed by the authorities. Furthermore, having suppliers closer to our own operations will allow for more frequent visits and a closer relationship. For the time being we are running projects to identify second sources, and over time, we want to relocate parts of our procurement volume from Asia to Europe.



Contributing to client sustainability

Learning frameworks in the upper LEED category



Dartmouth College, Arthur L. Irving Institute for Energy and Society

Arthur L. Irving Institute is a new highly energy efficient multi-purpose facility designed by Architects Goody Clancy with the intent to achieve LEED platinum. The Institute is part of Dartmouth College and is located on the East Coast of the United States in Hanover, NH. This building is set to provide an innovative and sustainable example of how to minimize energy consumption while ensuring the students have a healthy and productive indoor climate. Some of the sustainable design approaches used in the building is automated natural ventilation and passive cooling wherever possible to support the mechanical ventilation system, thus making the ventilation concept an energy efficient mixed-mode solution.

Natural ventilation can reduce energy consumptions

The 55,000-square-foot facility spread over 4 levels is built by Turner Construction. All zones with a facade facing the exterior include a natural ventilation solution using automatically controlled facade windows. WindowMaster worked with R&R Window Contractors and H Window Company to supply the automated awning and parallel pop-out windows. Altogether, the natural ventilation system is installed in 38 climate zones such as meeting rooms, workspaces, conference rooms, office areas, research labs, café, vestibule lobby area. This, to reduce the yearly energy consumption and to provide a comfortable indoor climate. The natural

ventilation principle is a mixture of single sided and cross ventilation.

Precise window control

WindowMaster has delivered approximately 135 low voltage window actuators with MotorLink® technology for this project. The actuators control a mixture of 79 top hung awning windows and 13 parallel pop-out windows. Most of the parallel windows are large in size and therefore demand four actuators per window profile. These four actuators synchronize their operation with the help of the MotorLink® technology, to ensure that the window's will not be damaged during operation.

WindowMaster's products are fully integrated into the Johnson Controls Building Management System, through BACnet-IP communication. The Johnson Controls BMS supplies the outdoor weather data and indoor zone data (indoor temperature and CO₂ levels) to WindowMaster's NV Embedded® system. This data is used for continuously intelligent control of the automated windows and natural ventilation strategy.



A pleasant breath of fresh air to the public library



Pleasant Hill Library

In the summer of 2022, Pleasant Hill Library welcomed the Diablo Valley community inside its new facilities. After approximately two years of ongoing construction and planning, this public library now provides 24,000 square feet of open spaces, tools, and technology for community members of all ages and interests in a diverse, adaptive, and energy-efficient environment. The project is distinguished by a significant focus on energy efficiency and sustainability and targets net zero carbon certification.

The modern, light-filled building features a large, open-spaced main hall dedicated to book stacks and reading areas. At 55 feet wide and 200 feet long, the hall allows for the flexibility of diverse programs and easy reconfiguration should the library's needs evolve. A continuous south-facing clerestory combined with sets of large circular skylights allows natural light to flood the interior. Three cedar-clad pavilions off the main hall house a 'messy makerspace' for classes and workshops,

a 'story lab' for children's story-times and author talks, and a 'retreat' for quiet reading and study.

Outdoor spaces include an Activity Yard featuring large-scale wood play structures by a local artist, and a quiet reading patio with views of the Creek landscape. Other spaces include a welcome area and lounge, an early literacy area, a teen zone, several smaller-scale study rooms, and a Friends of the Library bookstore.

Supports local engagement

The all-electric, highly energy-efficient design is targeting net-zero carbon certification and provides radiant heating and cooling, natural ventilation with night-flush operability, and a rooftop PV solar array. Behind the architectural design is Bohlin Cywinski Jackson, who describes the library as an adaptive environment striving to support local engagement and discovery.

Other collaborators behind the project include MEP engineers Introba (formerly Integral Group), structural engineers Rutherford + Chekene, BHM Construction, and AAC Glass, Inc.

Intelligent control of façade and skylight windows

In each part of the library, natural ventilation is utilized as a vital design strategy. Sales Director at WindowMaster Mia Brøndum explains, how the indoor climate strategy makes use of all of the most demanded mechanisms of the adaptable and highly intelligent NV Embedded® system. This includes integration with the Building Management System.

Based on intelligent software, this scalable solution is fitted to the needs of the building and controls the façade windows on both the eastern, western, northern, and southern facades. Additionally, the motors included for the Lamilux skylight windows are controlled by NV Embedded®.

Taking advantage of the California climate

As part of the library's HVAC design, several passive

"The project represents a significant milestone for the city as one of its first civic buildings constructed in many years. The library provides a welcoming, open accessible destination with dedicated spaces, tools, and technology to support education, literacy, and lifelong learning. Community engagement and dialogue were essential in creating this new public library."

Michael Kross,
Project Manager at
Bohlin Cywinski Jackson

strategies are integrated to utilize the moderate Bay Area climate. The placement of the building on the site, which stretches the building along the east-west



“Using our cloud-based system for natural ventilation enables high-level control of each window and half of the skylights. The indoor climate is regulated based on intelligent monitoring, using indoor and outdoor sensors that measure factors like weather data and indoor CO₂, temperature, and RH levels. Thanks to NV Embedded®, these community spaces are provided with fresh air whenever required.”

Mia Brøndum,
Sales Director at WindowMaster



axis, provides the building’s rectangular shape with an optimized solar orientation while harnessing the prevailing breezes from the southwest.

The design utilizes the inherent thermal mass of its energy-efficient, hydronic radiant floor slab, as the building’s primary means for both heating and cooling. This radiant system is the ideal method to deliver thermal comfort – less warm or cold air is required, which reduces the need for high air volumes and the resulting noise and drafts. Ceiling fans are provided throughout the interior, circulating the air and maximizing thermal comfort.

Fresh air reduces the spread of diseases

The WindowMaster natural ventilation system is programmed with a night-flush cooling mode during warmer months to benefit from the climate’s large diurnal swing. The motorized windows allow outside air to cool the building and its floor slab overnight, thus minimizing the amount of active cooling needed the next day. This approach has the added benefit of increased resiliency over a standard HVAC design. During the day, access to fresh air reduces the spread of respiratory diseases such as influenza and COVID-19, an added benefit for this community gathering space.

In the case of a wildfire event, all operable windows will close, and the active mechanical system, equipped with MERV-13 filters, will provide code-minimum air exchanges. Local controls for ceiling fans, lighting, and window shades, allow adjustments by end users.

The all-electric building features large rooftop solar panel arrays, which have been sized to provide enough renewable energy to meet net zero energy and carbon certifications. These environmental initiatives not only reduce carbon emissions but provide social benefits, with a comfortable interior environment flooded with natural light, ambient acoustics, and views of nature. Economic benefits include improved operating costs and reduced maintenance over the building’s lifespan. The result is a holistic indoor climate approach that promotes the comfort and well-being of both staff and guests for many years to come.

A Net Zero Energy Building

The library has received the Pollution Prevention Award from the Central Sanitation District. It will be net zero, generating as much electricity as needed. It will also be net zero carbon, using no natural gas. Furthermore, the irrigation will be recycled water.

Thanks to a design that focuses on maximizing opportunities to provide natural light, natural ventilation, and nighttime cooling, the result is reduced operational costs. The library is powered by state-of-the-art Tesla solar panels as a Net Zero Energy building, meaning it won’t produce more greenhouse gases than it takes from the environment.



Naturally breathing, bio-based, and built for the future



Photos: Feldballe Friskole / Carlo Volf / Bodil Engberg Pallesen

Feldballe Friskole

“Can we build a building that sequesters more carbon than it takes to construct?” This question represented a cornerstone for the design, construction, and choice of materials, which now form the daily learning frames for the school children of Feldballe.

Located in the small Danish town of Rønne, Feldballe is home to an ecovillage, where the houses consist of renewable materials. When the local school expanded their facilities with new science labs and a classroom, creating a highly sustainable building with a low carbon footprint was merely a logical step.

Locally sourced and recycled materials

Designed by Henning Larsen, the project explores construction methods that enable the building to capture more carbon than it emits. Thanks to the investment from the Danish philanthropic association Realdania, climate and environmental concerns were

top priorities. Due to the 2,700 ft² school extension, students of Feldballe can now abide in one of the most sustainable schools in Europe, while enjoying plenty of daylight, no exhaust fumes and naturally ventilated fresh air.

The Feldballe project is ground-breaking in many ways. One remarkable feature is the near-exclusive utilisation of bio-based materials that have proven viable alternatives to standard products like concrete, bricks, and steel. Each product has been carefully selected for its indoor climate characteristics and global warming potential.

The school extension is built almost entirely of locally sourced, natural, and bio-based materials – a construction system that is adaptable and applicable in a vast range of building typologies. With circularity and waste management in mind, the structure focuses

on easy disassembly and reuse, making it possible to reinstall or recycle its parts in the future.

5 ambitious design principles

The team behind the project had set a number of dogmas. In addition to creating as sustainable a building as possible, it was vital to ensure a good indoor climate with plenty of daylight, good acoustics and fresh air without off-gassing from the materials. Based upon a radical rethinking of the choice of materials, the project’s innovative design concept consists of the following principles:

1. Incorporating sustainably sourced, renewable, bio-based materials.
2. Reusing locally produced materials.
3. Employing materials free of toxic chemicals that minimise off-gassing.
4. Ensuring a healthy indoor climate based on good daylight levels while providing natural ventilation and lowering energy consumption.
5. Designing for disassembly, enabling future reuse of building components.

Today, the result of this uncompromising material strategy is a school that has totally redefined the standards for sustainable construction.

A carbon sequestering eco-innovation

The materials consist of hall elements, plastered with

“To confront our industry’s carbon emissions throughout the value chain, we will continue challenging our design approach and construction methods. Feldballe School will generate immense carbon saving from straw-based construction, with comparable built projects using EcoCocon’s panels sequestering more carbon than is emitted throughout the entire building process.”

Henning Larsen Architects

clay and clad with wood inside and out. Apart from being fire-safe and completely free of toxic chemicals, these materials make up suitable moisture regulators, offering efficient insulation and paving the way for a breathable house.

According to Henning Larsen, EcoCocon’s revolutionary panel system of compressed straw in wooden cassettes constitutes the primary design element. The surface of the straw panels is covered with a 30 mm coat of clay on the interior side. Carbon sequestration is one of the many qualities of straw, and during its life,





it absorbs large amounts of CO₂, which is then safely stored within the building. Choosing materials that naturally absorb and store CO₂ in the carbon cycle has therefore generated comprehensive carbon savings, the architect firm explains:

"To confront our industry's carbon emissions throughout the value chain, we will continue challenging our design approach and construction methods. Feldballe School will generate immense carbon saving from straw-based construction, with comparable built projects using EcoCocon's panels sequestering more carbon than is emitted throughout the entire building process."

Award-winning natural ventilation

The outstanding indoor climate is not least due to NOTECH – a natural ventilation system that architect MAA and Ph.D. Carlo Volf (Volfdesign) has developed in collaboration with Danish Technological Institute and WindowMaster. It consists of an outer and inner façade element, a controlled opening for natural ventilation and an eelgrass filter. Due to its significant potential for supporting learning among school children, the system was awarded the Danish Design Award 2021 in the 'Better Learning' category.

Carlo Volf describes NOTECH as a holistic indoor environmental and architectural solution centred around the health-related effect of fresh air.

"Based on an intelligent demand-controlled natural ventilation system, it provides an optimal balance between fresh air and comfortable temperatures in the room. NOTECH can be adapted to different building types, depending on the approach. The design can therefore vary to accommodate the actual need. The overall idea is that you have an element that can be constructed in the outer wall or added as an extension to the exterior façade. The system utilises natural

ventilation as passive cooling during the summer and solar passive heat during the winter. Meanwhile, you will be able to reduce costs related to energy consumption, construction and maintenance," he explains.

Ideal learning frames

According to Carlo Volf, NOTECH combines several elements to create a better learning climate – a view that the school manager at Feldballe School Trine Wad Andersen supports. She describes how the students are now provided with the most optimal learning conditions due to the persistent fresh air and a comfortable temperature.

"We have been enjoying our fantastic new building for over a year. The light and indoor air quality in the room is amazing. The building houses the best facilities in the school, and everything works wonderfully together when it comes to design and indoor climate. We are very proud of this project, which results from excellent cooperation between the collaborators involved and us", she states.

Seaweed filter with countless properties

Integrated directly into the EcoCocon straw panels, this intelligent demand-controlled system pulls air through the facade via an eelgrass filter – an element that contains several surprising properties. With soft material and a vast surface absorbing sound, especially in the treble range, this material reduces outside noise, which is a frequent challenge for learning environments using natural ventilation systems.

Apart from the acoustic benefits, NOTECH also takes advantage of several other qualities associated with eelgrass. This includes filtering the outdoor air, purifying, cooling, and stabilising the air, while absorbing odours and moisture. Eelgrass also contains a natural salt content providing a fire-retardant effect approved for building constructions. Also, eelgrass is Gold-certified in Cradle-to-Cradle, making it the perfect choice when designing with the future in mind.

The system can utilize natural ventilation as passive cooling during the summer and solar passive heat during the winter. Ultimately, this eco-innovation automatically balances fresh air with comfortable temperatures by reacting to CO₂, heat-, and moisture levels. It's almost as if the house is actually breathing while ensuring an ideal and healthy climate for learning.

"Based on an intelligent demand-controlled natural ventilation system, it provides an optimal balance between fresh air and comfortable temperatures in the room."

Carlo Volf,
Architect MAA Ph.D.



Membership of associations

Partnering and participating in different organizations, projects, and alliances is an important part of developing the business of WindowMaster and its role as a responsible global citizen. WindowMaster is part of several councils, associations, and networks to promote and influence the development of sustainable building practices – both on a national and EU level.

Among others we are participating in the following councils, associations, and networks:

Rådet for Bæredygtigt Byggeri

State of Green – Denmark

SYNERGI (a member of the board)

Confederation of Danish Industry

- Federation of Danish Building Industries
- DI Chemical network
- DI Circular Economy network
- DI Eco-design network (founding member)
- DI Digital (follow activities)
- Orgalim (access through DI)
- Construction Products Europe CPE (access through DI)

Other organizations

- Science-based Target initiative
- VELTEK
- CIBSE Natural Ventilation Group
- FORCE Technology EMC Club
- Smoke Control Association UK
- Verein für Fensterautomation und Entrauchung (Germany)
- Minergie Switzerland
- Proptech
- LCAByg Advisory group (SBI with BPST)
- BACnet
- KNX
- MADE Manufacturing Academy of Denmark (Take-back Network)
- Venticool



Confederation of Danish Industry



vvs- og eltekniske leverandørers brancheforening

ESG KPI overview

Table 10: ESG key figure overview

	Unit	2019*	2020	2021	2022	Target in 2025
Environmental data						
CO ₂ e, Scope 1	Tons CO ₂ -e	260.7	269.4	271.6	316.3	
CO ₂ e, Scope 2 (location-based)	Tons CO ₂ -e	70.3	63.5	63.0	65.5	
CO ₂ e, Scope 2 (market-based)	Tons CO ₂ -e	29.7	13.2	13.9	16.0	
Total CO₂e, Scope 1 + 2	Tons CO ₂ -e	360.7	346.1	348.5	397.8	46% reduction**
Scope 3, Business travel	Tons CO ₂ -e	83.0	19.9	23.8	68.1	
Scope 3, Upstream transport	Tons CO ₂ -e	144.7	176.5	207.6	278.5	
Scope 3, Downstream transport	Tons CO ₂ -e	56.4	52.9	60.0	48.5	
Total CO₂e, Scope 3	Tons CO ₂ -e	284.0	249.3	291.4	395.1	25% reduction**
CO ₂ total scope 1 & 2 / revenue	T/MDKK	1.4	1.5	1.3	1.4	
Revenue	MDKK	201.6	189.5	211.4	241.5	
Energy Consumption	GJ	2,718.2	2,934.2	3,176.1	2,956.6	
Renewable Energy Share	%	33.0	30.0	27.0	29.8	
Social data						
Full-Time Workforce	FTE	119.12	119.2	127.08	131.3	
Gender Diversity	%	27.6	26.5	26	27.1	
Gender Diversity, management	%	-	-	-	-	
Employee Turnover Ratio	%	6.2	7.3	6.9	5.4	
Sickness Absence	Days per FTE	3.17	2.16	2.2	3.6	
Injuries at our production site	Number/counts	26.0	15.0	10.0	8.0	-
Total expenditures for employee education	DKK	265,096.0	171,836.6	187,774.8	145,215.5	
Average expenditure per employee	DKK	2,225.5	1,441.6	1,477.6	1,105.8	
Customer Retention Ratio	%	49	59	62	56.0	
Governance data						
Gender Diversity, Board	% females	-	-	20	20	33.3-40%
Board Meeting Attendance Rate	%	100	100	100	100	
Supplier code of conduct signature	%	N/A	31	39	34	100%

* Our 2019 baseline has been subject to third-party assurance by Deloitte. The GHG inventory covers the reporting period 1. January 2019 to 31. December 2019.

** From a 2019 baseline



Accounting practice

We have applied the accounting principles suggested by Danish Business Authorities / FSR and NASDAQ and have further added additional KPI's, which we find relevant for our business and industry.

CO₂e emissions

WindowMaster compiles data on GHG emissions from our subsidiaries and performs calculations on a corporate level. Thus, the organizational boundary applied to consolidate our emissions was the financial control approach. No sales subsidiaries have been excluded from the inventory boundary over the reporting period. A significant amount of the emission is calculated based on actual consumption data. Emission factors are gathered from multiple sources e.g., supplier invoices, International Energy Agency, DEFRA, and the Danish Business Authority's CO₂ calculation tool. We strive to use the most recently published emission factors.

Scope 1 CO₂e emissions:

Scope 1 emissions includes activity data and emissions from on-site stationary combustion of fossil fuel burning equipment (e.g., heating boilers) and company owned vehicles. Road emissions from our cars have been calculated.

Scope 2 CO₂e emissions Location-based:

Activity data and emissions include consumption of electricity, cooling, and district heating at our headquarter. The accounting methodology follows the location-based emission hierarchy in Scope 2 Guidance from the GHG Protocol.

Three of our sites; Norway, Switzerland and Ireland are not included in the calculation for heating as this is part of the rent.

Scope 2 CO₂e emissions Market-based:

Activity data and emission include the consumption of electricity, cooling, and district heating. The accounting followed the market-based emission hierarchy in Scope 2 Guidance from the GHG Protocol.

Three of our sites; Norway, Switzerland and Ireland are not included in the calculation for heating as this is part of the rent.

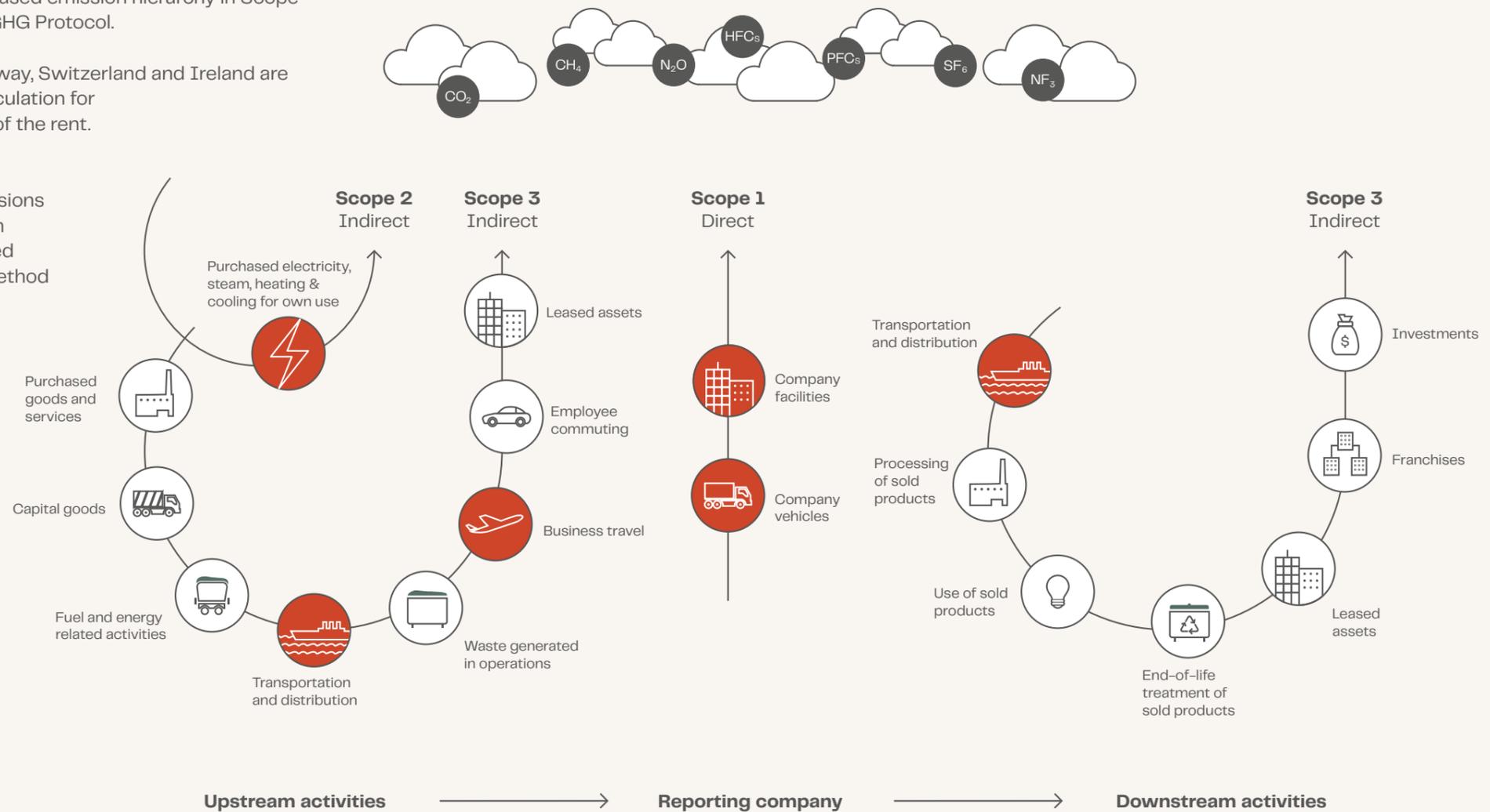
Scope 3

Activity data and emissions include emissions from business travel followed the distance-based method described in the GHG Protocol and outsourced distribution. Most of the emissions are being provided by our travel provider.

Business travel includes air travel, hotels and the commute from the airport to our local office.

Figure 18: Scope Overview

● Scope categories included in our carbon accounting



Energy consumption

Total energy consumption measured as mega joules has been calculated by summing total energy used in the calendar year in relation to company cars, electricity, and office heating/cooling. The following methodology has been used: \sum (used fuel type * energy factor per type of fuel) + (used electricity (incl. renewable energy) (kWh) * 3.6) + (used district heating / cooling incl. renewable energy sources (mJ))

CO₂ total / Revenue

CO₂ total / Revenue is a measure of CO₂ intensity. As the business grows, CO₂ will naturally grow as well. However, CO₂ in comparison to revenue should not increase –rather the opposite due to economies of scale and actions to reduce CO₂ emissions.

Renewable energy share

We pay for renewable energy sources through our German and Danish electricity suppliers.

Total FTEs

Total FTEs have been calculated as the sum of full-time employees + full time equivalents of temporary and part time employees.

Gender diversity all staff

Total female employees divided by total employees at the end of the year.

Gender diversity management

Total females in Executive Management divided by total members of Executive Managers at the end of the year.

Employee turnover

Employee turnover in the calendar year has been calculated as (voluntary + involuntary FTEs leaving / average number of FTEs) * 100.

Employee sickness absence

Employee sickness absence has been calculated as total hours of absence due to sickness divided by total working hours.

Injuries at production site

Total number of injuries registered at the German production facility.

Total expenditures on employee education

Expenditures related to ongoing education of existing employees and business partners.

Average expenditure per employee

Total expenditures divided with the number of FTE.

Customer retention rate

Customer Retention Rate: $\frac{((\text{No. of customers at the end of the period}) - (\text{New customers acquired during the period}))}{(\text{No. of customers at the beginning of the period})} * 100$.

Gender diversity Board

Total females elected at the general assembly in the Board of Directors divided total members of the Board of Directors elected at the general assembly at the end of the year.

Board meeting attendance rate

Board Meeting Attendance Rate = $\frac{((\sum \text{Number of board meetings attended}) \text{ per board member})}{(\text{Number of board meetings} * \text{Number of board members})} * 100$.

Supplier code of conduct signatures

Purchase share from suppliers with code of Conduct signature



WindowMaster aspires to protect people and the environment by creating a healthy and safe indoor climate, automatically ventilating spaces with fresh air through facade and roof windows in buildings. We offer the construction industry foresighted, flexible and intelligent window actuators and control systems for natural ventilation, mixed mode ventilation, and smoke ventilation – of the highest quality.

WindowMaster employs highly experienced cleantech specialists in Denmark, Norway, Germany, United Kingdom, Ireland, Switzerland, and the United States of America. In addition, we work with a vast network of certified partners. With our extensive expertise built up since 1990, WindowMaster is ready to help the construction industry meet its green obligations and achieve their architectural and technical ambitions.

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