VIESSMANN

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CEO letter

I am pleased to share with you our 2023 sustainability report. Here, you will read about our ambitions and first successes on our journey to become a fully sustainable company. We have charted our path to drive positive change — living up to our purpose of co-creating living spaces for generations to come.

Since the formation of our company 106 years ago, our solutions have continued to provide warmth, cooling and power for living and working environments, promote healthy indoor conditions and support food, medical and industrial supply chains. The industries we operate in are responsible for more than ten gigatons of CO_2 equivalent emissions,[1] equal to 27% of global emissions. We are proud that we are doing our part to bring this number down. In just one year, we reduced our direct and indirect emissions by more than 10% — from 108 megatons to 97 megatons CO_2e in 2022. In the same time frame, our turnover increased by more than 17% — from EUR 3.4 to 4 billion. By being transparent and vocal about our actions, we hope to inspire our stakeholders and industry peers to join forces so that together we can reach net zero globally as quickly as possible.

However, only focusing on net zero would not make us truly fit for the future. This is why we are working also towards becoming circular, with a supply chain that creates zero harm on people and the planet. And we continue to create positive impacts on people: our partners, customers, end-users, suppliers, and the communities we operate in. This accountability for people is fundamental to our company culture and by joining forces in our newly formed global partnership with Carrier, we will jointly accelerate our ambitions as one true global climate solutions champion.

I now invite you to read in more detail how we live up to our purpose to create living spaces for generations to come.

"We are a family for positive change. And this report formalizes our longstanding commitment to drive positive environmental and social change."

Max Viessmann

About this report

This sustainability report builds on our "LEAP to Net Zero" climate strategy, which we published in 2021. Since its publication, we have dedicated our efforts to executing this strategy and addressing sustainability topics beyond climate. Within this report, we provide a comprehensive overview on how our science-based approach to sustainability is embedded in our company strategy.

Scope, data and limitations
The scope of this report is the whole Viessmann Group, including our business areas Viessmann Climate Solutions, Viessmann Clean & Cool Solutions, Viessmann Refrigeration Solutions and Viessmann Investment, our diversification areas Viessmann Real Estate and our venture capital organization VC/O, as well as our Viessmann Foundations.

Our data points are derived from our assessment against the **Future-Fit Business Benchmark**, conducted in March 2022, and figures pertaining to our financial year ending on December 31, 2022. Throughout this report, we clarify the scope, limitations and other relevant context associated with the data points.

Contact
We welcome dialogue and partnership as we take our next steps. If you would like to share feedback, comments or questions, please contact **sustainability@viessmann.com**

Numbers in this report
This report is written in US English and therefore applies the US convention for formatting large numbers and decimal points:

- The decimal separator is a full stop or period. For example, three quarters is written as 0.75.
- Thousands are separated by a comma. For example, fifteen thousand is written as 15,000.

Key words and phrases used in our report
In this report, external links as well as words and phrases defined in the glossary are marked **like this**. Clicking on the relevant word or phrase within the text will take you to the external website or to corresponding definitions in the **Glossary**.

Introduction

The opportunities and challenges we face

Challenges
Our business operates as part of a global network of people, communities and organizations, and we rely upon **nature** for vital resources. Multiple interconnected environmental and social challenges threaten our planet and humanity.

Human-induced global warming has already reached an average of 1.2°C. This is causing detrimental changes to our **atmosphere**, seas and land, damaging the habitats and natural systems essential for survival. Up to one million species are threatened by extinction and many **ecosystems** are at risk of collapse as **biodiversity** declines. We have already used 90% of the global **carbon budget** that is left to remain within a 1.5°C global warming limit. Yet emissions continue to rise, with 40% caused by construction and operation of buildings.

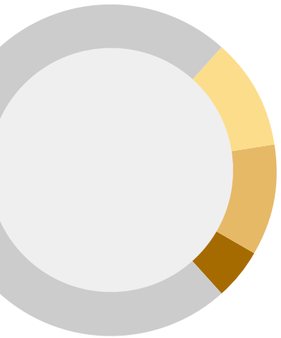
In 2022 alone, humans extracted 112 gigatons of materials from the Earth's crust[2] — equivalent to two-thirds of Mount Everest. In the same year, the construction sector alone produced almost the same amount — 100 gigatons — of waste. Earth Overshoot Day is the day each year when humanity's consumption of resources exceeds Earth's capacity to **regenerate** those resources within the same year. It is a measure of how quickly humanity uses its annual natural resources "budget". And that day has shifted from December 25th in 1971 to August 2nd in 2023.[3]

Additionally, inequalities persist. The poorest half of the global population of 8 billion owns less than 2% of the global wealth and earns just 8.5% of the income.[4] Widening gaps within and between countries exacerbate poverty, health inequity, corruption, and educational disparities. This imbalance, exacerbated by the climate crisis and geopolitical instability, contributes to the increasing number of refugees, which stands at 103 million — the highest on record. With regard to buildings, inequality and poverty can also contribute to poor housing conditions, bad indoor air quality or temperature, which in turn can impact health or cause premature deaths, asthma and respiratory diseases.

Global emissions continue to rise, with 40% caused by construction and operation of buildings.

Our sectors' CO_2e emissions

Our sectors are vital to modern life, yet they still contribute significantly to global warming. Ten gigatons of **CO_2 equivalent (CO_2e)** emissions[5] are associated with heating and cooling of buildings and food loss due to lack of cooling or refrigeration each year. Out of the global annual emissions of 37 gigatons CO_2e, the industries we operate in therefore make up 27%.[6]



11%
4 gigatons
Food loss due to lack of refrigeration or cooling

11%
4 gigatons
Heating of buildings

5%
2 gigatons
Cooling of buildings

The addition of **embodied emissions** from the construction materials used in new buildings every year increases the emissions of buildings further to approximately 40% of global emissions,[7] as materials used such as concrete or steel add significantly to the total.

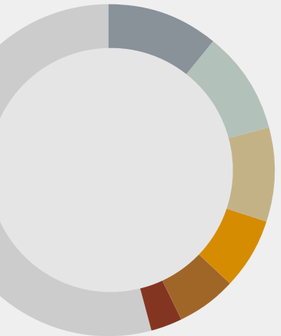
Opportunities

By operating within **Planetary Boundaries** and actively enabling everyone to have their basic needs met, it is possible to reach a point where human and other life on Earth can thrive indefinitely. As a large business we have the responsibility and opportunity to help reach this point, become part of the solution to the current complex sustainability challenges, or **wicked problems**, facing the world. Addressing these problems requires a shared effort among all stakeholders. In the table we summarize global sustainability goals and what we contribute.

Addressing these global sustainability challenges is the greatest business opportunity of the century.[8] To name just a few examples, reaching our sustainability targets will help us accelerate product innovations for a lower carbon, circular and just economy, prepare us for upcoming climate, circularity or reporting legislation,[9] make us more resilient to **supply chain** scarcity,[10] reduce our costs due to rising prices for **virgin materials**,[11] help us maintain good relationships with the communities we operate in, increase our employees' satisfaction, productivity and retention,[12] and prevent potential reputational damage.[13]

	Key Outcome[14]	What it means: Overall goal	Our Priorities
Environmental	Climate stability	Limit greenhouse gas levels to stabilize global temperature rise well below 2°C, keeping 1.5°C within reach	• Become a **net zero** business • Invest in natural **carbon sinks** • Educate and engage to reach the global net zero target
	Resource stewardship	Preserve stocks of natural resources through efficient and circular use	• Become a **circular** business
	Healthy ecosystems	Maintain and restore habitats for nature and people	• Reach **zero waste** manufacturing • Ensure zero environmental harm in our supply chains and operations • Reduce water use, wastewater and non-**GHG** operational emissions • Protect forests, peatlands and swamps
Social	Basic needs met	Food, water, shelter, energy, sanitation, security, and basic freedoms for all	• Ensure we have a positive impact on employees and **value chain** partners by focusing on physical and mental health, **living wages**, anti-discrimination, fair employment terms and transparently addressing concerns • Provide our solutions for heating, cooling, electricity generation and storage, and refrigeration to our end-users and customers — contributing to wellbeing, health, comfort, sleep quality, productivity increase, better shelter, and energy poverty reduction
	Health and wellbeing	Health, education, justice and equality of opportunity for all	
	Decent work	Secure, socially inclusive jobs and working conditions for all	

Sustainability business opportunity
If the total sustainability business opportunities were captured, the global economy would grow by 12%, or USD 12 trillion. This increase breaks down into multiple areas, many of which are relevant for us, such as:[15]



- **11%** Energy efficiency
- **10%** Clean energy
- **8%** Circular economy manufacturing
- **7%** Healthy lifestyles
- **6%** Food loss and waste
- **3%** Buildings solutions

Positive impacts of buildings on people
The wellbeing of people depends on the wellbeing of the planet. This holds true for the outdoor as well as the indoor environment. Research findings in the convergent field of **Human Building Interaction** show the sustainability of buildings is related to human experiences, performance and wellbeing, as well as building design, operations and technology. Our solutions — heating, cooling, air quality, electricity generation and energy storage solutions, and refrigeration systems — fulfill the fundamental human needs for warmth, cooling, clean air and refrigeration, while we work to reduce their environmental and social impacts. This makes them part of the many solutions for **sustainable buildings**.

Multiple correlations point to the importance of building sustainability for human performance and wellbeing:

- Temperature deviations from the ambient temperature typically lead to lower cognitive performance, with heat stress having the worst effect.[16]
- Sleep thermal environment has an important impact on the quality of sleep.[17]
- Sustainable buildings can have positive cognitive and health impacts on people.[18]

About Viessmann

As a family business with a 106-year history, we take a multi-generational approach to value creation. We aspire to leave a positive legacy for future generations.

We are actively working towards reducing our own dependence on fossil fuels and transitioning to more sustainable alternatives. Between 2005 and 2019, due to our **EfficiencyPlus** program and the divestment of our foundry and smelter operations, we halved our operational scope 1 and 2 **greenhouse gas (GHG)** emissions while more than doubling our turnover. We have also made significant progress in increasing the share of products in our portfolio which can be powered by renewable energy - from 30% in 2019 to 50% in 2022.

80% of buildings are heated with fossil fuels and building construction largely uses virgin raw materials. With our new and future products and services, we can enable end-users to heat without fossil fuels and make a positive contribution to the climate challenge. And by increasing use of repurposed materials, we help to reduce resource overextraction.

We are committed to addressing environmental and social challenges in tandem, to foster a more sustainable and equitable future.

Revenue from products that can run on renewable energy
The 50% includes revenue from all our non-fossil products and services. For example, products that can run on (renewable) electricity or harvest renewable energy, such as heat pumps, solar thermal generators, water heaters and storage, air conditioning and cooling units, ventilation systems, photovoltaic panels and battery storage. Some of these products are also available as service, e.g. Climate-as-a-Service. Turnover from oil and natural gas products — which can theoretically also run on bio-based fuels or green gases — are excluded, given the lack of available supply at the time of writing this report.

Fiscal year 2022 figures:

14,500+
colleagues worldwide

€4+
billion turnover

800,000
products sold

50%
revenue from products that can run on renewable energy

22
production companies in 12 countries

68
distribution companies in 31 countries

120
sales branches

75,000
partners

Our organization today

Today, our company includes four business areas: **Climate Solutions**, **Refrigeration Solutions**, **Clean & Cool Solutions**, and **Viessmann Investment**. We also have two areas of activity through which we are developing new opportunities for wider impact: our venture capital and real estate organizations. And finally, the charitable work of our foundations supports positive social and environmental change.

Viessmann Climate Solutions

Viessmann Climate Solutions provides products and services for residential and commercial use, including heating, cooling, air quality, electricity generation and energy storage solutions. Enabling the transition of product energy supply from conventional hydrocarbon fuels such as oil and natural gas to renewable energy sources, and increasing product efficiency, are vital steps in minimizing our negative environmental impacts. Our service offerings also contribute to reducing these impacts. For example, we enable end-users and customers to take greater control over their devices and consume only what is necessary or to lease our products. In April 2023, we announced our Climate Solutions business would combine with Carrier Global Corporation, co-creating a new global champion in intelligent climate and energy solutions. The closing of the partnership is expected by the end of the year.

Viessmann Refrigeration Solutions and Clean & Cool Solutions

The two business areas — Refrigeration Solutions and Clean & Cool Solutions — provide commercial refrigeration products and services. Clean & Cool Solutions provides cold and clean rooms to multiple end-markets, among which are health care, life science and food service. Refrigeration Solutions provides refrigerated cabinets and refrigeration systems to the food retail and food services sectors. They both offer installation and service. Refrigeration Solutions will start a joint venture with the Epta Group in 2024, announced in July 2023. The Epta Group is an Italian based, family owned business in commercial refrigeration, with a similar purpose and values as the Viessmann Group. The joint venture will enable us to increase manufacturing capacity, services and reach in Central and Northern Europe, thereby enabling higher product and production efficiencies, better services to customers and end-users, and continuing the shift to natural refrigerants and electricity-only solutions.

Viessmann Investment

Viessmann Investment focuses on forming strategic partnerships with other businesses to accelerate the development of technologies and solutions that support our purpose of creating living spaces for generations to come. The majority of companies we invest in are other family-run businesses that align with our purpose and values. We only invest in companies with low-carbon business models or with a high transformation potential, making our investments an important driver for growing our offering of low-carbon solutions. We have so far invested in a total of 24 companies on four continents.

VC/O

Through our venture capital organization VC/O, we build companies from scratch and invest in start-ups, with a focus on high-tech engineering innovation and property technology. Today, V/CO investments comprise more than 30 companies, including disruptive technology leaders that proactively address socially relevant issues such as labor shortage. This gives us the opportunity to transform, grow and disrupt existing industries and infrastructure, and potentially to offer radical acceleration towards a sustainable future.

Viessmann Real Estate

Viessmann Real Estate develops and manages estate portfolio and facilities across our businesses. The Group's real estate portfolio now includes 120 sales branches worldwide and 22 production companies in twelve countries. Additional commercial properties include the regional hotels Die Sonne Frankenberg, Landgut Walkemühle, Gasthaus Alt Battenberg and Gästehaus Battenberg. We strive to operate our properties in a sustainable and energy-efficient way, contributing to our purpose of creating living spaces for generations to come.

Viessmann Foundations

Our four charitable **foundations** engage internal and external partners to co-create projects, especially on health-related issues, art and culture, education, science, research and social wellbeing.

Maschinenraum is one of our VC/O companies. It is a fast-growing ecosystem to share know-how and experiences across the German Mittelstand. With over 70 members, representing more than 450,000 employees in the **Mittelstand**, the Maschinenraum facilitates regular exchange on sustainability and other topics — confirming the fast-shifting external expectations on entrepreneurial responsibility and engagement when it comes to sustainability. Recent examples include the exchange on best practices on climate strategies, on the **Science Based Targets Initiative** or **human rights and environmental due diligence**.

Our system of solutions

We create living spaces for generations to come. We provide solutions for heating, cooling, air conditioning, electricity generation and energy storage, and refrigeration. Here we provide details of the types of products included in each category, forming our system solutions for buildings, which meet the essential needs for warmth, clean air, cooling & refrigeration.

Our solutions for ...

created through our products ...

Heating

- Heat pumps
- Solar thermal generators
- Bio/ conventional-fuel-based boilers
- Water heaters and storage
- High-pressure, high temperature steam boilers
- Ice storage
- District heating systems and transfer stations

Cooling

- Air conditioning and cooling units

Air conditioning

- Ventilation systems
- Decentral air purifiers and conditioners

Electricity generation and storage

- Photovoltaic panels and battery storage
- Electric vehicle charging stations

Refrigeration

- Freezers and coolers
- Cold rooms
- Clean rooms with integrated air purification and cooling

used in ...

Residential buildings

Commercial or industrial buildings

Districts of buildings

Food retail stores or restaurants

complemented with our digital products ...

ViCare

ViGuide

and services.

Climate-as-a-Service

Subsidy Services

Field Services

Our family of colleagues and partners

Our colleagues

Our diverse family of colleagues consists of over 14,500 family members across Europe, Asia, North America, Australia and South Africa. We recognize the interdependence of each member within and outside the company, along the **value chain**. We firmly believe that sustainability can be integrated into the responsibilities of every individual and team within our organization and among our suppliers and partners.

Teams and functions that execute our strategy together

mann
nability
tegy

- Procurement
- Supply Chain Audit and Quality
- Research and Development
- Engineering
- Product Design
- Product Lines
- Energy Management
- Environmental Management
- Fleet Management
- Facility Management
- People and Organization
- Reskilling Team
- Communications
- Marketing
- Sales
- Customer Service
- Value Added Services
- Technical Services
- Legal and Compliance
- Public Affairs
- Foresting Team

Our partners and distribution channels

We distribute our Viessmann Climate Solutions through a diverse range of channels, primarily adopting a B2B2C[19] approach. Our 75,000 partners - installers, solar installers and electricians - are by far our most important channel. In most countries we have a direct relationship with them and this two-step model (manufacturer → partner) differs from the typical three-step model common in the heating sector (manufacturer→ wholesaler → partner). Our partners play a vital role in the ramp-up of renewable solutions in buildings: they are in direct contact with the end-users and install solutions on the ground, on a daily basis. We also distribute through multiple other channels as shown in the graphic.

Many installation partners are small and medium-sized family businesses and we recognize them as the backbone of the energy transition. For example, in Germany, our largest market, they are part of the more than 1 million trades companies, including roofers, bricklayers and many others. Collectively, they employ more than 5 million people and educate 350,000 apprentices year-on-year.

Our distribution channels

1-step
- Industrial end-customers
- Commercial end-customers
- Direct-to-consumer shops

2-step
- Partner: (Solar) installers, electricians
- Service companies
- Forward integrators
- Buy-sell representatives
- Pre-fab houses
- Housing societies

3-step
- Wholesaler
- Energy service companies and utilities
- Engineering agencies
- System designers and architects

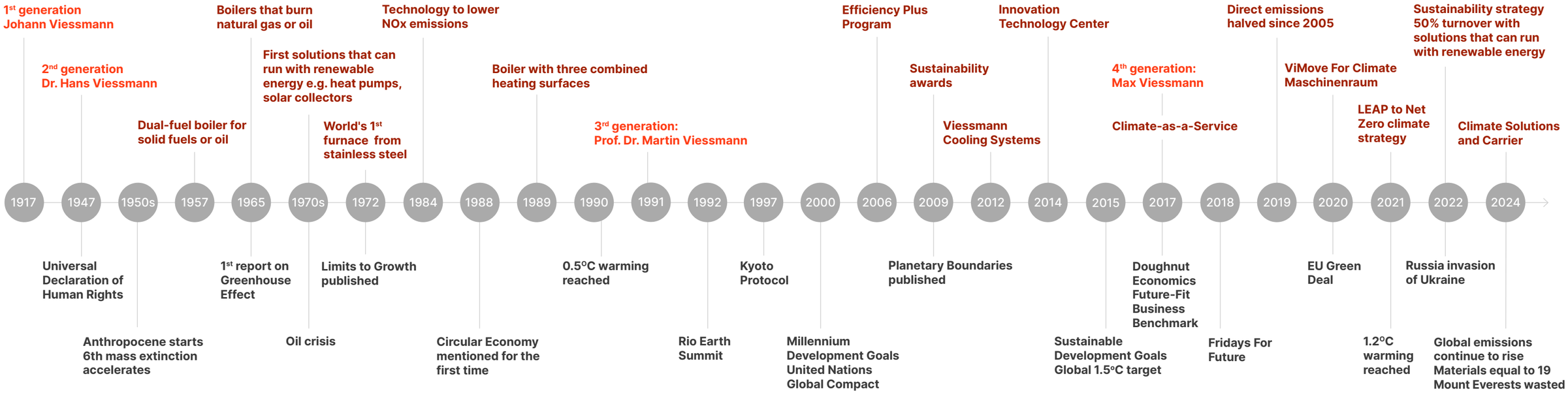
We are a familiy for positive change. Our 14,500 family members drive environmental and social change to live up to our purpose of co-creating living spaces for generations to come.

Our journey so far

Through the four generations of our company, we have seen huge changes in how the world operates. In our early years, more than 100 years ago, electricity was just starting to become widely available in homes across Europe. We have strived to pioneer technological progress: we switched from coal to oil, to natural gas, and now to renewable solutions. We developed our first renewable energy solutions in response to the oil crisis, and we digitized our entire Group, products and services in the past decade — moving from being a product, hardware supplier, to a provider of smart, interconnected solutions.

Over time, collective knowledge within our company has grown. We now understand better that materials traditionally used for powering and fueling our products are damaging to the health of our planet and our communities. Guided by our engineering ethic, we continuously increase the efficiency, affordability and accessibility of our products and services. The urgency of global sustainability challenges makes these efforts more important than ever.

Milestones in Viessmann history



Milestones in sustainability history

Our response to the war in Ukraine

Viessmann is a family-owned company with a strong commitment to values such as well-being, free thinking, and democratic decision-making. We viewed President Putin's attacks against Ukraine as an assault on these principles. In response, we ceased conducting business with Russia, including deliveries and spare parts. We divested our factory in Russia in a responsible manner, mindful of the wellbeing of its employees, who were part of the Viessmann family of colleagues before the start of the war and whom we thank for their contribution.

The safety of Viessmann employees in Ukraine was our top priority. Following the invasion, we took measures to relocate around 70% of our Ukrainian colleagues to the West of Ukraine, providing financial support for accommodation, advance salary payments as loans, and other provisions. We maintained constant communication with our local leadership team, appreciating their tireless efforts in those challenging circumstances.

In addition to supporting our employees, we recognized the urgent needs of affected individuals in Ukraine. We allocated EUR 1 million from our 2021 revenue to charitable aid organizations. We actively collaborated with global and local organizations. Our support included matching personal donations from our employees, offering local assistance during border crossings to neighboring countries like Poland, and planning for future re-integration efforts through training, education, and rebuilding projects.

We also engage with policy makers to support investments in decentralized energy solutions in Ukraine, with the aim to improve the resilience of the energy system currently under attack, and meet the new climate goals of the Ukrainian government.

The war and ensuing energy crisis has reinforced our determination to accelerate even more the transition towards non-fossil fuel solutions.

Our Vision

Embedding our longstanding commitment to sustainability

Our purpose — we co-create living spaces for generations to come — guides everything we do. By "living spaces for generations to come" we mean places that support people's comfort, health, and wellbeing now, without compromising the future health and wellbeing of people and the planet.

Our company strategy is our pathway to translate this purpose into tangible action. Sustainability is an integral part of this overall strategy, although in this report we refer to our "**sustainability strategy**" for simplicity.

We are committed to eradicate the negative impacts of our products, services and operations and to drive positive change. The following chapters explain how we do this.

Shifting external expectations
Our vision and strategy sit within an evolving global context. Sustainability policies such as the **EU Green Deal** and the Inflation Reduction Act in the US push for greater accountability and responsibility for sustainability in the private sector, in the **EU** and globally.

As part of the EU Green Deal, sustainability requirements encompass sustainable finance regulations such as the **EU taxonomy**, product regulations such as the **Green Claims Directive**, and disclosure requirements as specified in the **Corporate Sustainability Reporting Directive** and the **Corporate Sustainability Due Diligence Directive**. Leveling the playing field on these requirements already enables synergies across the value chain and across sectors. We therefore strongly support all of those policies and strive to provide solutions through our dialogue with policy makers.

Alongside political demand, end-consumer demand for more sustainable products in heating, cooling, air conditioning, electricity generation and storage and refrigeration is growing. This demand is driven by incentive schemes and a growing willingness and need to account for **climate transition risks** in investments. In our commercial segments, customer requests for quotations now include sustainability indicators by default.

We are committed to eradicate the negative impacts of our products, services and operations and to drive positive change.

"Our strategic focus on sustainability is key for long-term success, and we need partners with the same conviction who can provide us with lower carbon, more circular products. This is why we value our partnership with Viessmann and their focus on making their product portfolio and operations fully sustainable."

Tapio Finèr, CEO, SSO, S-Group

Our key principles

We have always had the aim to drive positive environmental and social change — in other words, to be a **family for positive change**. To effectively fulfill this role, we sharpened our understanding of our impact on the world and now communicate about it transparently. We have built our approach on some key principles:

Science-based

Similar to our engineering principles, we adopt a science-based approach to understanding problems and measuring our performance. We established targets and identified potential trade-offs to prioritize actions. We are prepared to iterate and revalidate our long-term targets, to always find the most effective way forward.

Systems thinking

We understand that our **ecosystems** and societies have limitations that have been crossed frequently by our economies over the last decades — leading to severe consequences. We understand humanity-set goalposts — the United Nations **Sustainable Development Goals** — to limit these consequences and bring back balance. And we understand that they are all interlinked. This systems thinking approach forms the core of our sustainability strategy.

Global

We developed the strategy for the whole Viessmann Group, taking into account all business areas, functions and regions.

Partnership

We understand that we cannot achieve our targets alone. We need our suppliers to build, our partners to install new technologies, our end-users, communities, regulators and activists to shift boundaries, create new regulations and set-up new framework conditions. Co-creation and collaboration with internal and external stakeholders is essential to deliver.

Investment commitment

Sustainability is inextricably linked to our company strategy, backed by investments of more than EUR 1 billion over the next three years. We are committed to directing significant resources toward achieving our sustainability targets, ensuring their integration into every aspect of our operations.

Shared values

Our heritage gives us a strong set of values that extend throughout the whole Viessmann family of colleagues and co-creators. These values, combined with the curiosity and courage to explore new pathways, serve as our compass for charting the course ahead.

Defining our sustainability strategy

Our strategy development process — implemented with the support of consultancy Nordic Sustainability — consisted of three steps:

First we assessed our sustainability performance. Second, we determined which sustainability issues are most significant and relevant to our business, stakeholders and society — a so-called **materiality assessment**. Last, we formulated a long-term and science-based sustainability strategy as an integral part of our company strategy.

Our current sustainability performance
We selected the **Future-Fit Business Benchmark** (FFBB) to assess our current sustainability performance for three reasons:

Precise measurement. The FFBB offers a concrete and quantifiable approach to assessing a company's sustainability performance. It provides specific non-financial **key fitness indicators**, which enable us to measure and track progress accurately, making the term "sustainability" tangible and actionable.

Science-based. The FFBB is grounded in scientific models and frameworks recognized globally, such as **Planetary Boundaries**, **Doughnut Economics**, **Earth System Boundaries** and the **Sustainable Development Goals**. By doing so, we ensure that our sustainability efforts are evidence-based and contribute effectively to addressing global challenges.

Holistic perspective. The FFBB considers the entire system in which a company operates, recognizing our influence beyond operational boundaries. It encompasses the complexity of our **supply chains** (upstream), the life of our products (downstream) and our relationship with stakeholders like governments, the finance sector, communities and ecosystems.

Annex 3 summarizes the assessment's results.

The Future-Fit Business Benchmark offers a concrete and quantifiable approach to assessing a company's sustainability performance.

The Future-Fit Business Benchmark

Developed by the **Future-Fit Foundation**, the **Future-Fit Business Benchmark** is based on **systems science** and decades of work by **The Natural Step**, translated for business application.

The methodology offers a set of indicators — key fitness indicators — used to assess and communicate the extent of a company's impacts. These indicators encompass negative impacts (**Break-Even Goals**) and positive impacts (**Positive Pursuits**).

Achieving 100% performance across all Break-Even Goals signifies a company's transition to being fully sustainable with no negative impacts, in other words, a future-fit business.

With our sustainability strategy we set ourselves a first clear milestone on the path towards becoming a future-fit business that is environmentally restorative, socially just, and economically inclusive. Our aim is to achieve all social and environmental Break-Even Goals and improve our performance across the Positive Pursuits.

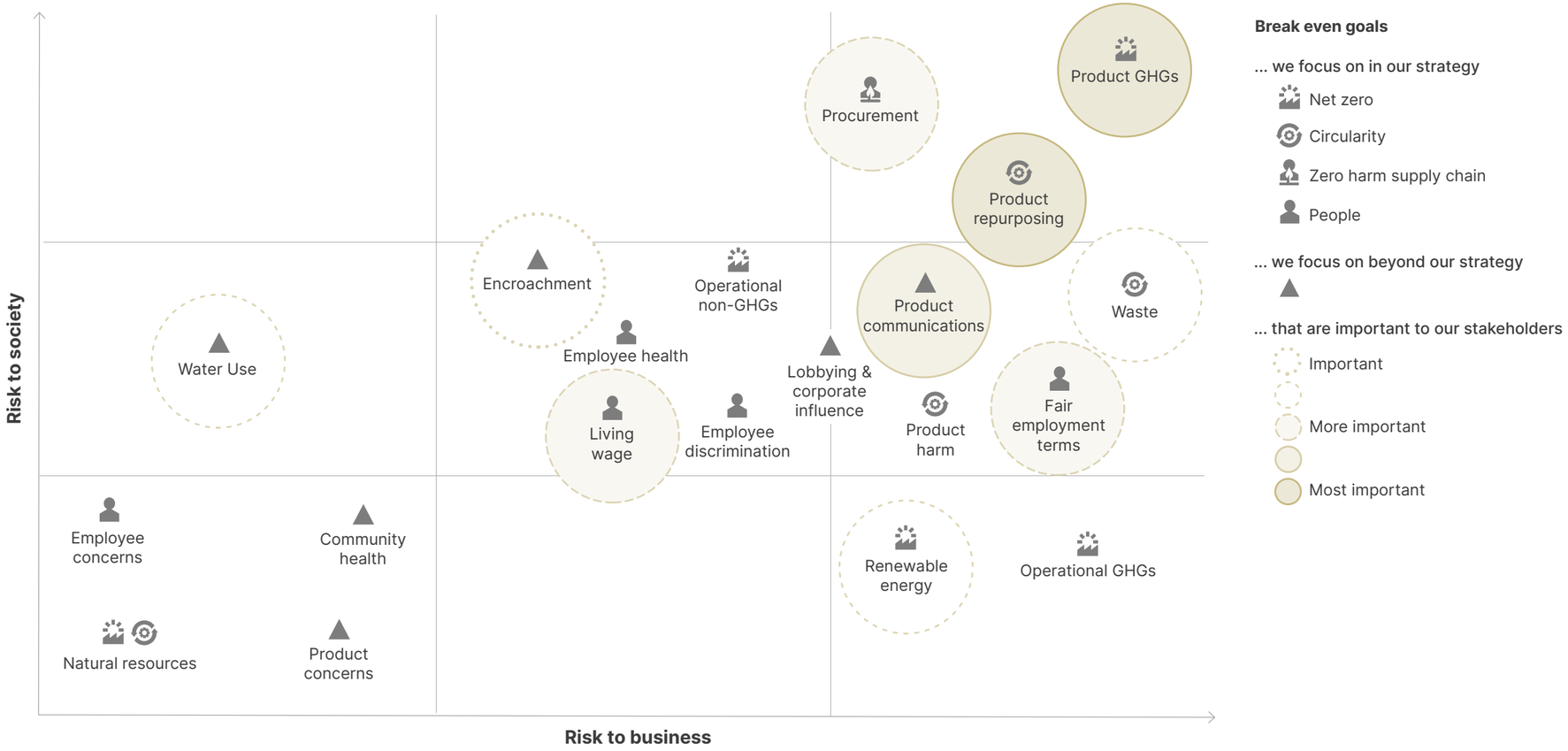
The Break-Even Goals and Positive Pursuits are interrelated and ensure full accountability across the value chain. Progress or regression in one indicator will impact multiple others. This table provides a consolidated overview of all indicators. The definitions behind each indicator can be found on the **Future-Fit website** and our assesment against all of these indicators in **Annex 3.**

	Break-Even Goals	Positive Pursuits
Energy	• Energy is from renewable sources	• Others depend less on non-renewable energy • More people have access to energy
Water	• Water use is environmentally responsible and socially equitable	• Others contribute less to water stress • More people have access to clean water
Natural Resources	• Natural resources are managed to respect the welfare of ecosystems, people and animals	• Others depend less on inadequately-managed natural resources
Pollution	• Operational emissions do not harm people or the environment • Operations emit no greenhouse gases • Products emit no greenhouse gases • Products do not harm people or the environment	• Others generate fewer greenhouse gas emissions • Greenhouse gases are removed from the atmosphere • Others generate fewer harmful emissions • Harmful emissions are removed from the environment
Waste	• Operational waste is eliminated • Products can be repurposed	• Others generate less waste • Waste is reclaimed and repurposed
Presence	• Operations do not encroach on ecosystems or communities	• Others cause less damage to areas of high social or cultural value • Areas of high social or cultural value are restored • Others cause less ecosystem degradation • Ecosystems are regenerated
People	• Community health is safeguarded • Employee health is safeguarded • Employees are paid at least a living wage • Employees are subject to fair employment terms • Employees are not subject to discrimination • Employee concerns are actively solicited, impartially judged and transparently addressed • Product communications are honest, ethical, and promote responsible use • Product concerns are actively solicited, impartially judged and transparently addressed	• More people are healthy and safe from harm • People's capabilities are strengthened • More people have access to economic opportunity • Individual freedoms are upheld for more people • Social cohesion is strengthened
Drivers	• Procurement safeguards the pursuit of future-fitness • Financial assets safeguard the pursuit of future-fitness • Lobbying and corporate influence safeguard the pursuit of future-fitness • The right tax is paid in the right place at the right time • Business is conducted ethically	• Governance is strengthened in pursuit of future-fitness • Infrastructure is strengthened in pursuit of future-fitness • Market mechanisms are strengthened in pursuit of future-fitness • Social norms increasingly support the pursuit of future-fitness

Our material sustainability issues

After assessing our current sustainability performance, we conducted a two-step materiality assessment:

1. Business and societal risks associated with our current performance across all Break-Even Goals were evaluated (**Annex 3**). This helped us to decide which indicators to focus on as part of our sustainability strategy.[20]
2. We also aligned the results of the assessment with the outcomes of a stakeholder survey conducted in 2021. The survey gathered input from over 500 stakeholders across 5 countries on most material non-financial topics.



In 2050 Viessmann will be a net zero, circular business with a zero harm supply chain.

Our sustainability strategy
We reaffirmed our commitment to achieving **net zero** emissions as enshrined in our 2021 "**LEAP** to Net Zero" climate strategy, and we defined two additional commitments: to become a **circular** business, and to achieve a transparent, **zero harm supply chain**. Together, these three pillars constitute our strategic **focus areas**. We also prioritized three organizational **enablers** — people, data management and governance — knowing they are often the first road-blocks for effective strategy implementation.

Our sustainability strategy lays the foundation for Viessmann's transformation towards becoming a fully sustainable company and is an integral part of our company strategy. It consists of:

1. A 2050 vision that aligns with our company's purpose.
2. Focus areas with clear targets for 2030 and 2050, supported by key performance indicators.
3. Organizational enablers that facilitate the execution of our strategy.

Company purpose

VIESSMANN

We create living spaces for generations to come

Focus areas	Net zero		Circularity			Supply chain		
Vision	**Net zero business and value chain**		**Circular business**			**Zero harm supply chain**		
2050 targets	Product portfolio and supply chain have net zero GHG emissions	Operations have net zero GHG emissions	All products are designed according to sustainable principles	All business models are circular	Operations create zero waste	Effective supply chain sustainability governance is in place	Supply chain causes no harm to the planet anywhere	Supply chain causes no harm to people anywhere
2030 targets	Product portfolio and supply chain (Scope 3) have 55% lower emissions intensity	Operations (Scope 1 and 2) have 48% less absolute emissions Net carbon sinks are established	50% (average) repurposed content in products 80% (average) of all components can be repurposed 100% of products are without harmful substances	30% of revenue comes from circular business models	100% of operational waste is repurposed	Effective processes and systems in place to comply with current and future regulations and to create transparency about supplier's negative impacts	50% (average) repurposed content in purchased goods 55% lower emissions intensity in our supply chain (scope 3)	The most significant human rights risks are managed and mitigated

Enablers

People	Governance	Data
Positive impacts on people	Effective sustainability governance	Effective sustainability data systems

The enablers of our sustainability strategy are interwoven with our focus areas. For example, implementing sustainable design practices relies on our purchasing organization's ability to source **recycled** materials, even if it entails economic trade-offs. In turn, these trade-offs can only be balanced by leveraging the sustainability attributes of our products through market incentivization, which requires collaborative efforts from strategic standardization, public affairs, marketing, and our sales teams. Our organizational readiness to drive change depends on how well our key enablers are in place and integrated across all functions.

The table provides an overview of what topics are part of our strategy, what we do beyond our strategy and where to read more in this report. The following chapters explain each part of strategy in depth, including why we focus on each topic, what targets we strive to reach, where we are today and what we will do next.

What we focus on	Key activities	Read more
Net Zero	• Reduce product portfolio emissions • Reduce operational emissions • Reduce supply chain emissions • Invest in natural carbon sinks (forests, peatlands and swamps) • Educate and engage for global net zero target • Use correct product green claims	Page 21
Circularity	• Design sustainable products • Develop circular business models • Reach zero waste operations	Page 31
Zero Harm Supply Chain	• Establish supply chain sustainability governance • Reach supply chains with zero harm on people and planet	Page 43
People	• Re- and upskill our people • Create positive impacts on people by focusing on physical and mental health, living wages, anti-discrimination, fair employment terms and concerns	Page 51
Governance	• Build a sustainability governance system	Page 55
Data	• Adjust, streamline and develop sustainability data systems	Page 55
Beyond our sustainability strategy	• Reduce water use, wastewater and non-GHG operational emissions • Reduce impact on ecosystems surrounding us • Reduce impact on communities surrounding us • Address product concerns • Ensure sustainable advocacy • Ensure sustainable investments	Page 56

"Kospel's mission of providing comfortable climate with care for the environment is well reflected in the Viessmann sustainability strategy. Collaboration with our supply chain partners to ensure zero harm on planet and people and jointly developing affordable indoor climate and warm water solutions in line with the global commitment towards net zero greenhouse gas emissions, is what we focus on."

Artur Pajak, CEO, Kospel, a Viessmann Invest company

Net zero

Net zero: a state in which the greenhouse gases going into the atmosphere are balanced by their removal out of the atmosphere.

The challenge and opportunity
The challenges of the climate crisis are significant, but the necessary solutions to halve global emissions by 2030 (from 2020 levels) and reach **net zero** emissions globally by 2050 already exist. We believe that it is feasible to realize our vision of becoming a net zero company — including across our own operations, **supply chain** and product portfolio. Here are two examples:

Fossil fuel based boilers for residential heating have typical annual operational emissions of 4-6 tons **carbon dioxide equivalent (CO_2e)**. Shifting to heat pumps, reduces annual emissions to 0.2-1.5 tons CO_2e depending on the grid electricity mix. We work in partnership with others to ensure the relevant policies, skills and manufacturing capabilities are in place to encourage greater uptake of heat pumps.

Fossil free energy management in food retail through a combination of onsite renewables generation, heating, cooling and refrigeration can lead to energy savings of up to 20 MWh per year for a typical European food retail store. This also leads to corresponding **greenhouse gas** (GHG) emission reductions, depending on the electricity grid. In the Czech Republic, for example, the reductions would be about 66 tons of CO_2e over the lifetime of our **ESyCool green system**, which combines photovoltaic systems, heat pumps, freezers and cold rooms.

Why reaching net zero is important
Global average surface temperature has already risen by 1.2°C,[21] and extreme weather events increase in amount and magnitude year-on-year. The financial impacts are being felt — increasing for example in the **EU** to a peak of EUR 51 billion in 2021, due to severe flooding events in Germany and Belgium.[22]

The temperature increase is caused by the emission of GHGs, which build up in our atmosphere and trap heat — a phenomenon known as the greenhouse gas effect. These impacts of the human-induced climate crisis are being felt by **ecosystems** and communities around the world, with those having contributed the least often being the most affected.

While world leaders agreed to limit global warming well below 2°C, keeping 1.5°C within reach, in the historic **Paris Agreement** in 2015, emissions continue to rise. Climate scientists forecast that we will reach the 1.5°C mark earlier than expected, within the next few years. A stable climate system with regular seasons has only existed for the last 10,000 years and was the prerequisite for thriving civilizations. We are now destabilizing our climate by releasing **carbon dioxide** captured over millions of years in fossil biomass, in just a matter of decades. This is pushing us towards uncharted territory, approaching climate tipping points that will bring irreversible changes to Earth.

Collective action to reduce global emissions is urgently needed — from businesses, governments, communities and individuals. Even small amounts of warming make a significant difference for how livable planet Earth will remain. For example, every further 0.1°C will expose an additional 140 million people — equivalent to the combined population of France and Turkey — to dangerous heat.[23]

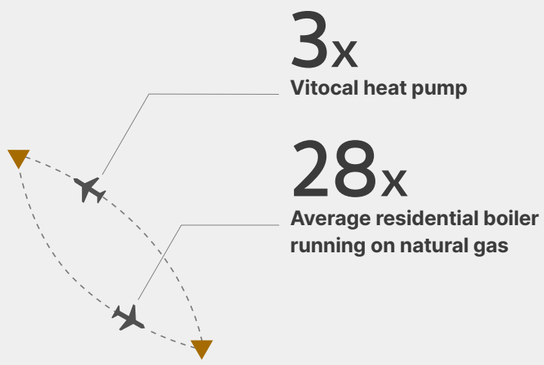
"Global emissions due to the lack of cooling and refrigeration of food are significant. It is our joint responsibility to solve this challenge and reduce emissions. Products from suppliers like Viessmann, which are highly energy efficient and run with renewable energy, are key to doing so."

Frank Heuberger, Managing Director,
Heuberger Kälte Klima GmbH

Product example

Products can have both negative and positive impacts on people and the planet. In the following example of a Viessmann product — a **Vitocal** heat pump — we highlight the emissions generated across the whole product lifecycle.

The Vitocal air-to-water heat pump captures heat from the ambient air (using electricity) and transfers it to the water-based house heating system. On the next page, we share the greenhouse gas emissions of a Vitocal model operating in France and using energy from the electricity grid. The overall emissions will increase or decrease depending on the set-up and location of operation. The heat pump's total life cycle emissions over a 20-year product life are 10,192 kg CO_2e, which we break down into different life cycle phases. This is equivalent to driving 50,000 km in an average car, or flying three times from Germany to the Maldives and back. In comparison, the total life cycle emissions of an average residential gas boiler would be around 85,000 kg CO_2e — equivalent to driving 425,000 km or flying 28 times from Germany to the Maldives and back.[24]



Emissions for each life cycle phase of the Vitocal heat pump

Total emissions
10,192 kg CO_2e

Supply chain

16.6%
1,689 kg CO_2e

Includes emissions all the way back to the first supplier. These are our Scope 3 upstream emissions, or supply chain emissions.

Manufacturing

2.8%
281 kg CO_2e

Includes emissions during manufacturing of the product. These are our scope 1 and 2 operational emissions.

Emissions from supply chain and manufacturing are together called **embodied carbon** (or **cradle-to-gate emissions**).

Distribution and Installation

1%
105 kg CO_2e

From here on, the product has left the factory, so we talk about downstream emissions — all the emissions to the end of material flows and steps that the heat pump still has to go until its product life is over. In this report we talk about downstream emissions or emissions from our product portfolio.

Use

78%
7,948 kg CO_2e

Emissions calculated here stem from the electricity generation and distribution required to power the heat pump. These can be reduced further e.g. photovoltaic electricity generation.

End-of-life

1.6%
169 kg CO_2e

After functioning for 20 years, the heat pump is decommissioned, dismantled and materials are (currently) mainly put into low-value bulk recycling, which produces some additional emissions. These emissions could be diminished or even turned into negative emissions. Circular business models enable valuable components and materials to be harvested. These would then be used in the upstream operations again, reducing virgin raw material processing and new component manufacturing.

This example shows that products vital for a low-carbon future still generate emissions. Even in France, the country with the lowest **carbon** intensity in electricity supply because of nuclear power, this Vitocal heat pump still emits 10,192 kg CO_2e throughout its lifecycle, of which 78% occurs during use phase. In Germany and Poland, it would emit respectively 4 times and 7 times more.

Cooling and ventilation in times of global warming

As global temperatures rise, the demand for refrigeration and cooling technologies will increase. And the higher frequency of extreme weather events such as wildfires and droughts will increase air pollution, requiring more energy for air purification and circulation.

By 2050, approximately two-thirds of all households could have air conditioning units,[25] resulting in an additional energy consumption of over 6,000 terawatt hours per year. This is 20 times greater than the total lifetime energy consumption of the 800,000 products sold by Viessmann in 2022.

By developing efficient solutions within our portfolio, we can help reduce energy consumption by up to 45%. We can also ensure that the electricity used in our interconnected home system solutions is produced from renewable sources. This approach helps to address the energy demand while supporting the shift to a low-carbon energy mix.

Where we want to be

Here, we share an overview of our **net zero** focus area, including our targets and key initiatives.

Through our products, services and investments we can reduce emissions in various sectors. We focus on reducing energy consumption throughout the entire life cycle, improving **energy efficiency**, and enabling the use of renewable energy.

Our net zero targets are closely linked to our supply chain and **circularity** targets. Renewable energy technologies can be more material intensive, such as a heat pump system requiring more materials than a conventional natural gas boiler. Failing to make progress on our supply chain and circularity targets could therefore potentially hinder our ability to effectively deploy products that can run on renewable energy.

Our net zero pathway

Vision — Net zero business and value chain

2030 targets

Product portfolio and supply chain (Scope 3) have 55% lower emissions intensity

- Transition portfolio to products that can be powered with renewable energy
- Collaborate with suppliers to reduce their emissions

Key initiatives

Operations (Scope 1 and 2) have 48% less absolute emissions

- Implement emissions reduction measure for existing sites
- Aim for net-zero buildings at new sites

Key initiatives

Net carbon sinks are established

- Invest in natural carbon sinks through Viessmann-owned forests

Key initiative

2050 targets

Product portfolio and supply chain have net zero GHG emissions

Operations have net zero GHG emissions

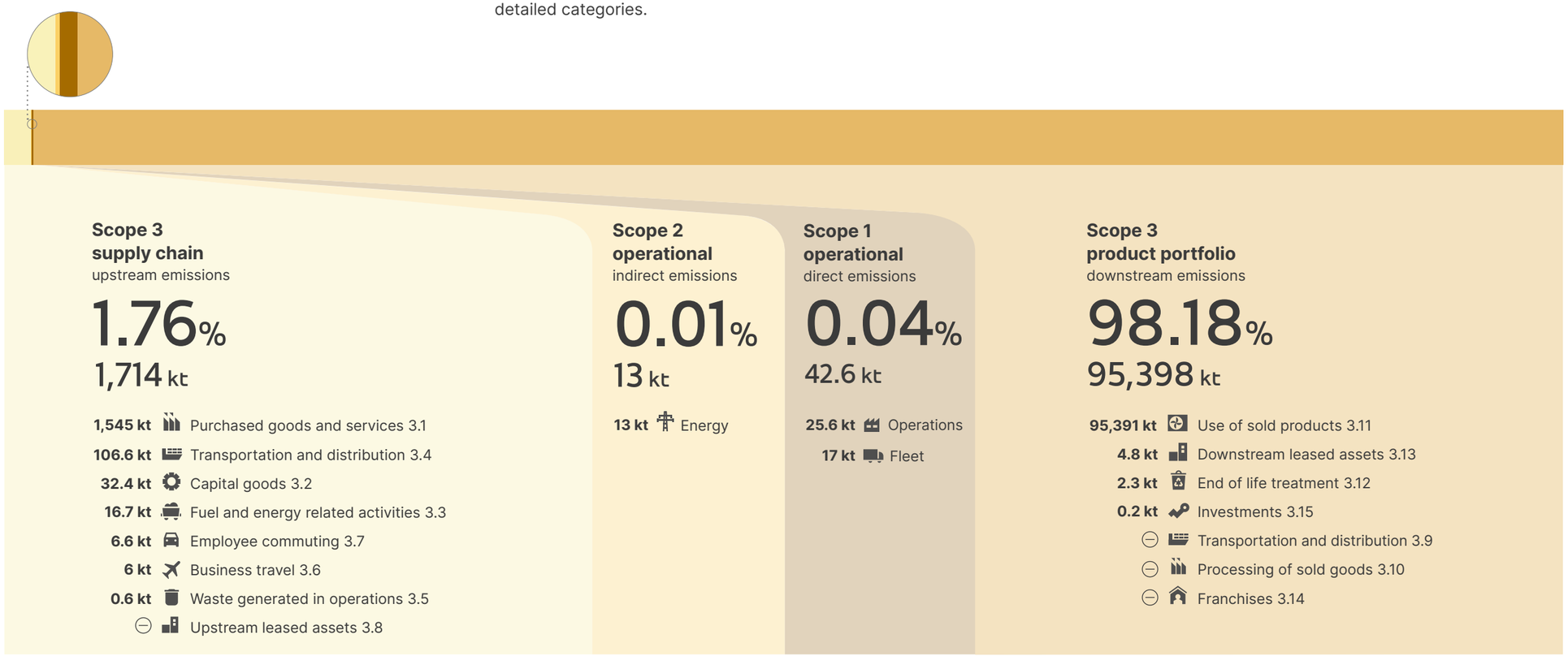
SCIENCE BASED TARGETS

DRIVING AMBITIOUS CORPORATE CLIMATE ACTION

Our science-based targets to achieve net zero

The **Science Based Targets initiative** (SBTi) has validated that our scope 1 to 3 GHG emissions reduction targets are in line with a 1.5°C trajectory. SBTi is the most credible way to verify that corporate targets are aligned with the **Paris Agreement**. The external verification of our science-based targets also helps us to prepare for the upcoming **Corporate Sustainability Due Diligence Directive**, which mandates a science-based climate strategy. It further offers an opportunity to become less dependent on volatile fossil fuel markets and emissions trading schemes such as the **EU Emissions Trading System**, which will become mandatory for the building sector in 2026.

Our current greenhouse gas emissions
The use of our products (scope 3 **downstream emissions**) accounts for 98% of our total emissions, presenting the greatest opportunity for reductions. The emissions of our supply chain (scope 3 **upstream emissions**) are the second biggest lever, comprising 1.76% of our total emissions. This is still 40 times higher than our **scope 1** and **scope 2** emissions from our own operations, which only account for 0.05% of our total emissions. The graphic below provides a breakdown of our emissions into more detailed categories.



Total emissions
97 mt CO_2e
97,167.6 kt

Key:
Below threshold
3.1-15: Scope 3 emission categories according to the GHG Protocol

Performance against our net zero targets
The table below provides an overview of our key performance indicators (KPIs) and their current status. Additionally, the table highlights the specific Future-Fit indicators we are focusing on, with associated risks for business and society identified through our materiality assessment (**page 18**).

2050 target	2030 target	KPI	2022 performance	Relevant Future-Fit Break-Even Goal	Risk to society	Risk to business
Product portfolio and supply chain have net zero GHG emissions (scope 3)	Product portfolio and supply chain have -55% emissions intensity versus 2019 level (average -7% per year, SBTi)	Reduction of GHG emissions by **economic intensity**	Total scope 3 GHG emissions: 97,112 kt CO_2e Intensity: 85 kt CO_2e / € million Change from 2019 base year: -34%	Products emit no greenhouse gases	Direct lifetime emissions from products are significant	High **climate transition risk** as the global economy **decarbonizes** (e.g. access to finance, revenue, regulation, reputation)
Operations have net zero GHG emissions (scope 1 and 2)	Operations have -48% absolute emissions versus 2019 level (average -4.2% per year, SBTi)	Total reductions in GHG emissions	Total scope 1 and 2 GHG emissions: 55.6 kt CO_2e Intensity: 13.7 tons CO_2e / € million (-31% versus 2019 level) Change from 2019 base year: +5.5%	Energy is from renewable sources	Most of our energy emissions occur in the products' use phase	Our current dependence on natural gas and diesel entails high business risk due to climate legislation
				Operational emissions do not harm people or the environment	We need to do more to understand our impacts from non-GHG emissions	Compliance and reputation risk
				Operations emit no greenhouse gases	Operations account for 0.05% of our total GHG emissions	Phase out of natural gas and diesel due to climate legislation
	Net carbon sinks are established	Total GHG sequestered	1,918 ha Finland forest and peatland 2,280 ha Canada forest and swamp Total tons CO_2e sequestered will be determined through verified procedures over the next couple of years	Natural resources are managed to safeguard communities, animals, and ecosystems	What we do supports strengthening ecosystems and biodiversity	Our forests are neither an integrated part of commercial activity nor part of reaching our set SBTi targets

Progress: product portfolio and supply chain emissions

The emissions intensity of our supply chain and product portfolio has already decreased by 34% compared to 2019 levels, resulting in a reduction of 43 tons CO_2e per EUR 1 million value added. This progress puts us on track to achieve our scope 3 target of a reduction of 55% by 2030, or a reduction of 70 tons CO_2e per EUR 1 million value added.

Despite a significant annual growth of more than 17%, our 2022 scope 3 emissions totaled 97 mega or million tons CO_2e, down from more than 108 megatons CO_2e in 2021. This took us below 100 megatons for the first time since 2019. The reduction of more than ten megatons is comparable to the annual emissions of two medium-sized coal power plants. Also, between 2019-2022, our emissions have decreased from 128 grams to 85 grams CO_2e emitted for every euro of value added.

In support of our 2030 and 2050 targets, we aim to achieve average annual reductions of 7% in our product and supply chain emissions per euro value added between 2019-2030.

Product portfolio emissions

As highlighted previously, downstream emissions from the use of our sold products represent 98% of our GHG emissions. In 2022 alone, they were responsible for 95 megatons (95,398 kilotons) **CO_2e**. The portfolio shift away from fossil fuel to renewable-based solutions is by far our top priority as there are seven years left to collectively halve global emissions compared to 2020 levels according to science.[26]

Green gases could enable our boilers to run on renewable energy, but will not help us to continue to reduce our product portfolio emissions in the coming years, due to lack of supply. We have joined several pilot projects and initiatives on hydrogen, while keeping our focus on the ramp up of heat pumps.

Our current scope 3 reductions are therefore driven by increased production of heat pumps and other products, that can run on renewable energy, across multiple sites, including Allendorf, Landsberg and Berlin (Germany), Legnica (Poland), and Faulquemont (France).

This is reflected in the revenue generated by increased end-user demand. Nearly 50% of our revenue comes from products that can be powered with renewable energy — up from 30% in 2019. This is a historic tipping point for our Climate Solutions business area. Renewable-powered products include, for example, heat pumps, solar thermal generators, water heaters and storage, air conditioning and cooling units, ventilation systems, photovoltaic panels and battery storage. To support and accelerate this portfolio transformation, we announced in 2022 that we will invest EUR 1 billion over three to five years, for example EUR 15 million in our Berlin factory in Rudow.

Our portfolio transformation will be further accelerated through our new transatlantic partnership with Carrier Global Corporation. After the completion of the transaction, there will be a revalidation and adjustment of our targets validated by the **Science Based Targets initiative** — both for the new partnership, which will be led by Carrier, and for the business areas of the Viessmann Group not affected by the transaction.

Supply chain emissions

Our total scope 3 upstream emissions were 1,714 kilotons CO_2e in 2022, 40 times more than our own operational (scope 1 and 2) emissions. We can reduce these emissions by working with our suppliers and sourcing lower **carbon** materials. Steel, for example, accounts for about 9% of our upstream emissions (140 kilotons) — switching to green steel can theoretically enable reductions of 68%, down to 44.8 kilotons of CO_2e per year (**page 49**).

We actively collaborate with our suppliers to jointly reduce scope 3 upstream emissions. For example, we are currently exploring opportunities to reuse refurbished water pumps. By examining the **embodied carbon** of a typical water pump used in our heat pump system, we have identified a potential reduction of about 50 kg of embodied CO_2e per unit. Scaling this to 100,000 units could result in CO_2e reductions of 5,000 tons. This demonstrates the significant impact achievable by addressing even a single component (**page 32**).

Our reduction of more than ten megatons is comparable to the annual emissions of two medium-sized coal power plants.

Progress: operational emissions

Our operational emissions are limited compared to the emissions from use of our products, yet we believe that we must set an example and focus on every aspect of our emissions to drive systemic change and safeguard the future competitiveness of the company. In support of our 2030 and 2050 targets, we aim to achieve an annual average reduction of 4.2% in operational emissions between 2019-2030, to reach net zero operations at our Allendorf site by 2035, in Germany by 2045, and become a net zero company by 2050.

Our scope 1 (direct) and scope 2 (indirect) emissions have increased by 5.5% compared to 2019. In 2022, we emitted a total of 55.6 kilotons CO_2e, equivalent to the annual emissions of approximately 7,000 German citizens. When taking account of our company growth, however, we have become more efficient. In 2019, we emitted 19.9 g CO_2e per euro value added; in 2022 this decreased by 31% to 13.7g CO_2e. We already halved our scope 1 and 2 operational emissions between 2005 and 2019 despite increasing turnover by 140%. We plan to halve these emissions again in absolute terms by 2030, compared to 2019.

This reduction in emissions results from a **systematic** approach to implementing measures. We identified 120 reduction measures across all our sites, to be carried out until 2030. These measures have been developed in cooperation with **Etanomics**, a leading service provider in the field of energy efficiency and a Viessmann Investment portfolio company. We estimated, at the time of the assessment, that a total investment of EUR 60 million will be necessary to meet our SBTi 1.5°C targets for scope 1 and 2 by 2030. Our assessment showed the investments needed to comply with the SBTi 2°C trajectory by 2030 would have amounted to EUR 30 million, but we are committed to taking the more ambitious path.

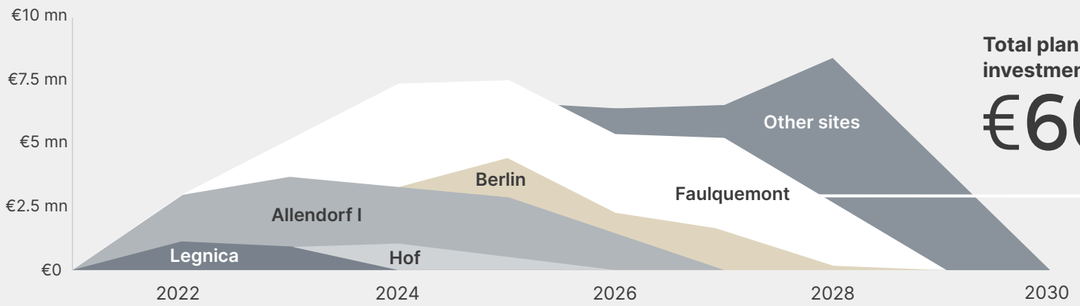
We have so far implemented eleven measures across five sites, including Allendorf (Germany), Faulquemont (France), Legnica (Poland), Dombovar (Hungary) and Manisa (Turkey). These efforts have resulted in emissions reductions of 2,173 tons CO_2e. Unfortunately, the positive effect of these measures was counteracted by an onsite spill at our site in Legnica from a leaking refrigerant pressure vessel, releasing about 1,800 tons CO_2e into the **atmosphere**.

The 5.5% increase in operational emissions can be primarily attributed to the significant growth of our **Viessmann Investment** business area. With the addition of three new portfolio companies in 2022, we surpassed the 5% de minimis threshold of the SBTi's accounting principles. For this reason, we added all Viessmann Investment portfolio companies to our 2022 baseline. We will adjust our baseline again after the merger of Viessmann Climate Solutions and Carrier Global Corporation is completed.

When we build new factories, we strive to build '**net zero factories**' from the outset. However, one of our recent experiences has highlighted the challenges we face in achieving this goal. Our plan to build a net zero factory in Legnica, Poland included the use of onsite solar and engagement in a power purchase agreement (PPA) to secure a stable supply of renewable energy. Although we successfully replaced natural gas with electricity for key production processes onsite, we encountered difficulties in securing a PPA. We decided instead to operate the factory with 100% **green electricity** based on an electricity supply contract, complemented with on-site photovoltaic generated electricity.

We will continue to implement our comprehensive set of 120 measures, and our efforts to construct net zero factories in the future.

Investing to reduce our scope 1 and 2 emissions[27]



Total planned investment by 2030

€60 million

Measures in Faulquemont

Implemented

- Optimization of compressed air supply
- Conversion of lighting to LED
- Partial renovation of building envelope and roofs

Planned

- Installation of an additional on-site photovoltaic system
- Continuation of renovation of complete building envelope
- Installation of heat exchanger for fresh air preheating in powder coating plant
- Heat generation with heat pump
- Use of biomethane instead of natural gas

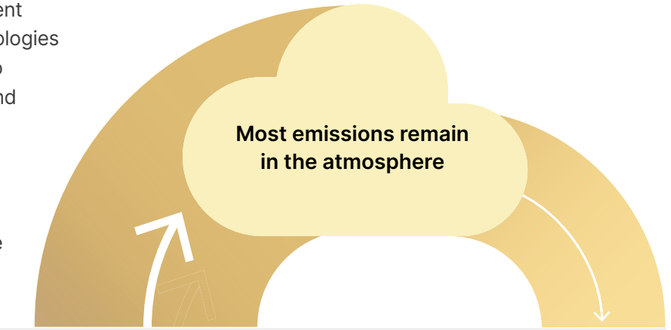
Progress: net carbon sinks

Carbon sinks absorb carbon dioxide emissions from the atmosphere. There are natural sinks such as forests and oceans, and there will be technological sinks in future. Net zero is reached if the volume of emissions that go into the atmosphere is equal to what is absorbed. The graphic shows that today most emissions are not absorbed, but remain in the atmosphere.[28]

Our third net zero target, which is in addition to our SBTi targets, is to establish net carbon sinks. Carbon removal through carbon sinks can slow down the rate of warming and potentially even reverse it over time. However, they in no way reduce our responsibility to reduce emissions along our entire **value chain**. We see the enhancement and creation of carbon sinks, carbon removal technologies and projects only as a last resort to achieve net zero emissions by 2050. Read more about our position and approach in our **Viessmann Offsetting Policy**.

Forest ecosystems currently absorb 24% of all emissions globally,[29] and this number is in decline due to deforestation. Efforts to protect and restore forests are therefore crucial.

We invest in natural carbon sinks — including more than 4,000 hectares of forests, peatlands and swamps since 2021 — to help achieve net zero emissions globally, and to protect and restore forest ecosystems. Our foresting team works to improve forest productivity, carbon capture, and biodiversity. Wood removed from our forests is primarily used for long-lasting products such as housing construction, so that the carbon physically stored within it is kept out of the atmosphere. Our forest in Finland is certified according to **Forest Stewardship Council®** standards and our forest in Canada is pending certification.



Current carbon emission sources e.g.:

- Electricity production
- Food, agriculture and land use
- Industry
- Transportation
- Buildings

Current natural carbon sinks are:

- Land
- Oceans

Our other activities related to net zero

Beyond our own net zero targets, we are engaged in various activities to educate, engage, and contribute to achieving net zero on a societal level.

ViMove for Climate

Engaging employees, **ViMove for Climate** encourages the planting of trees through team and individual sports activities. With the support of the ViMove app, we convert minutes or kilometers of sports activities into tree saplings to be planted. From the first lockdown in 2020 until the end of 2022, 21,000 people across 50 countries have contributed to the movement and more than one million trees have so far been planted. Initially, trees were planted as part of third-party reforestation projects, and we are now planting them in our company-owned forests. We also started providing the ViMove app and campaigns to more than five companies, to help them engage their employees in making a positive impact.

OneClimate

Developed by our incubator **wattx**, our app **OneClimate** aims to enable people to shift to a 1.5°C compatible lifestyle. The app encourages its users to assess their carbon emissions and then determines the most effective levers for reduction. Information about these levers is shared with users step-by-step through concrete proposals for action. Once the reduction potential is exhausted, the app proposes removal of CO_2 emissions by supporting projects on voluntary carbon markets or by purchasing emission certificates on the **European Emissions Trading System**. Users are also encouraged to take action beyond CO_2 emissions reduction, for example by signing petitions from NGOs such as WWF, or campaigning for internal CO_2 pricing at their companies.

Our **Future-Fit Business Benchmark** identified both ViMove and wattx with OneClimate as creating a positive impact, as they strengthen market mechanisms or social norms for sustainability through education and engagement for climate action.[30] In addition, ViMove was further recognized through three awards.[31]

Mission Zero

We founded the non-profit association **Mission Zero** in the Waldeck-Frankenberg district in Germany, where our headquarters is located. The goal of Mission Zero is to reach net zero emissions by 2035 in the region, which is home to 156,000 people. Since 2019, the 135 members have achieved 14,000 tons CO_2e reduction through 30 activities.

Engagement

Our activities in education (**page 54**) and advocacy (**page 58**) are further key enablers to reach net zero on a societal level.

Green claims
Clear and accurate product communications enable consumers to make informed decisions about the products they buy, and how they use and dispose of them. Over-claiming product benefits or under-communicating harmful effects is both a reputational and regulatory risk. **Green claim** regulation is strengthening in the EU to protect consumers from **greenwashing**.

We have made misleading claims in past communications and for this, the Danish NGO **Rådet for Grøn Omstilling** (Green Transition Denmark), accused us in 2022 of greenwashing. Our assessment confirmed that sustainability claims made in our communications could expose us to regulatory non-compliance. Some terms used to promote our environmental credentials, such as “green” and “helps protect the planet” were too vague or ambiguous and may have confused consumers. We addressed such misleading environmental claims by developing a green claims process, based on the proposed **EU Directive on Green Claims**. Through this process, we screen our communications for validity, increase information to support valid claims where needed, and eliminate claims that cannot be proven as factually correct. So far, we have checked approximately 350 product claims and added additional proof points to around 100 claims. The process identified some misleading claims, which we removed. All new product communications now go through this validation process.

“The focus on achieving a net zero heat and warm water supply in our buildings, quarters and cities is at the heart of the solutions PEWO offers to its customers. Adding the focus on service-based business models as well as zero-harm supply chains enables us to further enhance our solutions and offerings along the value chain.”

Dr. Ralf Meyer, Managing Director, Pewo, a Viessmann [illegible]

Circularity

The circular economy is a system where materials never become waste and nature is regenerated.

The challenge and opportunity
The global challenge of materials extraction and waste is significant. Humanity has already extracted a large amount of materials — equivalent to 22 Mount Everests. So far, 86% of this mass, or 19 Mount Everests, has ended up as waste, and only 14% was **repurposed**.[32] This unsustainable pattern is driven by a **linear economy** of take, make, and dispose. It is more than our planet can bear. And this is why we need to change to a **circular economy** where finite materials are used as little as possible and materials are kept in circulation at their highest value instead of going to waste.

A growing population and increasing urbanization further strain already limited natural resources and drive up their costs. The building and construction sector alone produces around 100 gigatons of waste every year. In 2022, Viessmann used about 100 kilotons (0.1 megatons or 0.0001 gigatons) of materials — equivalent to the weight of 1000 mid-sized planes — in our products.

Regulation for circularity has been minimal up to now besides the EU Waste Framework Directive. This will change through legislation such as the **EU Green Deal** package, the revised **Ecodesign Directive**, the **Green Claims Directive**, the **Directive on empowering consumers for the green transition** and the **Construction Products Directive**. In addition, producer responsibility legislation such as the **WEEE Directive**, the **Battery Directive** and the **Packaging Directive** is driving more attention towards circularity. All of these are highly relevant for us and our sector. We embrace them as we begin the journey of transitioning our portfolio towards circularity. Our progress will be further accelerated by complying with the environmental **due diligence** requirements of the **Corporate Sustainability Due Diligence Directive** and capitalizing on financial incentives provided by asset owners, banks, and insurances through compliance with **EU taxonomy** standards.

Circularity is the solution to **decoupling** growth from environmental impact, but it comes with its own share of challenges. Industries, such as ours, face specific obstacles. We rely on complex components and high-quality raw materials to deliver long-lasting solutions for heating, cooling, air conditioning, electricity generation and storage, and refrigeration.

Humanity has extracted materials equivalent to 22 Mount Everests

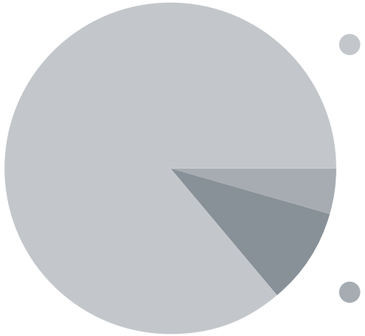
86%
Wasted

14%
Repurposed

Product example

Products can have both negative and positive impacts on people and the planet. Here we take another look at our **Vitocal** heat pump (**page 22**) — this time from a circularity perspective. To understand the material and energy needed or used during the product life cycle, we carried out a detailed **life cycle assessment (LCA)**. And we undertook a reverse engineering workshop (**next page**) to gain further insight into the Vitocal's potential for circularity.

The product consists of more than 2,000 components and weighs 260 kg. It includes:



86.5%
metal:
58.4% steel
16.5% stainless steel
8.2% copper and brass
0.3% manganese
3.1% aluminum

4.3%
thermoplastic

9.2%
other materials
including packaging

Vitocal indoor unit

The LCA and reverse engineering workshop led us to prioritize which of these components we should focus on for repurposing, starting with the metal sheets, copper pipes, heat exchanger and the water circulation pump. Together they make up 40% of the mass of the Vitocal indoor and outdoor unit.

Vitocal outdoor unit

Key:

- A **Outer metal sheets:** recyclable
- B **Copper pipes:** recyclable
- C **Heat exchanger:** repurposable
- D **Water circulation pump:** repurposable

Hotspots

LCAs (**page 36**) play an important role in our strategic decision-making by identifying the major environmental hotspots at key stages of the product life cycle. This enables us to prioritize areas for action and substitution of materials. For the Vitocal, the four biggest hotspots are:

1. Emissions during use phase.
2. Emissions through supply chain and manufacturing.
3. Human toxicity from resource extraction and product manufacturing, especially through steel and stainless steel.
4. **Eutrophication** of freshwater especially through copper.

In our search for circular solutions, we look at products generally from four perspectives:

High volume and value. The majority of the heat pump is metal, all of which can potentially be **recycled**. Compared to the other materials of the product, such as thermoplastic or insulation, metals also have the highest values. Current recycling practices, however, do not allow differentiation between different grades and values, and therefore tend to start at the lowest common denominator. This leads to **downcycling**, where the materials are recycled at a lower value.

Lifespan of components. Components in the Vitocal can have shorter (e.g. expansion vessel, valves, printed circuit boards, water pumps) or longer (e.g. heat exchanger) lifespans than that of the heat pump. Shorter lifespans mean potential replacements. Longer lifespans mean potential for reuse at the end of the product's lifecycle.

Collaboration. We are starting to receive interest from some suppliers in returning components to them for reuse, **remanufacturing** or high-value recycling. Together, we are exploring the potential to scale a supplier returns model.

Complexity. Components made from multiple materials and sub-assemblies offer recyclability challenges or may be difficult for us to repair without support from our suppliers. For example, the cables in the Vitocal are covered with polyvinyl chloride (PVC), which contains chlorine, so they cannot be put into recycling.

We disassembled — or reverse engineered — one of our air-to-water Vitocal heat pumps. Our primary objective was to analyze the heat pump and explore opportunities for optimizing its design in line with our sustainable design principles. We will hold further reverse engineering workshops for more products in future.

Where we want to be

Our vision is to be circular by 2050. This will mean that all our products are designed according to sustainable principles, we operate on circular business models and produce **zero waste**. It will also mean delivering our solutions for heating, cooling, electricity generation and storage, and refrigeration, while minimizing our material use impacts or even reducing them over time.

To progress towards this vision, we set intermediate targets to be met by 2030. Here, we share an overview of our circularity focus area, including targets and key initiatives.

Our circularity pathway

Vision Our business is circular

2030 targets

50% (average) repurposed content in products

80% (average) of all components can be repurposed

100% of products are without harmful substances

- Sustainable design guideline
- Life cycle assessmentss

Key initiatives

30% of revenue comes from circular business models

- Product take-back business models
- Service-based business models

Key initiatives

100% of operational waste is repurposed

- Repurpose upstream and downstream waste where possible
- Reduce landfill and incineration for non-avoidable wastes

Key initiatives

2050 targets

All products are designed according to sustainable principles

All business models are circular

Operations create zero waste

Our vision is to be circular by 2050. This will mean that all our products are designed according to sustainable principles, we operate on circular business models and produce zero waste.

Performance against our circularity targets
The following table provides an overview of our key performance indicators (KPIs) and their current status. Additionally, the table highlights the specific Future-Fit indicators we are focusing on, with associated risks for business and society identified through our materiality assessment (**page 18**). To establish a baseline and track our progress towards circular product design and business models, we are actively collecting data from our current circularity projects.

2050 target	2030 target	KPI	2022 performance	Relevant Future-Fit Break-Even Goal	Risk to society	Risk to business
All products are designed according to sustainable principles	50% (average) repurposed content in products	Average share of repurposed content in products by weight (%)	Our current circularity projects will enable us to measure our key performance indicators for the first time.[33]	Products can be repurposed	Material consumption is a major systemic driver of environmental impact and our products are not currently designed for circularity	Growing supply chain scarcity and potential business opportunities related to circularity
	80% (average) of all components can be repurposed	Share of components repurposable by weight (%)				
	100% of products are without harmful substances	Share of products without harmful substances (%)		Products do not harm people or the environment	Our products comply legally but cause users to pollute	High regulatory risk of having materials such as lead in products
All business models are circular	30% of revenue from circular business models	Share of revenue from circular business models (%)		Products can be repurposed	Material consumption is a major systemic driver of environmental impact and our products are not currently designed for circularity	Growing supply chain scarcity and potential business opportunities related to circularity
Operations create zero waste	100% of all operational waste is repurposed	Share of by-products that are not incinerated or landfilled by weight (%)	ISO 14001 sites only Repurposed: 89.8% • Recycling: 89.8% Not yet repurposed: 10.2% • Composting: 0.2% • Anaerobic digestion: 0.2% • Landfill: 1.8% • Incineration: 8% Waste intensity: 20 tons / € million (-24% versus 2019 level)	Operational waste is eliminated	Material consumption growth is unsustainable and is a key driver of other impacts. We have a high recycling quota, but further progress is needed	Growing supply chain scarcity and big cost reduction driver
		Share of material recovered from products taken back, by weight and %	Germany only Materials from take-back products: • 91% recycled • 9% incinerated			

Progress: sustainable product design
To make progress towards our product design target, we developed a sustainable product design guideline, which includes circularity.

Traditionally, our product design has prioritized **energy efficiency**, cost-effectiveness, quality, and reliability, with less emphasis on sustainability and circularity. Our products currently contain few recycled or refurbished components or materials, and lack of data on material composition and environmental impacts have been barriers to our progress. In addition, we have long been committed to reduce hazardous substances and have limited them to a technical minimum. While trace amounts of lead remain in some of our products due to brass components and solders, our strategy aims to eliminate them completely.

Looking ahead, we will integrate sustainability when designing new products. Our new sustainable design guideline, developed together with consultancy Nordic Sustainability, includes sustainable product design principles (**page 37**). The guideline will be applied for the design of all new products beginning with our next generation of heat pumps. It addresses various aspects including circularity assessment, environmental impact assessment on lifecycle basis, and energy efficiency during design. Furthermore, the guideline covers the entire product life cycle, including a focus on reducing **embodied carbon** and decoupling business growth from virgin resource extraction.

We will include insights that we get from the CE-RISE project (page 40) to further enrich the guideline with detail on material flows as well as environmental and social impact data of materials and components.

Collaboration is a key aspect of our commitment to achieve circularity. We will work with suppliers to increase use of repurposed content in our products, requiring them to have a minimum average percentage of repurposed content in their products, and jointly finding ways to offset higher upfront costs.

Product life cycle assessments
A product life cycle assessment (LCA) is a comprehensive tool that maps all environmental impacts of the materials and energy during a product's life cycle and the reasons for these impacts. We identify:

1. Environmental hotspots of a product's impact (e.g. steel, copper, electronics, plastics) and at which specific step of the product life cycle they happen.
2. Percentage of different materials by mass entering or leaving the product life cycle (mass balance).
3. A detailed overview of all components, including priorities for closing loops towards circularity.

When selecting products for an LCA,[34] we choose models that are available in a number of our markets and can be used with renewable energy. We aim to conduct LCAs for at least one representative product per product category.

"We design. We install. We maintain. We repair. We have a sustainable solution to help heat, cool or generate electricity for your home, office, factory or school with renewable energy sources. Viessmann's holistic strategy for a sustainable transformation of the HVAC solutions space is a strong enabler for us — not only through offering solutions with minimal carbon emissions, but also through the integrated focus on circularity, embracing durability and repairability in design."

Phil Pallister, CEO, 0800 Repair, a Viessmann Invest company

Our sustainable product design principles

1 Integrate sustainability from project start

1. Integrate sustainability in the earliest stages of the project, as this is the most important time for determining the product impacts
2. Understand the revenue model you design for (Annex 5)
3. Understand your stakeholders' needs — now and in the future
4. Set sustainability goals for your project ensuring they reflect Viessmann's **sustainability strategy**
5. Ensure all relevant stakeholders are included from the start of the project

2 Minimize environmental impact during use

1. Product runs on electricity or renewable energy (net zero products)
2. Product is as energy efficient as possible (net zero products)

3 Design for circularity

1. Design for durable and repairable products, that promote the longest product lifespan
2. Design for disassembly (repurposable products)
3. Minimize material use while retaining function, durability, and repairability
4. Avoid waste in production, and where it cannot be avoided, ensure it is re-used or recycled (zero waste)
5. Prioritize use of remanufactured or reused components (repurposed content)
6. Prioritize use of recycled materials over virgin materials (repurposed content)
7. Prioritize components and materials that are produced using renewable energy (net zero products and supply chain)
8. Prioritize lowest lifecycle based emissions (net zero products)
9. Avoid mixed, blended or intricate materials (repurposable products)
10. Avoid use of virgin critical and strategic raw materials (repurposed content)
11. Avoid use of toxic materials or PFAS (Per- and Polyfluorinated Substances) or, at a minimum, document why there is no viable alternative (zero harmful substances)

Many of the principles will help us to reach the specific sub-targets that we set ourselves in our sustainability strategy, as indicated in brackets, while others are more overarching, for example:

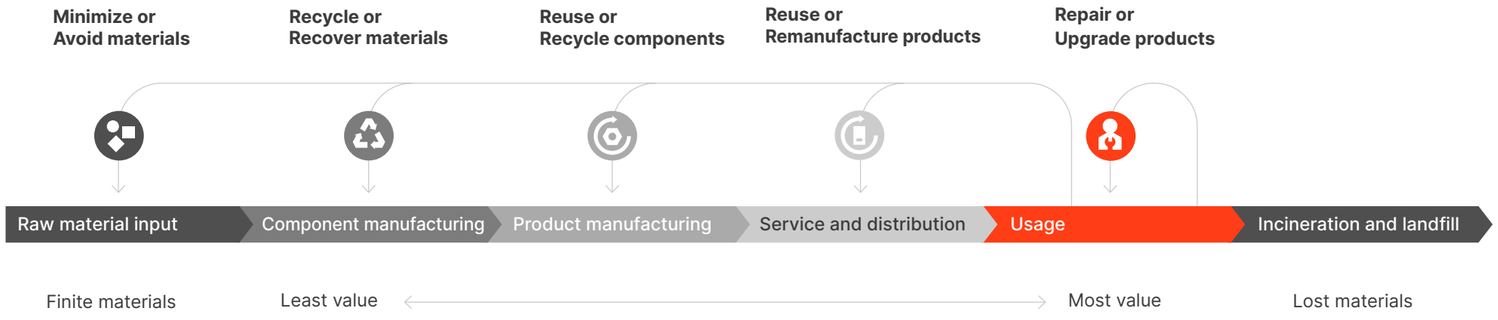
- To embed sustainability into employee's mindsets and action, it is important to think from a future perspective (Principles 1.3).
- To reach a circular economy globally requires us to increase the time materials are in use and slow down the current speed of our linear economy with its take, make, dispose approach (Principle 3.1).
- We must reduce the total amount of materials used as much as possible (Principle 3.3).

Progress: circular business models
Our current business model is predominantly linear, with the few exceptions mainly driven by producer responsibility legislation (**page 31**). We recognize the need for transformation towards circularity. Circular business models enable us to reclaim valuable materials at the end of a product's life. They also enable us, our partners and customers to reduce material resource consumption. Our target for 2050 is to operate on circular business models. And by 2030, we aim to generate 30% of our revenue from such models.

Maintaining value through circular business models

Service-based business models will increase our focus on repairing and upgrading products during usage. As product ownership remains at Viessmann with service-based offerings, the take back of products is an integral part of those models.

Our focus on product take-back business models — also for products which were sold — will increase our access to volumes of reused or remanufactured products, reused or recycled components and recycled or recovered materials.



Actions to become circular
By repairing or repurposing products and their components, we can use materials more efficiently, therefore retaining more value. This overview shows what we do and at which stage of the product life cycle to reduce finite material use and keep materials at their highest value in circulation.

Stage	Action		Definition	What we do	
During product development	Prevent or minimize		Avoid or minimize materials needed. Prevent the need to repair or repurpose a product.	Develop products with as little material as possible. Develop durable products that last longer.	Finite materials
During the product life cycle	Repair or upgrade		Faulty or broken products or components are returned back to a usable or improved state to fulfill intended use.	Design products to be easily repairable or upgradeable.	Most value
	Repurpose	Reuse	The repeated use of a product or component for its intended purpose without significant modification.	Directly reuse components after disassembly where possible.	
		Remanufacture or refurbish	Re-engineer products and components to as-new condition with the same, or improved (upgraded), level of performance as a newly manufactured one. Remanufactured products or components are typically provided with a warranty that is equivalent to or better than that of the newly manufactured product.	Remanufacture wearable components, such as seals or electronics.	
		Recycle (high value)	Transform a product or component into its basic materials and reprocess them into new materials.	Recycle high-purity or grade components and materials (e.g., grade A stainless steel, grade B wrought aluminum alloy, grade C brass).	
		Recycle (low value)		Recycle low-purity or grade components and materials.	
		Recover (mixed material)	Recover waste to serve a useful purpose by replacing other materials that would otherwise have been used to fulfill a particular function.	Recover mixed ferrous metal, including stainless steel, steel, cast iron and composite materials. Use mixed materials as fuel substitute for cement manufacturing.	
		Recover (mixed energy)	Recover energy from waste incineration, where the energy created by the process is reused e.g., for heating.	Recover energy for mixed low density polymer waste after shredding of cables.	Least value
At the end of a product life cycle	Dispose	Incinerate	Destruction of waste by burning.	Our materials that cannot be repurposed are currently incinerated (8%) or sent to landfill (1.8%).	Lost materials
		Landfill	Disposal of waste by burying it between layers of earth.		

Service-based business models
Service-based circular models, such as leasing models, offer significant value. The steady cash flows from these models provide financial stability and increase accessibility to **lower carbon** solutions for the end-users by reducing the burden of high upfront costs.

In selected countries such as Germany, Belgium, Netherlands and Luxembourg, we are currently rolling-out **Climate-as-a-Service**, a model where we license heat pumps. In Germany, we also license photovoltaics and batteries and sell **green electricity** contracts. This empowers our customers to become proactive consumers or '**prosumers**'.

Product take-back business models
The metals — including steel, copper and aluminium — used in Viessmann products in some of our key markets — Germany, France and Italy — hold a significant scrap value of EUR 33 million. There is even greater value in the reuse and remanufacturing of complex components such as pumps, compressors or electronics or in the recovery of high-grade materials from dismantled devices.

To establish new take-back business models, we will collaborate with our partners and recyclers.

We know that the overwhelming majority of our products are recycled, yet we currently lack transparency over where exactly our old products end up. This is why we participate in the **EU** project CE-RISE.

CE-RISE

The Horizon Europe Research Project **CE-RISE** (Circular Economy — Resource Information SystEm) aims to establish and pilot the digital infrastructure required to support a so-called **high-value secondary resource economy**. Such an economy facilitates the repurposing of product components and materials for a second product life, at the highest possible value (**page 38**). This will be achieved by collecting and **digitalizing** life cycle assessment (LCA) data on environmental and social impacts in real time as the materials move along the supply chain. Each company in the supply chain will be asked to provide primary data using **blockchain** or — in case that data is not available — secondary data from international databases (such as Ecoinvent or Ansys Granta) will be used.

The result will be a digital product passport accessible for all interested stakeholders, including end-customers, recyclers, or disposers. By scanning the product passport one will immediately know which of the product's materials or components created which environmental and social impacts at which stage of the life cycle. This will make it much easier to repurpose products at their highest possible value at the end of their life cycle, boosting sustainable procurement and helping to establish further sustainability incentives.[35]

Our role in the project is to provide concrete insights on what happens to our products at the end of their life cycle and who is involved. We generate those together with our contractor ENCORY in three pilot regions in Germany. Those insights support progress in CE-RISE and will ultimately help us develop take-back business models.

Initial results from the projects show that the **end-of-life** practices of our installation partners are highly diverse, ranging from simply selling for scrap to sophisticated secondary component and material recovery.

The project insights extend beyond circular business models and impact multiple parts of our strategy. For example, the automated environmental and social LCA data can be used to further inform our sustainable product design guidelines, reducing the manual work required for LCAs or reverse engineering our products. The upstream LCA data will reduce the manual data collection work required to develop material flow analysis down to the last suppliers for all products (**page 44**) and enable us to collaborate better with our supply chain.

Progress: zero waste operations
Our target is to reach zero waste, which means all our waste needs to be repurposed. Currently, approximately 90% of our waste generated across our 18 ISO 14001 sites is repurposed (**page 35**). The remaining ~10% today still goes to incineration (8%) and landfill (1.8%). We have reduced this figure slightly from 11% in 2019, and we improved our waste intensity across the same time frame by 24%. Specifically, we reduced waste from 26.3 tons in 2019 for every EUR 1 million value added, to 20 tons in 2022.

Our waste tracking includes hazardous and non-hazardous waste for our ISO 14001 certified sites, as well as key categories listed in the Future-Fit Business Benchmark, such as recycling and incineration (**Annex 3**).

Of the waste created through our take-back products in Germany, 9% was incinerated, while 91% (233 tons) of our take-back products were recycled by our supplier Lobbe.

In the coming years we will continue to prioritize research into eliminating our remaining operational waste that cannot be repurposed together with our waste management and recycling partners. We will also explore options for a returnable, multi-purpose packaging solution through a new circular packaging project. And we plan to generate waste KPI data for the entire Group, extending beyond Germany or **ISO 14001** sites.

Circularity is the solution to decoupling growth from environmental impact, but it comes with its own share of challenges.

What would success look like?

The year is 2030. A house owner in Slovenia applies for a loan, via a Viessmann partner, to renovate and replace their heating, ventilation and air conditioning (HVAC) and photovoltaic system.

The bank representative accesses the digital product passports by scanning the data matrix code on the equipment plating of the replacement products. Using this system, they can identify where and under what conditions the components of the HVAC system were manufactured. This includes the environmental and social impact data of the product, industry, country-of-origin, material and production specifics.

The bank representative explores the data, jumping from tier to tier in the **supply chain**. She looks at information about a quartzite mine in India, where the key account manager for a silicon supplier in South Korea originally provided data on the quartzite batch shipped to the polysilicon plant. This includes information on the wage level, social and health insurance of the workers, environmental permits, energy used to mine and process, waste generated, water used, shipment distances, and more.

Through to the ingot (Taiwan), wafer (Taiwan), silicon chip (Taiwan), printed circuit board (China), electronics integrator (Vietnam), pump control unit (Vietnam), and pump manufacturer (Turkey), each key account manager added data to the **blockchain** until the pump batch arrived at the Viessmann heat pump assembly plant in Legnica.

Filling the final data before putting the product on the market and selling it to the installation partner in Ljubljana, the Viessmann key account manager added repairability and disassembly information, as well as the production and social parameters to complete the digital product passport.

As the bank representative reviews the information, the AI driven algorithm cross-checks the data with latest business intelligence and media reports on human rights and environmental violations. All potential risk indicators are green, and the reviewer notes, therefore, that the data provided conforms with the **EU taxonomy** and is compliant with the **Corporate Sustainability Due Diligence Directive**.

This whole process takes just one minute. The bank agrees to the loan and the house owner gets a 3% lower interest rate, as the loan can directly be attributed to the bank's green finance portfolio, which is in high demand from institutional investors.

Zero harm supply chain

Zero harm supply chain: a transparent supply chain that does not harm the environment or people anywhere in the world.

The challenge and opportunity

Virgin materials will become increasingly scarce and expensive due to overexploitation and historic underpricing of their true costs. Further, EU and member state regulations (**Corporate Sustainability Due Diligence Directive (CS3D)** and **German Supply Chain Due Diligence Act**) are increasingly focused on social and environmental **supply chain** impacts. At the same time, customer demand for **lower carbon** and lower material intense products is growing. Together, these drivers offer significant opportunities to transform supply chains.

Our 2050 vision is to reach full transparency and zero harm for the planet and all people in our supply chain. This focus will also enable us to reach our targets to reduce supply chain emissions (**page 24**) and increase repurposed content in our products (**page 34**). As a result we will be able to produce lower carbon, less material intense, and hence more sustainable products. A zero harm supply chain will in addition avoid escalating costs, increase supply chain resilience, build trust, and fulfil our moral responsibility as a company.

Addressing our supply chain impact is complex due to our level of ambition and the wide geographical scope, diversity and depth of the chains. Across the Group, we have around 17,000 direct and indirect suppliers,[36] which can be split into four categories (see right): raw materials suppliers, third party raw materials suppliers, third party finished components suppliers and original equipment manufacturer (OEM) suppliers.[37] The number of suppliers involved all the way upstream to resource extraction is highest for OEM suppliers, with at least six tiers of suppliers involved in a single piece of equipment. The more suppliers, the more challenging it will be to reach full transparency and zero harm for the planet and all people in the chain.

Our supply chain challenge

To deliver a zero harm supply chain we need to anticipate and reduce negative impacts across all suppliers. The more we can address risks at resource extraction suppliers, the greater the cumulative benefit as materials flow through the different parts of the chain to deliver components and products — creating a snowball effect to either avoiding or accumulating social and environmental impacts.

Another challenge to reaching a **zero harm supply chain** is that this requires all participants in our value chain to adopt a long-term perspective, understanding and utilizing sustainable approaches that provide lasting benefits. We are taking action to encourage this shift. For example, it might initially be more expensive to use a **recycled** material[38] instead of **virgin material**. However, by offering a market incentive for more sustainable products, such as a higher subsidy rate for the installation of a lower impact heat pump or easier access to public tenders as set out in the **EU Net Zero Industry Act**, we can offset the initial costs and create higher demand for recycled materials. This increased demand will lead to the growth of recycling capacities, resulting in lower costs as the recycling infrastructure expands.

Product example

Our supply chain complexity becomes evident when looking at the supply chain of a single product. Here again we consider a Vitocal heat pump — similar to the examples in net net zero (**page 22**) and circularity (**page 32**).

To produce one Vitocal more than two thousand materials, components or original pieces of equipment are needed, produced by thousands of suppliers, across more than twenty countries. Further, four Viessmann sites are involved in producing components of the heat pump or the final product.

Of those 1000+ of suppliers, we have direct purchasing relationships only with a small minority of 96 suppliers, which directly supply to us — their upstream suppliers and sub-suppliers are today beyond our control.

- **2,000+** materials, components or original equipment
- **1,000+** Suppliers
- **20** Countries
- **4** Viessmann production sites
- **1** Vitocal heat pump

Where we want to be

Our 2050 vision is a transparent supply chain that does not harm the environment or people anywhere in the world. To achieve this we aim to understand all the materials and all energy that go into making our products, including the environmental and social impacts accumulated through the supply chain along the way (page 43). Our customers and other stakeholders will be able to know where and when a product was made, where the materials came from and that social standards and human rights were respected in its supply chain.

Robust supply chain governance is a key foundation to reach this vision, since it will enable us to identify and promptly respond to social and environmental risks. This is therefore our primary focus.

Here, we share an overview of our zero harm supply chain focus area, including targets and key initiatives.

Our zero harm supply chain pathway

Vision Our supply chain is transparent and creates zero harm

2030 targets

Effective processes and systems in place to comply with current and future regulations and to create transparency about suppliers' negative impacts

- Supplier Code of Conduct
- Sustainability risk assessment and performance assessments
- Trainings

Key initiatives

50% (average) repurposed content in purchased goods

55% lower emissions intensity in our supply chain (scope 3)

- Contract green steel suppliers

Key initiative

The most significant human rights risks are managed and mitigated

- Follow up with three suppliers on potential human rights abuses in their supply chains

Key initiative

2050 targets

Effective supply chain sustainability governance is in place

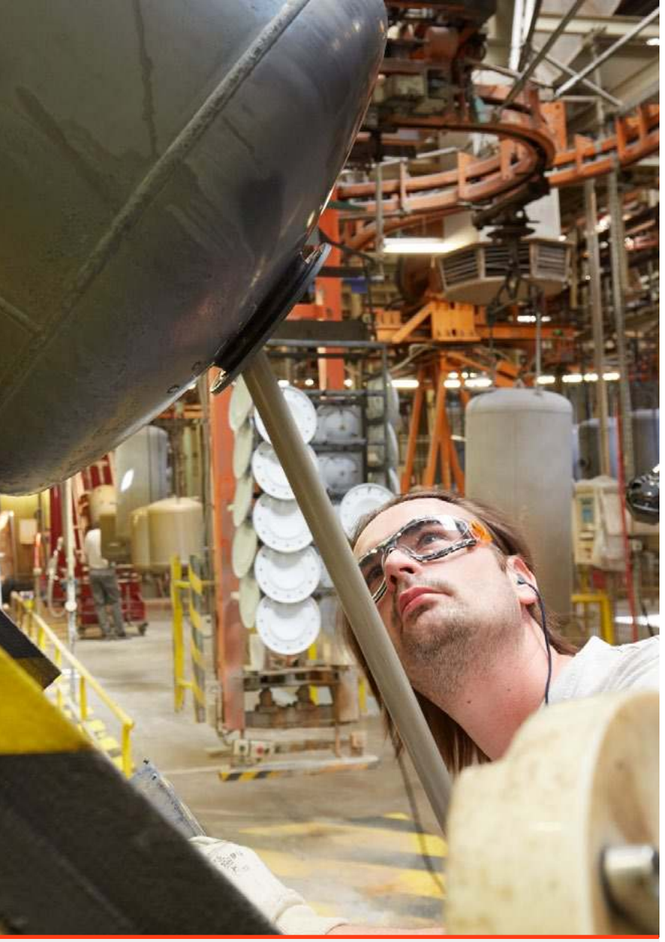
Supply chain causes no harm to the planet anywhere

Supply chain causes no harm to people anywhere

Our 2050 vision is a transparent supply chain that does not harm the environment or people anywhere in the world.

Performance against our supply chain targets
The following table provides an overview of our key performance indicators (KPIs) and their current status. Additionally, the table highlights the specific Future-Fit indicators we are focusing on, with associated risks for business and society identified through our materiality assessment (**page 18**). As for circularity, we are still in the process of measuring our KPI for repurposed content for the first time. In doing so, we orient towards the Ellen MacArthur Material Circularity Indicator (MCI).[39]

2050 target	2030 target	KPI	2022 performance	Relevant Future-Fit Break-Even Goal	Risk to society	Risk to business
Effective supply chain sustainability governance is in place	Effective processes and systems in place to comply with current and future regulations and to create transparency about suppliers' negative impacts	Share of suppliers covered by risk assessment process[40] by spend (%)	Approximately 80-90% or 13.600-15.300 covered through two conducted risk assessment pilots	Procurement safeguards the pursuit of future fitness	Our supply chain is expected to account for most of our negative impacts (except product use **GHG** emissions)	Lack of knowledge and upcoming stricter regulation
		Yearly supply chain performance assessment[40] across major spend categories to assess and prioritize issues	2.4% or 401 suppliers participated in one or both of our first performance assessment pilots			
Supply chain causes no harm to people anywhere	The most significant human rights risks are managed and mitigated	Number of human rights risks identified Share of human rights risks addressed	3 potential human rights risks identified and addressed			
Supply chain causes no harm to the planet anywhere	50% (average) repurposed content in purchased goods	Average share of repurposed content in purchased goods	We orient towards the Ellen MacArthur MCI as best practice. Finishing our current circularity projects will enable us to measure this KPI for the first time[33]			
	55% lower emissions intensity in our supply chain (scope 3)	Reduction of scope 3.1 emissions intensity	5.5% improvement from 2021 to 2022 2021: 1,432t CO_2e / million EUR value added 2022: 1,358t CO_2e / million EUR value added			



Due Diligence
Due diligence means steps taken to identify, prevent, mitigate or account for potential negative economic, environmental or social impacts across a business' operations, supply chain and other business relationships. **Human rights and environmental due diligence (HREDD)** therefore means taking these same steps specifically to identify, prevent and mitigate adverse impacts on human rights and the environment.

Progress: supply chain sustainability governance
Our initial focus has been integrating sustainability requirements into existing processes and systems. We will also build capacity among stakeholders to adapt to these changes, for example through training.

To kickstart our progress towards supply chain governance targets, we have taken the following steps:
1. **Supplier Code of Conduct** (SCoC): We have made our SCoC an obligatory part of our supplier terms, conditions and framework agreement.
2. Sustainability Risk and Performance Assessment: We conducted pilots and are implementing tools to assess sustainability risks and evaluate supplier performance.
3. Processes and training: We adapted or established processes and conducted training sessions for both suppliers and our employees.

Supplier Code of Conduct
Our SCoC defines our sustainability requirements for all suppliers and complies with new legal requirements.[41] The SCoC includes best practices for orientation and is supported by an **informative annex** and an explanatory **video**. The supporting information is designed to help our suppliers understand and adhere to regulations such as the **Corporate Sustainability Due Diligence Directive** (CS3D) or learn about complex sustainability topics such as hazardous chemicals, water scarcity, or forced labor. Through these materials we also encourage suppliers to adopt science-based 1.5°C targets, become signatories to the **UN Global Compact** and embark on HREDD and sustainability disclosures through independent assessments.

Sustainability risk and performance assessments
We have conducted pilot assessments to evaluate supplier performance and identify potential risks. Here are the details of our pilot assessments:

Performance assessment pilot 1: We carried out a first pilot with 94 Asian suppliers (100% response rate) using a performance assessment questionnaire. Findings included, for example, potential use of conflict minerals in the supply chains of five of our suppliers. All five provided further evidence to us that those minerals are sourced responsibly, and resulting concrete actions were systematically documented and checked.

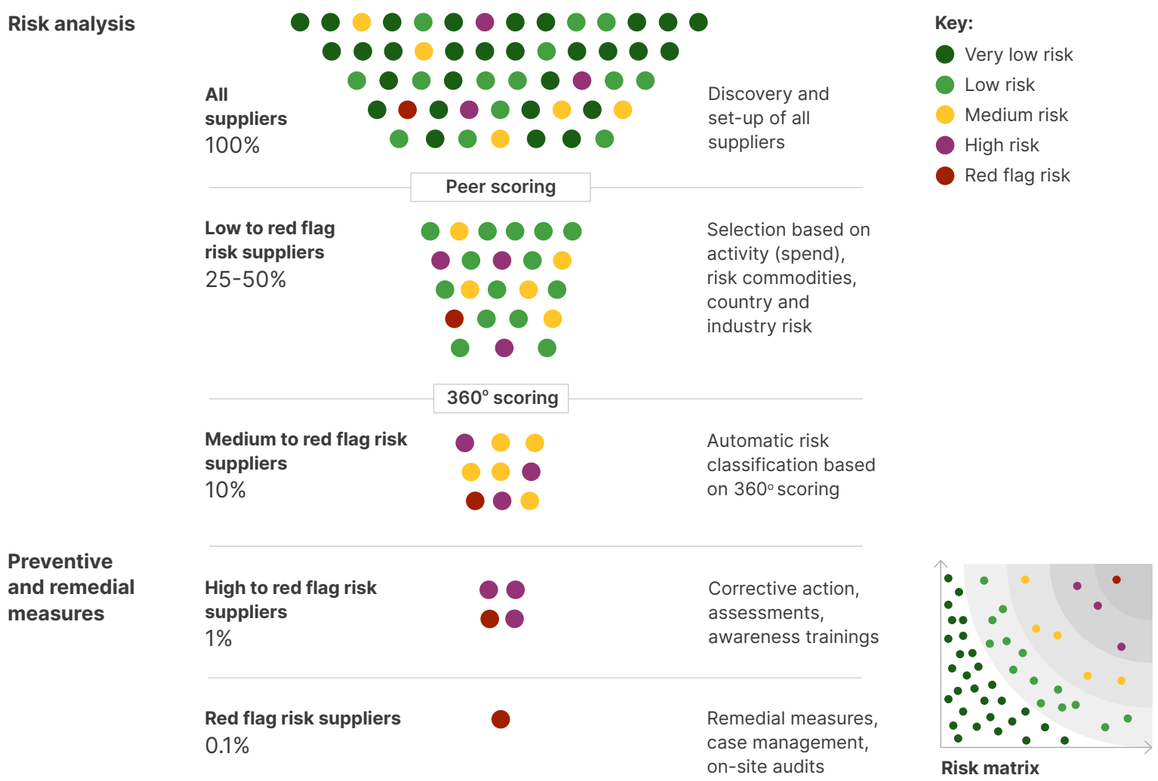
Risk assessment pilot 1: Building on this first pilot, we developed a first **sustainability risk assessment** (based on purchasing volume, supplier type, country risk) for all our 17,000 suppliers. This led to 1,183 suppliers being identified for further assessment.

Performance and risk assessment pilot 2: Those 1,183 suppliers received a more advanced performance assessment questionnaire as a second pilot, with a response rate of 28% (341 suppliers). Analyzing the results — from a CS3D and a country risk perspective — led to an in-depth follow up with 14 high risk suppliers, where we suspected potential human rights violations due to their countries of operation and industries. Of those 14, we identified no cause for in depth follow up with eleven, while we are following up in depth with three due to potential human rights violations in their supply chains (**page 49**).

So far, we have covered 80-90% (13,600-15,300) of our total supplier purchasing volume with risk assessments and conducted performance assessments with 2.4% (401) suppliers[42] during the pilot phase.

Based on learnings from the pilots, we decided to automate supplier sustainability risk and performance assessments to scale coverage across our 17,000 suppliers. We are currently preparing for the third round of risk and performance assessment using an AI-based third party supplier sustainability assessment tool. The tool will enable us to reach more suppliers and automate our data gathering into one platform.

Our future supplier sustainability assessment with an automated tool



Processes and trainings
We have taken steps to improve our processes and provide trainings.

We reviewed and adapted 23 of our procurement processes. We also created six new procurement processes, for example covering risk monitoring, human rights and environmental risk communication to the executives, sustainability audits, and supplier complaints.

We trained approximately 200 suppliers and hundreds of employees on supply chain sustainability topics, including more in depth training for all procurement colleagues. The SCoC **training material** is available on our Viessmann family website for all stakeholders.

Our next actions will include:

Setting binding sustainability targets for our key suppliers. We will establish specific targets that key suppliers have to meet to ensure they align with our sustainability targets, e.g. to reduce our scope 3 emissions (**page 27**) or require a minimum average percentage of repurposed content (**page 36**).

Integrating sustainability in contracts. We will continue to incorporate sustainability requirements — beyond the SCoC — into our contracts with suppliers, ensuring that sustainability is an integral part of our business relationship.

On-site sustainability audits. Building upon our online performance assessments, we will conduct in-person audits at supplier locations to evaluate their sustainability practices. This will help us identify areas for improvement.

Supporting suppliers in enhancing their sustainability performance. Based on the findings from assessments or audits, we will provide support and guidance to suppliers to help them improve their sustainability practices.

> "We endorse Viessmann's focus to reach zero harm supply chains. Only by speaking one voice, joining forces and collaborating at new levels with our customers, our suppliers and all of their suppliers, will we together be successful in making such ambitious transformations a reality. And this is what we need to reach a sustainable future."
>
> Andreas Berz, Group Key Account Director, Grundfos A/S

Progress: zero harm to people
Through our supplier performance and risk assessment pilots (**page 47**) we identified three cases of potential human rights violations in the supply chains of our suppliers. One region and product category required particular focus: the Xinjiang Uyghur Autonomous Region (XUAR) and sourcing of polysilicon for our photovoltaic products. We started with conversations with the respective three suppliers to evaluate potential violations of human rights, for example forced labor in their supply chains. The suppliers confirmed adherence to our Supplier Code of Conduct and committed to undergo a supplier sustainability assessment with our new tool, covering their whole supply chain. The assessment confirmed that none of the components and raw materials sourced for our products origins in the XUAR. As media reports continue to flag potential human rights violations in the photovoltaic supply chain in relation to XUAR, we are planning to develop of a traceability protocol for specific components, such as solar cells and wafers, which is informed by the protocols developed by **SEIA** in the US and by the **European Solar Stewardship Initiative**.

More generally, we are aware that freedom of association and right to collective bargaining is limited in certain regions. We therefore actively encourage our suppliers to pursue other ways of engaging with employees through collaborative and meaningful dialogue when local laws restrict these rights.

Progress: zero harm to the planet
We started analyzing our steel, copper and electronics, to look for more sustainable alternatives to our current materials and components. Our analysis of steel, for example, underlines the challenges of switching a single material within a product. The steel industry is responsible for around 5% of **CO_2e** emissions in the EU and 7% globally. We currently source only gray steel — steel manufactured with the use of fossil fuels — which is responsible for 140 kilotons CO_2e or 0.14% of our total emissions, three times as much as our total scope 1 and 2 emissions. We estimate a 100% shift to green steel — steel manufactured without fossil fuels — would reduce associated emissions by 68% to 44.8 kilotons CO_2e, based on our sourced steel volumes today. This equals the annual CO_2e savings of about 15,000 people — the global Viessmann family of colleagues — when switching to a vegetarian diet, from an average meat-based western diet.[43]

The production process for heat pumps is more material intense than for oil or natural gas boilers. And as we shift our product portfolio towards products that can be run on renewable energy (**page 27**), especially heat pumps, our production numbers of those will increase. These factors together mean that our steel demand will further increase in the next few years, increasing the urgency to reduce the **embodied emissions** in that steel.

Making this shift means steel suppliers need to invest in a costly change of production method. This method has the capacity to use **green hydrogen** and renewable energy, offering the potential to reduce emissions from 1.9-3.5 t CO_2e per ton of steel 0.8-1.2 t CO_2e per ton. Depending on the trajectory of CO_2 emission pricing in Europe and the effectiveness of the **Carbon Border Adjustment Mechanism**, we expect price parity between green steel and gray steel in the timeframe of 2028-29.

CO_2e emissions of our gray steel today versus future green steel

“Drastically reducing emissions and shaping a sustainable future requires a transformation of the global steel industry from conventional to green steel. At thyssenkrupp Steel, we are fully committed to this transformation. Clear signals and requirements from our customers, such as Viessmann, are crucial to achieve success together.”

Michael Schulte-Zweckel, Key Account Manager, thyssenkrupp Steel Europe AG

Enablers for change

People

Governance

Data

People

People are a vital enabler for change, and key to reaching our sustainability targets.

Successful delivery of our strategy will ultimately require every job at Viessmann to encompass sustainability, and we have launched our up- and reskilling activities to enable this transition. Partnership with our many stakeholders — including end-users, direct customers, suppliers, peers, installers, and innovators — is also fundamental.

Our products and solutions themselves can have a significant impact on people's wellbeing. For example, during the COVID-19 pandemic, our heating and cooling systems supported healthy indoor environments, while our **Vitovent** solution helped to combat the spread of the virus in schools. Rising energy bills and inflation are increasing the number of energy-vulnerable consumers across our markets, and we are mindful of our role in enabling and increasing access to our products and solutions for all those who need them. Our **Future-Fit Business Benchmark** (FFBB) identified positive impacts of our products on people (**Annex 3**). The FFBB also indicated what we need to focus on to further improve (**page 52**). To fully understand and address these impacts, we are working on generating a comprehensive set of people-focused data. This will also enable us to respond to the reporting requirements of the upcoming **EU Corporate Sustainability Reporting Directive**.

People-focused sustainability data

Our existing manual data collection process across the global people team is prone to error and inaccuracy. Hence, we decided to move to a centralized corporate data collection process and system, while acknowledging the potential shift in company culture this might entail. This is because our manufacturing and sales locations and sites within the Group generally have a high degree of entrepreneurial freedom. A priority is to build a more comprehensive data baseline and to define first actions for improvement on the five people indicators listed in the table on the next page.

"We value Viessmann's clear focus on transforming from fossil-based products to those that run on renewable energy. Viessmann's guidance and training are key to explain and create buy-in for this big change among our employees and customers."

Udo Eckhardt, Owner, Udo Eckhardt GmbH Homburg

Future-Fit Break-Even Goal	Definition	Risk to society	Risk to business
Employee health	Employee health is safeguarded (safe working environments, zero tolerance for harassment and bullying, emotional and mental wellbeing)	Current focus is more on physical safety than mental health	Mental health is crucial to retention and productivity
Living wages	Employees are paid at least a **living wage** (minimum to meet basic needs and secure essential services)	Some potential hotspots in some countries, likely to increase with cost of living crisis	Living wages are key for reaching societal equity and associated with employee satisfaction, productivity and retention
Fair employment terms	Employees are subject to fair employment terms (reasonable working hours, right of association, leisure and maternity/ paternity leave, no child labor)	Current data gaps make insights challenging	Current data gaps risk compliance issues, fair contracts are associated with productivity and retention
Discrimination	Employees are not subject to **discrimination** (based on age, gender, sexual orientation, ethnicity, origin, disability or socio-economic background)	No formal approach on embedding diversity, equity, and inclusion yet	Increasing importance of diversity, equity, and inclusion among customers, potential and current employees
Employee concerns	Employee concerns are actively solicited, impartially judged and transparently addressed (including internal controls to deal fairly with any issues)	Process in place, though employees would benefit from further formalization	Whistleblowing policy in place to cover compliance

Up- and reskilling

To support our portfolio shift, we are undertaking **systematic** up- and reskilling. By reskilling, we mean a significant shift in skill set required from a current role-holder for a particular job, while upskilling means continuous learning of a particular role-holder on the job. With our up- and reskilling at Viessmann we influence our learning culture at the same time.

We started our targeted up- and reskilling activities with a focus on sales and service jobs, covering up to 500 employees in Germany, Austria, UK, Spain and France by the end of September 2023. Participants on average attend eight to twelve full days of learning. More than 60 people from various internal functions were involved in developing and delivering the Learning Modules.

By the end of 2023, up to approximately 1,000 sales and service employees will have joined a ViSkill training cycle.

Following sales and service, we set our second focus on engineering jobs in 2023. Further job families and markets will follow in 2024.

Our Learning Module on the basics of sustainability takes around four hours and focuses on explaining sustainability challenges and opportunities, introducing our sustainability strategy and breaking it down to the implications for specific functions and roles. In the case of sales, this meant developing clear selling arguments related to sustainability. And in the case of engineering, this meant explaining the new sustainable design guideline and outlining concrete tasks when designing sustainable products in future.

On a 1-5 scale, all trainings are rated 4.5 on average. Qualitative feedback shows positive impacts in terms of the application of the content in daily business, increased networking among colleagues from different backgrounds, and increased openness to new topics — including sustainability.

ViSkill guiding principles

Role-based. Up- and reskilling are based on the skill needs per role, not on individual preferences or skill sets.

Skilling is a leadership task. Leaders are in charge of the design and delivery of our Learning Modules as well as for the participation of their team members.

Joint experience. Learning does not happen due to ideal learning content or an optimized program, but by coming together as one Viessmann team, with a learner's mindset.

Co-creation. Content development, key decisions and activities are created together by our People team and the respective expertise from all business functions.

50/50. 50% of the impact of our program stems from the way learning cohorts are designed and 50% from the actual content delivered.

Feedback from training participants

"The focus on system thinking instead of individual, disconnected product training promotes a holistic understanding of our portfolio and strategy."

ViSkill participant

"I feel pride in contributing to the project with my expertise and making knowledge available in a high-quality and instructive manner."

ViSkill Learning Module Owner

"The comprehensive Viessmann Academy training on the installation and commissioning of the Viessmann renewable heating solutions really enabled us to offer better service to our end customers and install more to bring forward the decarbonizarion of buildings in our community."

Bastian Nowak, Managing Director,
Ritz Heiztechnik GmbH

"The combination of practical hands-on training and profound expert knowledge accessible to us through the Viessmann Academy enabled us to serve our customers with more confidence and achieve higher satisfaction when installing the renewable system solutions of Viessmann."

Marco Häb, Managing Director,
hs Heizung & Sanitär GmbH

Viessmann Foundations

The Viessmann Foundation works on regional and international projects with a focus on sustainable living spaces, education and training for children and young people and professional development.

The Viessmann Allendorf Foundation aims to support various fields such as science and research, public health care, education, vocational training, art and culture, protection of historical monuments, nature conservation and sports.

The Hans Viessmann Technologie Foundation supports engineering and scientific research in building and refrigeration technology, thermal insulation and provides scientific training and further education in these fields through grants to students.

The Dr. Hans Viessmann Foundation promotes culture, particularly monument preservation, as well as education and science. It also pursues social purposes in the field of child, youth and elderly wellbeing.

Viessmann Academy and Foundations

Beside the re-and upskilling program led by our people team, we also focus on developing skills for partners and others via our Viessmann Academy and Foundations. For example, more than 70,000 partners worldwide participated in trainings via the Academy in 2022, and a YouTube training video of ours was watched more than 200,000 times. Further, we offer and support vocational training and technology scholarships through our four **Viessmann Foundations**.

Emergency care

Beside our response[44] to the war in Ukraine (**page 13**), we also supplied essential goods to employees and their families affected by the Shanghai lockdown.

Mentorship program on sustainability

ViSwitch is a mentorship program across generations and for switching perspectives. It allows our top leaders to engage with our young talent from various countries as their mentors and learn from their perspectives, ideas and concerns — for example, in terms of leadership behavior, their understanding of sustainability and questions and thoughts on climate change as well as society as a whole.

Communication and training for installers

We focus on increasing the attractiveness of the heating sector for installers to address the current **gap** in resources. Currently, half of the existing 1.5 million installers in the **EU** need training and 750,000 must be recruited to deliver the **energy transition**.[45]

In 2022, we therefore partnered with the German Sanitation, Heating and Air Conditioning Association (**ZVSHK**) to roll out a social media campaign focused on the UN SDGs, targeting installers. We published 60 pieces of content, leading to nearly 25,000 video views. We also joined the **EU Pact for Skills** together with industry associations European Heating Industry (**EHI**) and European Heat Pump Association (EHPA). The Pact supports public and private organizations with upskilling and reskilling, so they can thrive through the energy and digital transitions.

Last, we engage and collaborate with policy makers — for example, by sponsoring the International Energy Agency's **Heat Pump Report**, providing input to the European Commission Net Zero Industry Act and Heat Pump Action Plan, and participating in the German Heat Pump Summit as well as the German National Hydrogen Council.

"There is currently some uncertainty in our market regarding what kind of products to choose for heating, cooling, air quality, electricity generation and energy storage. Viessmann's crystal clear focus that we need to choose products that run on renewable energy to reach the future we want for ourselves and our children, provides clarity and orientation for us and our customers."

Tomasz Jurczyk, Managing Director, COOLER

Governance

Good governance makes sustainability tangible for every part of the business.

It clarifies the roles, rules and tools for meeting our sustainability targets and builds trust and transparency with our wider group of stakeholders.

We are building a sustainability governance system that clearly details processes and information flows. We aim to catalyze shared ownership. And we will track and report progress through embedding sustainability in existing integrated management system structures.

As a first step to strengthen our governance arrangements, we set up a new, simple structure for the whole Viessmann Group — facilitated by our sustainability function and building upon existing cross-functional structures from Viessmann's integrated management system. This new structure includes the Group Sustainability Board as the highest decision-making body. The Group Sustainability Council reports to the Board and is responsible for effective strategy execution towards the set sustainability targets. The Council integrates with existing operating frameworks, bringing together required functions from all business areas.

Our governance structure for sustainability will further mature due to the new cooperation with Carrier.

Viessmann Group Sustainability Board

- Group CEO, Chief Financial Officer and Chief People Officer
- CEOs from business areas
- Biannually tracks and approves strategy execution

Viessmann Group Sustainability Council

- (Project) Leads from all functions involved ensure cross-functional alignment
- Quarterly allocates time and resources for strategy execution

Existing operating frameworks

- People from all functions involved in executing strategy

Data

Robust data drives accountability and will enable us to accurately track our progress towards becoming a fully sustainable company.

We are increasing our focus on sustainability data engineering, which includes the identification, collection, curation and storage of data. Our next steps include starting to fill key data gaps relating to categories such as material flows (page 44), people (page 51), non-GHG emissions, water and waste water (page 56). We are also working to partially automate data collection.

Furthermore, one new data tool is currently being implemented for each focus area:

Net zero: an **Internet of Things** software that helps to link meters (i.e. gas, electricity, water, fuel) and consumption data from other sources (for example, invoices) into our emission reporting tool and automate our reporting.

Circularity: a product compliance tool that allows us to collect material information from our suppliers, to identify any hazardous substances and toxic chemicals and enable our **life cycle assessment** studies.

Supply chain: a supply chain sustainability risk and performance tool (page 47) that will help us to scale up risk and performance assessment for all 17,000 suppliers.

Operations

For our operations, our primary focus is achieving **net zero** emissions (**page 21**) and zero waste (**page 41**). To support our progress on these topics and wider operational issues, we have taken all data requirements from the **Future-Fit Business Benchmark**, **Corporate Sustainability Reporting Directive**, **EMAS**, and **ISO 14001**, and merged them into a new reporting template for our environmental site managers.

Here we explain in more depth what we do regarding water, non **GHG**-emissions, and the **ecosystems** and communities surrounding us.

Water and non GHG-emissions

Fresh water is fundamental to healthy ecosystems. The wellbeing of plants, animals, and people is at risk when water is consumed in excess or contaminated and disposed of irresponsibly. This is particularly true in water-stressed areas, where quality, availability, and access to water is close to or below the level required to meet human and environmental needs. Although our business is not water-intensive in relative terms, we consume 64% of our water in **water-stressed** areas. Of this 64%, the Berlin site is responsible for most (21%), followed by Manisa (11%), Dachang (11%), and Hof (9%).

Our water intensity at our ISO 14001 sites has reduced year on year. In 2019 we still used 0.25 thousand m^3 of water for every million euro added, compared with 0.16 thousand m^3, in 2022 — a reduction of 36%. Our absolute water consumption decreased in previous years but increased slightly in 2022.

We also regularly audit the quality of our wastewater in compliance with relevant regulations. As a next step, we will set additional targets to reduce water consumption, wastewater volume and non-GHG emissions through our integrated management system.

Water KPIs

KPI	Scope	2019	2020	2021	2022	2022 (Climate Solutions)	2022 (Rest of Viessmann Group)
Water consumption (thousand m^3)	ISO 14001 sites	199.3	173.4	182.0	183.8	168.9	14.9
Water intensity (thousand m^3 / EUR million)	ISO 14001 sites	0.25	0.19	0.18	0.16	0.161	0.167

Impact on ecosystems surrounding us
It is our duty, and in our best interest, to build and maintain good relationships with communities, and ensure that we do no harm to the ecosystems that support them. Impacts on our surrounding environments, or **operational encroachment** as the respective Future-Fit Break-Even Goal is named, occurs when a company degrades areas of high biological, ecological, social or cultural value in locations of operation, or further expands into new locations where there is the risk of degradation occurring. We aim to avoid this.

We use a global integrated management system across all our sites. This ensures we take a consistent precautionary approach, focus employees on environmental, energy, occupational health and safety and quality topics, and support continuous improvement of our performance.
18 manufacturing sites are covered by ISO 14001 or EMAS, 10 sites are covered by ISO 45001, 194 sites (including sales offices) by ISO 50001 and 18 sites by ISO 9001. All our certificates are available on our website for **download**.

In 2017, we mapped our German sales offices according to their type of area — industrial, commercial or residential — and their proximity to water and protected areas. All offices are at low risk of ecosystem or community encroachment since they are all located in industrial areas.

In 2023, we further assessed which of our sites are near a key **biodiversity** area.[46] We identified 13 relevant sites and determined the distance between each of these sites and the biodiversity areas, as an initial indication of potential negative impact. The results showed that few sites are very close to such areas — e.g. Manisa in Turkey (1km), Allendorf in Germany (1km) and Porvoo in Finland (3km) — while most are far away.[47] As next step we will define actions with a first focus on sites with closest proximity to biodiversity areas.

Impact on communities surrounding us
We want to ensure that local communities affected by our presence in all locations where we operate are respected and heard. We capture potential concerns proactively when establishing new sites, and retrospectively via our **whistle-blower mechanism**. Stakeholders can also submit complaints to our Customer Care team. This approach works well for highly-regulated countries, but we are in the process of developing more suitable monitoring and improvement plans to ensure our other sites are not negatively impacting communities. With these actions, we will improve our performance against the Future-Fit Break-Even Goal on community health.

Products

Beyond product emissions and designing for circularity, we also focus on product communications and concerns.

Product communications
To ensure our product communication and related marketing activities are integrated with our sustainability ambitions beyond **green claims** (**page 30**), we are in the process of setting formal principles. These principles are our first step to embedding sustainability in the marketing function. The principles for any marketing activity are: needs-based (rather than wants-based), authentic, consistent, goal-orientated, collaborative across functions, customer-centric and purpose-centric.

We aim to inform customers in a factual way, so they can select the solution that best aligns with their needs and values. We provide end-users and installers with extensive information on safe installation, use, repair, reuse, **take-back**, recycling, and disposal. Potential health and environmental hazards are transparently and proactively highlighted — building on current disclosure requirements for hazardous substances.

Product concerns
We provide our customers and end-users with a range of ways to raise product concerns via local installers or directly with our technical support team, following a three-step process:
1. End users raise product concerns with their installer.
2. If escalation is needed, our technical service team provides further support.
3. If further escalation is needed (e.g. safety concerns for a batch of products), our research and development team gets involved, and the case is investigated.

Our brand promise "for our climate" stands on the one hand for our solutions for the indoor climate and on the other hand for our net zero targets, which encompass our shift towards a net zero product portfolio.

Drivers

Sustainable advocacy
We undertake all our advocacy activities with the aim to contribute to a policy framework that is in line with climate science, creates the right conditions for a sustainable future for all and accelerates the energy transition. We engage with policy makers, NGOs and trade associations on policies related to the EU Green Deal or relevant for our industry sectors, at both EU and national level. Our advocacy for stricter F-Gas (flourinated gas) regulation is one example of how we use our influence.

We have a very clear position for faster phase-out of synthetic refrigerants in residential hydronic heat pumps with smaller heat output. For those, we support a ban of F-gases via the proposed **REACH** PFAS Regulation and the EU F-Gas Regulation — due to their negative impacts on climate and the environment. The current status of discussions reflects partly our position and advocacy work, shared with both EU policy makers and industry associations:

The EU decision making bodies have adopted a very progressive position on F-gases. We used our influence in the industry association **European Heating Industry (EHI)**, which adopted a stronger position than other associations.

In Germany there are already additional subsidies (+5%) for heat pumps with natural refrigerants. According to the legislation, only heat pumps with natural refrigerants (such as propane, CO_2 or ammonia) will be eligible for subsidies in the future. The new German buildings legislation also allows the government to adopt a ban of F-gases in heat pumps. The details and potential exemptions still have to be defined. Similarly, we were active in the industry association Bundesverband der Deutschen Heizungsindustrie (**BDH**), which also positioned more strongly on phase-out than its competitors.

Sustainable investment
Viessmann Investment makes strategic investments that align with our long-term vision and values. All our investments currently undergo similar selection and **due diligence** processes. Screening for impact is two-fold:

Screening for positive impact. We have a strong focus on the positive impact of investees. We only invest in companies with low-carbon heating and cooling business models or with a high transformation potential.[48]

Screening for negative impact. Investees' negative impacts (energy, waste, **greenhouse gases**, etc.) are sometimes identified and addressed.

We plan to increase our focus on negative screening, so that the positive and negative impacts of our potential investments receive equal attention in the due diligence process. With these actions we will improve our performance against the Future-Fit Break-Even Goal on responsible investment.

What are F-gases?

Fluorinated gases, known as F-gases, are human-made gases used in a range of industries. In our sectors, F-gases can be used in heat pumps and air conditioning equipment as synthetic refrigerants. F-gases contribute to global warming and irreversible water pollution.

The global warming potential of F-gases ranges from 4-5 times that of **carbon dioxide** (CO_2) up to 25,000 times. The use of alternative natural refrigerants (e.g. R290 propane) in the new generation of HVAC (heating, ventilation and air conditioning) mitigates the risk of negative impact from synthetic refrigerant leakages during use and at the **end-of-life** of equipment. The use of natural refrigerants also addresses the upcoming bans of F-gases, as foreseen in the EU F-Gas regulation. F-gases also face scrutiny through the proposed PFAS (Per- and Polyfluorinated Substances) restrictions under the EU REACH regulation.

Investments to drive change

Through Viessmann Investment, we make targeted investments to strengthen the Viessmann Group and offer medium-sized companies a professional framework to grow in parallel with us. We collaborate with our investees to create value for all stakeholders involved, including investees themselves. In most cases, investees maintain ownership of their companies. One example is Priva, a company that offers climate and process control for horticulture and building automation. We acquired a minority interest in Priva, whose owners remain in the company.

We also drive innovation by connecting and exchanging with other family businesses, by building companies from scratch and by investing via our venture activities as part of our VC/O entity. For example:

Maschinenraum is a shared innovation ecosystem in the heart of Berlin to jointly drive **digitalization**, sustainability and innovation among German **Mittelstand** and family-owned companies (**page 9**).

wattx is our start-up incubator that focuses on sustainability start ups such as OneClimate (**page 29**).[48]

Vito Ventures manages investments in technologies such as DeepTech, and business innovation that have high potential.

Vito One provides seed funding to technology companies with bold ambitions, with a focus on the PropertyTech, ConstructionTech and EnergyTech industries.

Annexes

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1. Glossary

Atmosphere: the gaseous medium and its suspended particulate liquids and solids above the land realm, extending to the altitudinal limits of life.

Biodiversity: the variability among living organisms from all sources, including terrestrial, marine and other aquatic **ecosystems** and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.

BEG (Break-Even Goal): the line in the sand every business must strive to reach to be sure it is not slowing down progress to a flourishing future and can claim itself sustainable.

Blockchain: a digital ledger for keeping a transparent record of transactions, storing data in blocks that are linked together in a chain.

Carbon: the main component of biological compounds as well as a major component of many minerals. Along with the nitrogen cycle and the water cycle, the carbon cycle comprises a sequence of events that are key to make Earth capable of sustaining life. It describes the movement of carbon as it is recycled and reused throughout the biosphere, as well as long-term processes of **carbon sequestration** to and release from **carbon sinks**.

Carbon budget: a cumulative or maximum amount of CO_2e emissions permitted within a specified time limit in order to keep within a certain global temperature increase. Used to help set fair emissions reduction targets.

Carbon dioxide / CO_2: a gas that is produced by the burning of fossil fuels and other human-induced or natural processes, and is absorbed by plants and other organisms during photosynthesis; a greenhouse gas that traps heat within the Earth's **atmosphere.**

Carbon dioxide equivalent / CO_2e: a unit of measurement that provides a standardized way of measuring the potential climate effects of different **greenhouse gases** by converting them to an amount of carbon dioxide with equivalent **global warming potential**.

Carbon neutral: achievement of **net zero** greenhouse gas emissions by balancing those emissions (for example by **offsetting**) so they are equal (or less than) the emissions that get removed through the planet's natural absorption.

Carbon sequestration: the process of removing carbon dioxide from the **atmosphere** and converting it into either mineral or biological forms, such as depositing it in a reservoir.

Carbon sink: anything natural or human made that accumulates and stores carbon dioxide or other carbon-containing compounds. See also **net carbon sink**.

Circular: closed loop material flows where the output of one process is used as an input for another process — as we see in natural cycles. This is the opposite of a linear flow, where materials are used in products and processes and then disposed of as waste.

Circular business models: provide financial incentives to Viessmann, its partners or customers to reduce resource consumption.

Circular economy: a systems solution framework that tackles climate change and other global challenges like **biodiversity** loss, waste, and pollution, by **decoupling** economic activity from the consumption of finite resources.

Circular economy principles: 1) eliminate waste and pollution; 2) keep products, parts and materials in use and by doing so; 3) regenerate **nature**.

Circular revenue: income from circular business models and processes. This can include revenue from service models such as offering rental, reuse, repair or repurposing options to customers, from software offerings such as remote upgrades, and from other activities such as marketing to encourage product returns.

Climate-as-a-Service: a Viessmann service that makes efficient heating solutions available on a monthly fee basis, thereby displacing the high upfront investment costs and including a full service to maintain and repair the system, keeping it at optimal operating conditions.

Climate neutral: the same as **carbon neutral** but with the addition of all other **greenhouse gases** beyond **carbon dioxide**.

Climate Solutions: a Viessmann business that provides products and services for residential and commercial use, including heating, cooling, air quality, electricity generation and energy storage solutions.

Climate transition risks: business-related risks that follow societal and economic shifts toward a low-carbon future. These risks can include policy and regulatory risks, technological risks, market risks, reputational risks, and legal risks.

Construction products regulation (CPR): a regulation that lays down harmonized rules for the marketing of construction products in the **EU**. CPR provides a common technical language to assess construction product performance. It ensures that reliable information is available to professionals, public authorities, and consumers, so they can compare the performance of products from different manufacturers in different countries.

Cradle-to-gate: consideration of all activities that contribute to a product's development from resource extraction, e.g. the mineral deposit or mine, to the factory gate of the last manufacturing location.

Decarbonize / Decarbonization: the process by which electricity or heat are generated without the release of **carbon dioxide**, i.e., without using fuels that emit CO_2.

Decoupling: achievement of a state where economic growth is no longer strongly associated with consumption of **fossil fuels**, finite resources and raw materials. Relative decoupling is where both grow but at different rates. Absolute decoupling is where economic growth happens but fossil fuels and raw material consumption decline.

Digitalization: the process of connecting and enabling control system information exchange from appliances and machines through information technology, such as computers.

Discrimination: a situation where a person is unable to enjoy their human rights or other legal rights on an equal basis with others because of an unjustified distinction made in policy, law or treatment.

Doughnut Economics: a concept of a sustainable state on Earth for humanity. In a sustainable future, safe and just living spaces within the environmental limits and in concert with the social foundation are created. First conceptualized by British economist Kate Raworth.

Downcycling: the recycling of waste where the **recycled** material is of lower quality and functionality than the original material.

Downstream emissions: emissions associated with finished products, delivery to the customer (e.g., transportation and distribution) and use by the end user (consumption) as well emissions related to **end-of-life** of the product (i.e. dismantling, recycling and disposal).

Due diligence: steps taken to identify, prevent, mitigate or account for potential negative economic, environmental or social impacts across a business' operations, **supply chain** and other business relationships.

Earth System Boundaries (ESB): a 2023 scientific model (building upon Planetary Boundaries) that quantifies safe and just boundaries for climate, biodiversity, freshwater and different kinds of pollution to air, soil and water — most of which have been breached. Unless a timely transformation occurs, it is most likely that irreversible tipping points and widespread impacts on human well-being will be unavoidable.

Ecosystem: a dynamic complex of plant, animal and microorganism communities and the non-living environment, interacting as a functional unit.

Economic intensity: a measure of **greenhouse gases** (or other measure of impact) per unit of economic output — for example, CO_2e emissions per euro of value added. Enables impacts to be tracked relative to economic growth.

Ecodesign: a design philosophy that takes into consideration the environmental impact of a product or service throughout its entire life cycle, from raw materials extraction to disposal or recycling.

EMAS (Eco Management and Audit Scheme): the environmental management and auditing scheme of the European Union, which validates the environmental reporting and performance of organizations in the EU and awards conformity labels.

Embodied carbon / embodied emissions: all the CO_2 emitted in order to produce specific materials, products or structures — also often referred to as (raw materials) **cradle-to-(factory) gate** carbon footprint, i.e. the carbon dioxide emissions accumulated during the production and upstream supply chain process and allocated to the respective final product or material.

Enablers: cross-cutting levers that will ensure effective execution of our sustainability plans. Our enablers are people, governance, and data.

End-of-life of a product: the stage in a product's life cycle when it is no longer useful and needs to be disposed of or **recycled**, such as the product becoming obsolete, reaching the end of its useful life, or being damaged beyond repair.

Energy efficiency: the ratio between the useful output and input of an energy conversion process.

Energy labeling: an indication of the **energy efficiency** and other key features of products at the point of purchase.

Energy transition: a significant structural change in an energy system. Historically, there is a correlation between an increasing demand for energy and availability of different energy sources. The current transition to renewable energy differs, as it is largely driven by a recognition that global **carbon** emissions must be brought to net zero.

EPDs (Environmental Product Declarations): standardized information for products, which explain the impact of the product on the environment. These information sheets are developed according to harmonized rules based on international standards.

ESyCool green system: a Viessmann total energy solution for food retail stores, combining heating, refrigeration and energy management.

Etanomics: a provider of energy consultancy and contracting services, which is part of the Viessmann Group.

Eutrophication: the presence of excessive nutrients — particularly nitrogen and phosphorus — in a body of water, causing increased plant growth such as algal blooms, which can disrupt the **ecosystem.**

EU: the European Union — a political and economic union of 27 member states that are located primarily in Europe.

EU battery regulation: a European regulation that covers the entire life cycle of batteries – from production to reuse and recycling – to ensure that they are safe, more sustainable and competitive.

EU CS3D (Corporate Sustainability Due Diligence Directive): a European legislation that aims to foster sustainable and responsible corporate behavior and to anchor human rights and environmental considerations in companies' operations and corporate governance. Designed to ensure that businesses address adverse impacts of their actions, including in their value chains inside and outside Europe.

EU CSRD (Corporate Sustainability Reporting Directive): an EU legislation requiring all large companies and all listed companies (except listed micro-enterprises) to disclose information on what they see as the risks and opportunities arising from social and environmental issues, and on the impact of their activities on people and the environment. This new directive modernizes and strengthens the rules concerning the social and environmental information that companies have to report. A broader set of large companies, as well as listed SMEs, will now be required to report on sustainability – approximately 50,000 companies in total.

EU Ecodesign Directive: a European framework legislation for setting mandatory ecological and **energy efficiency** requirements for energy-using products sold in EU member states.

EU ESRS (European Sustainability Reporting Standards): summarizes concrete disclosure requirements for companies to report on and is an integral part of the EU CSRD.

EU Green Deal: a set of European Union policy initiatives designed to support transformation of the EU into a modern, resource-efficient and competitive economy — starting with proposals to make the EU's climate, energy, transport and taxation policies fit for reducing net greenhouse gas emissions by at least 55% by 2030, compared to 1990 levels.

EU Net Zero Industry Act: a proposed set of measures to help strengthen the European manufacturing capacity of net zero technologies and overcome barriers to scaling up the manufacturing capacity in Europe.

EU Packaging and Packaging Waste Directive: a European legislation that sets measures to prevent the production of packaging waste, and to promote reuse of packaging and recycling and other forms of recovering packaging waste.

EU Taxonomy for sustainable activities / sustainable finance taxonomy: a classification system established to clarify which investments are environmentally sustainable, in the context of the European Green Deal.

Family for positive change: refers to the Viessmann family of colleagues' longstanding aim to enable positive environmental and social change and focus on long-term value creation.

Focus areas: the sustainability issues most relevant to our business and where we have the most potential impact. These define our 2050 vision to become a **net zero**, **circular** business with a transparent, **zero harm supply chain**.

Forest Stewardship Council® (FSC): an international non-profit organization that promotes responsible forest management via a certification program for forest products, including timber and paper.

Fossil fuels: energy carriers of fossil origin, such as crude oil, natural gas, peat, lignite and coal.

Future-Fit Business Benchmark: a science-based framework that helps companies measure and manage their negative and positive impact on the environment and society, while also ensuring long-term financial success. The framework covers a range of sustainability issues, such as climate change, **biodiversity**, human rights, and social equity.

Future-fit business: a company that has achieved 100% performance across all Future-Fit Business Benchmark **Break-Even Goals** can be considered to have transitioned to being a fully sustainable, or "future-fit" business.

German Supply Chain Due Diligence Act: a German law that took effect in January 2023, which requires **due diligence** and reporting on human rights and environmental impacts in the **supply chains** of companies with more than 3000 employees (1000 by 2024) in Germany.

Greenhouse gases (GHGs): heat-absorbing atmospheric gases responsible for causing global warming and climate change. The major GHGs are carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_20). Less prevalent — but very powerful — GHGs include hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulfur hexafluoride (SF_6).

Greenwashing: insincere or inaccurate claims about the environmental merits of a product or service.

Green claims: statements made about the environmental merits of a product or service.

Green Claims Directive: EU legislation intended to stop companies from making misleading claims about environmental merits of their products and services.

Green electricity: electricity produced with substantially lower greenhouse gas emissions than conventional fossil fuel power generation. For example, solar photovoltaic electricity, electricity from wind turbines, electricity from geothermal energy.

Green hydrogen: hydrogen obtained via the electrolysis of water, powered by renewable energy or low-carbon power.

Greenhouse Gas Protocol: an organization that provides accounting and reporting standards, sector guidance, calculation tools, and training for businesses and government. It establishes a comprehensive, global, standardized framework for measuring and managing emissions from private and public sector operations, value chains, products, cities, and policies. It was initially developed by the World Resources Institute (WRI) and the World Business Council for Sustainable Development (WBCSD).

Harmful substances: substances flagged by one of the following sources: 1) credible industry bodies relevant to the industry in question, who recommend the phasing out of the substance; 2) lists of substances which are legally banned in one or more of the company's areas of operations; 3) credible peer-reviewed research, which strongly suggests evidence of harm.

High-value secondary resource economy: an economy built on the recovery and reuse of raw materials, with the aim to retain the value of the materials as far as possible.

HREDD (human rights and environmental due diligence): steps taken to identify, prevent, mitigate or account for potential negative impacts on human rights and the environment across a business' operations, supply chain and other business relationships.

Internet of Things: a system of connected physical objects ("things") including sensors, processors, software and other technologies able to interact and communicate with each other over the internet or other communication platforms.

ISO and OHSAS standards: international management and auditing schemes, which validate reporting and performance of organizations and award conformity labels (ISO 9001 for quality, ISO 14001 for environment, ISO 50001 for energy, OHSAS 45001 for health and safety).

Key fitness indicators: indicators from the **Future-Fit Business Benchmark** to assess a company's impacts. These indicators encompass negative impacts (**Break-Even Goals**) and positive ones (**Positive Pursuits**).

LEAP: The four pillars of Viessmann's climate strategy: Lead, Empower, Advocate and Partner, in short, LEAP. The climate strategy was published in 2021 and has further evolved into the net zero focus area of our sustainability strategy.

License to operate (social): the concept that communities or society will only allow companies to operate successfully if they are good corporate citizens.

Life Cycle Assessment (LCA): an evaluation of environmental impacts of a product or service starting from the mining of raw materials, through production, use and **end-of-life** recycling or disposal.

Linear economy: an economy based on the linear principles of take → make → dispose, where resources are extracted to make products and then thrown away.

Living wage: a wage that affords a decent standard of living for workers and their families. These vary by region and are often higher than minimum or poverty-line wages. Living wages are calculated based on collecting the highest and lowest prices for basic necessities in a region and are therefore provided in a range.

Location vs market-based approach: a location-based method reflects the average emissions intensity of grids on which energy consumption occurs (using mostly grid-average emission factor data), while a market-based method reflects emissions from electricity that companies have purposefully chosen (or their lack of choice).

Lower carbon products: products with lower **carbon** emissions than equivalent or historical options.

Mass balance: a process of accounting for materials entering and leaving a system, so that flows of materials can be identified.

Maschinenraum: a shared commercial ecosystem in Berlin, initiated by Viessmann, providing an open peer-to-peer environment for cross-industrial collaboration and co-creation of solutions for the German **Mittelstand** and family-owned businesses.

Materiality assessment: a process of reviewing a company's key sustainability issues based on impact (to the business, to society and the environment) in order to identify priorities for action. According to the European Sustainability Reporting Standard (**ESRS**), materiality is to be understood as the criterion for the inclusion of specific information in sustainability reports. It reflects three dimensions: the significance of the information in relation to the phenomenon it represents or explains; the ability to meet the needs of the stakeholders, allowing for informed decision-making; and the capacity to meet the needs for transparency corresponding to the European public good. The implementation of materiality involves establishing thresholds and criteria to guide the assessment process.

Material issues: social, environmental or governance issues that are of highest significance for a company due to the potential impact on people and planet, and the potential impact of external factors on the company itself.

Minimum wage: the lowest wage permitted by law or collective bargaining agreement. These vary by region and over time.

Mission Zero: a non-profit association that aims to make the entire Waldeck-Frankenberg district, where Viessmann's headquarters is located, **climate neutral**.

Mittelstand: German term for small- and mid-sized businesses in Germany which employ more than 5 million people and educate 350,000 apprentices year-on-year. The German Mittelstand also includes many crafts and family-owned businesses and is often recognized as the backbone of the German economy.

Nature: the natural world, with an emphasis on the diversity of living organisms (including people) and their interactions among themselves and with their environment.

Net carbon sink: a **carbon sink** that absorbs more carbon from the **atmosphere** than it releases. Examples of net carbon sinks include forests, oceans, and soil.

Net zero: a state in which the **greenhouse gases** going into the **atmosphere** are balanced by their removal out of the atmosphere.

Net zero factory: a factory that remains in a state of net zero GHG emissions throughout its operation.

Non-fossil products: products that can be run on renewable energy.

Offset / carbon offset: an activity intended to remove **carbon dioxide** from the **atmosphere** with the aim of compensating for emissions arising elsewhere.

Operational encroachment: the extent to which the physical presence of a company may cause irreversible degradation to natural processes and resources that not only the company but also others rely on, and may undermine the wellbeing of local communities.

Paris Agreement: also known as Paris Accords or the Paris Climate Accords, is an international treaty on climate change adopted in 2015. It covers climate change mitigation, adaptation, and finance. The Agreement was negotiated by 196 parties at the 2015 United Nations Climate Change Conference near Paris, France.

Physical risk: potential threats posed to an organization linked to its and other organizations' dependencies on **nature** and nature impacts.

Planetary Boundaries: a scientific concept that presents a set of nine planetary boundaries within which humanity can continue to develop and thrive for generations to come. Crossing these boundaries increases the risk of generating large-scale abrupt or irreversible environmental changes.

Positive Pursuits: the socially beneficial and environmentally restorative outcomes any business may pursue to speed up progress towards a flourishing future.

Product GHG emissions: the emissions during the entire lifetime of a product.

Prosumers: consumers who act simultaneously as producers of goods and services. In the context of energy systems, prosumers produce electricity or heat (i.e., through solar panels), and consume part of the energy for their own needs, whilst sharing or selling excess energy.

Recycled: materials that have become new input materials via means of recycling (transformation of a product or component into its basic materials before reprocessing them into new materials).

Recyclable / Recyclability: a state where a component can be separated from other components for recovery or the user has ready access to appropriate recovery services, and the provider of the recovery service can recover the component to be reused or recycled as a new raw material.

Refrigeration Solutions, and Clean & Cool Solutions: two Viessmann business units that provide commercial refrigeration products and services. Clean & Cool Solutions provides cold and clean rooms to multiple end-markets, among which are health care, life science and food service. Refrigeration Solutions provides refrigerated cabinets and refrigeration systems to the food retail and food services sectors.

Remanufacture: a process of rebuilding a product or component to a like-new condition, often with the same or better specifications than the original product.

Renewable energy: energy derived from renewable energy sources (solar, wind, ocean, hydropower, geothermal resources, and biomass) and consumed as electricity, heat or fuel.

Repurpose / refurbish: re-engineer products and components to as-new condition with the same, or improved (upgraded), level of performance as a newly manufactured one. Remanufactured products or components are typically provided with a warranty that is equivalent to or better than that of the newly manufactured product.

Repurposed materials: by-products that are neither landfilled nor incinerated; instead, they are used to substitute virgin raw materials via processes of recycling, refurbishing, or reuse.

Resource efficiency: the ratio between the useful output and input of a resource conversion process.

Resource intensity: a measure of the resources required to produce, process or dispose of a specified unit of goods or services.

Science based climate targets: targets that show how much and how quickly organizations need to reduce their greenhouse gas (GHG) emissions in line with the latest scientific understanding.

Science Based Targets initiative (SBTi): an organization that helps companies transition by setting greenhouse gas emission reduction targets in line with climate science. Through Science Based Targets (SBTs), companies express their intention to reduce their greenhouse gas emissions to limit global warming.

Scope 1 emissions: direct GHG emissions that occur from sources that are controlled or owned by a firm (e.g., emissions associated with fuel combustion in boilers, vehicles).

Scope 2 emissions: indirect GHG emissions associated with the purchase of electricity, steam, heat, or cooling.

Scope 3 emissions: indirect GHG emissions resulting from activities not owned or controlled by the firm but that the firm indirectly impacts in its value chain.

Short rotation plantations: areas of fast-growing trees that are planted and felled once they have reached a specified size for use as a source of energy.

Supply chain: the sequence of processes involved in the production and distribution of a product or service, from raw material extraction to distribution.

Sustainability: Among the many definitions for the term, we orient towards the definition of John R. Ehrenfeld who defined sustainability as the possibility that all people and all life on earth can flourish forever. This definition is also very close to our company purpose to create living spaces for generations to come.

Sustainability strategy: our science-based framework for setting a 2050 sustainability vision, **focus areas** and targets. An integral part of our company strategy.

Sustainability vision: our 2050 intention to become a net zero, circular business with a transparent, zero harm supply chain.

Sustainable buildings or green buildings: buildings designed, developed and operated in such a way that they protect and enhance people, places and the natural environment. They play a critical role in reducing greenhouse gas emissions.

Sustainable investment: an investment approach that aims to achieve environmental or social benefits alongside generating financial returns.

Sustainable Development Goals: an integrated set of 17 goals developed by the United Nations in 2015 as a universal call to action to end poverty, protect the planet, and ensure that by 2030 all people enjoy peace and prosperity.

Systematic: a methodical approach acting according to a set plan.

Systems science: an interdisciplinary field that studies the complexity of systems in **nature**, society or any other scientific field.

Systems thinking: a way of viewing and thinking about the world or a specific scenario that recognizes how the different parts interact and interconnect with each other.

Take-back business model / system: a system in which manufacturers or retailers take back products from consumers at the end of their useful life or when they are no longer needed. These products can then be **repurposed**.

Transition risks: result from a misalignment between an organization or investor strategy and management and the changing regulatory and policy landscape in which it operates. Developments aimed at halting or reversing the damage to nature, such as government measures, technological breakthroughs, market changes, litigation and changing consumer preferences can all impact risks.

UN Global Compact (UNGC): a voluntary initiative that provides a universal language for corporate responsibility and a framework to guide all businesses regardless of size, complexity or location. The compact's Ten Principles are derived from: the Universal Declaration of Human Rights, the International Labour Organization's Declaration on Fundamental Principles and Rights at Work, the Rio Declaration on Environment and Development, and the United Nations Convention Against Corruption.

Upstream emissions: the emissions of our supply chain (part of scope 3).

Value chain: the upstream and downstream life cycle of a product, process, or service, including material sourcing, production, consumption, and disposal/recycling. Upstream activities include operations that relate to the initial stages of producing a good or service (e.g., material sourcing, material processing, supplier activities). Downstream activities include operations that relate to processing the materials into a finished product and delivering it to the end user (e.g., transportation, distribution, and consumption).

Viessmann Investment: our investment business focuses on forming strategic partnerships with other businesses to accelerate the development of technologies and solutions that support our Climate and Refrigeration businesses to create new offerings.

ViMove for Climate: an initiative that engages Viessmann employees and partners to plant trees through team or individual sports activities.

Virgin material: a material that is newly sourced from natural resources or raw materials, and has not been previously used or processed.

Vitocal: the brand name of Viessmann heat pumps, which come in many different configurations to suit the needs of different applications and heating system requirements.

Volatile organic compounds (VOC): compounds that have a high vapor pressure and low water solubility. Many VOCs are human-made chemicals that are used and produced in the manufacture of paints, pharmaceuticals, and refrigerants. VOCs typically are industrial solvents, such as trichloroethylene; fuel oxygenates, such as methyl tert-butyl ether (MTBE); or by-products produced by chlorination in water treatment, such as chloroform. VOCs are often components of petroleum fuels, hydraulic fluids, paint thinners, and dry cleaning agents. VOCs are common ground-water contaminants.

Water stress: the ability, or lack thereof, to meet human and ecological demand for freshwater. Considers several physical aspects related to water resources, including water availability, water quality, and the accessibility of water (i.e., whether people can make use of physically available water supplies), which is often a function of the sufficiency of infrastructure and the affordability of water, among other things.

WEEE (Waste from Electrical and Electronic Equipment) Directive: a European legislation that sets rules on collecting and treating waste electrical and electronic equipment, to contribute to sustainable production and consumption.

Wicked problems: another term for interconnected sustainability challenges that are “tough to describe and don’t have a right answer.” Environmental degradation, terrorism, and poverty are classic examples of wicked problems. They cannot be solved in a finite time period by applying standard techniques. Not only do conventional processes fail to tackle wicked problems, they may exacerbate situations by generating undesirable consequences.

wattx: an incubator platform and subsidiary of Viessmann for the generation of ideas and innovative business models addressing complex challenges.

Zero harm supply chain: our term used to describe a **supply chain** that does zero harm to people or the environment.

Zero waste operations: operations where all waste is repurposed.

2. Detailed performance data

Relevant Group level KPIs

Most of these KPIs cover the whole of Viessmann Group, taking a global, science-based approach. We disaggregate data for Climate Solutions (CS), and for Refrigeration Solutions and Clean & Cool Solutions (RS) and Investment (I) and highlight cases where data excludes I or covers only our CS and RS ISO 14001 sites.

2050 target or topic	KPI	2019	2020	2021	2022 (whole Group)	2022 (CS)	2022 (I or RS, or both)
	GHG emissions scope 1-3 (tons CO_2e)	103,308,062	102,165,442	108,790,347	97,167,347	96,786,364	380,983 (RS)
Net zero product portfolio and supply chain (Scope 3)	GHG emissions scope 3 (tons CO_2e)	103,255,393	102,116,030	108,735,607	97,111,783	96,743,510	368,273 (RS)
	Emission intensity (million tons CO_2e / € million)	0.127	0.115	0.108	0.085	0.092	0.004 (RS)
	SBTi: -55% emissions intensity (%)	0	-10.4%	-15.9%	-33.3%	-32.0%	-21.3% (RS)
Net zero operations (Scope 1 and 2)	GHG emissions scope 1 and 2 (tons CO_2e)	52,669	49,413	54,740	55,564	42,853	12,710 (RS,I)
	Emission intensity (million tons CO_2e / € million)	19.9	17.6	16.1	13.7 (-31% since 2019)	12.5	20.4 (RS,I)
	SBTi:-48% absolute reduction (%)	0	-6.2%	+3.9%	+5.5%	-5.9%	+78.8% (RS,I)
Zero waste operations (18 ISO 14001 sites only)	Share of waste for recycling out of total waste (%)	90.7	86.8	89.9	89.8	91.6	56.4 (RS)
	Waste intensity (tons / € million)	26.3	23.6	23.0	20.0	20.7	12.8 (RS)
Water (18 ISO 14001 sites only)	Water consumption (thousand m^3)	199.3	173.4	182.0	183.8	168.9	14.9 (RS)
	Water intensity (thousand m^3 / € million)	0.25	0.19	0.18	0.16	0.161	0.167 (RS)

Detailed waste data
(18 ISO 14001 sites only)

Topic	Data point	2019	2020	2021	2022	2022 (CS)	2022 (RS)
The waste we create	Total waste (tons)	21,244	21,055	23,229	22,807	-	-
	Non-hazardous waste % of total waste	90.6%	89.1%	89.0%	89.5%	-	-
	Hazardous waste % of total waste	9.4%	10.9%	11.0%	10.5%	-	-
What we do with our waste	% of waste that goes into recycling	90.7%	86.8%	89.9%	89.9%	92.0%	58.1%
	% of waste that goes into incineration	7.5%	11.1%	8.0%	8.0%	5.8%	40.4%
	% of waste that goes into composting	0.2%	0.1%	0.2%	0.2%	0.1%	1.5%
	% of waste that goes into landfill	1.5%	1.8%	1.8%	1.8%	1.9%	0.0%
	% of waste that goes into anaerobic digestion	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%

3. Future-Fit Business Benchmark assessment summary

The **Future-Fit Business Benchmark** was done in 2021, therefore some activities — e.g. our re- and upskilling project, which attributes to PP17 (Positive Pursuit 17) — are not mentioned as they started after the assessment or in response to the assessment's findings. All **Break-Even Goals** can be attributed to relevant **Sustainable Development Goals** — this mapping was done by the Future-Fit Foundation and can be found in its **Methodology Guide**. The same holds true for all **Positive Pursuits**, referencing the work from **Sustainability Advantage**. The assessment of risks for Viessmann and society of each indicator led to our materiality assessment (page 18).

	Break-Even Goal	Key insights	Data availability / quality	Risk to society	Risk to business	Most relevant Viessmann sustainability focus area or enabler
Operations	BE01: Energy is from renewable sources	Based on 2019. 28% in 2020 - (increased to 38% in 2022) Majority of non-renewable energy is natural gas and diesel. Work on **energy efficiency** and transformation of energy source for production	Full	Most of our energy emissions are in the products' use phase	Our current dependence on natural gas and diesel entails high business risk due to climate legislation actions by Russia	**Net zero:** focus area
Operations	BE02: Water use is environmentally responsible and socially equitable	64% of water is consumed in water-stressed areas. Good water discharge standards. Missing information outside production sites (though share of overall emissions expected to be low)	Partial to good	We are not a water-intensive business (in relative terms) but operate in a lot of water-stressed locations	Legal compliance is in place, but there are potential minor reputation issues (e.g., Tesla in Brandenburg)	**Beyond our sustainability strategy:** operations
Operations	BE03: Natural resources are managed to respect the welfare of **ecosystems**, people and animals	Viessmann has high forestry standards, certifications pending to confirm these	Full	What we do supports strengthening ecosystems and **biodiversity**	Our forests are neither an integrated part of commercial activity nor part of reaching our set SBTi targets	**Net zero:** focus area
Operations	BE05: Operational emissions do not harm people or the environment	Data on volatile organic compounds, NOx, SOx, particles measured and within legal standards. Centralization of data across all sites recommended to enable setting of global standards beyond current compliance	Partial	Impacts from non-GHG emissions	Compliance and reputation risk is high	**Net zero:** focus area
Operations	BE06: Operations emit no **greenhouse gases**	Based on 2019-2021 data. Electricity, natural gas and diesel are key emission sources. Explore self-generation (BE01) further	Full	Operations account for 0.05% of our total GHG emissions	Phase out of natural gas and diesel due to climate legislation and actions by Russia	**Net zero:** focus area
Operations	BE07: Operational waste is eliminated	High recycling rate, but more focus on few sites needed: Faulquemont, Allendorf and Porvoo are responsible for almost 80% of the remaining operational waste	Good	Material consumption growth is unsustainable and is a key driver of other impacts. We have a high recycling quota, but further progress is needed	Growing supply chain scarcity and big cost reduction driver	**Circularity:** focus area
Operations	BE08: Operations do not encroach on ecosystems or communities	Unknown if sites encroach on ecosystems or communities outside **EMAS** process. Recommended to start gathering data to identify hotspots and prepare for future reporting requirements (initial screening done in 2022 and reported in this report)	Partial	More data are needed about our impact on **nature** and communities	Increasing scrutiny and reporting requirements, reputational and finance risk	**Beyond our sustainability strategy:** operations

Future-Fit Business Benchmark assessment summary - continued

	Break-Even Goal	Key insights	Data availability / quality	Risk to society	Risk to business	Most relevant Viessmann sustainability focus area or enabler
Operations	BE09: Community health is safeguarded	Community members don't know how to lodge complaints. Better internal alignment, accessibility and monitoring needed (addressed in this report)	Good	Concern mechanisms available, but not well communicated.	Reputational risk in communities with operations	**Beyond our sustainability strategy:** operations
People	BE10 Employee health is safeguarded	Significant data gaps. Physical health fulfilled across the company, mental health most partial area with room for improvement	Partial	Current focus is more on physical safety than mental health	Mental health is partially crucial to retention and productivity	**People:** enabler
People	BE11: Employees are paid at least a living wage	Potential hotspots for further investigation are Poland, Turkey, Hungary. More accurate (current and regional) data required	Partial	Some potential hotspots in some countries, likely to increase with cost of living crisis	Fair wages are key for reaching societal equity and associated with employee satisfaction, productivity and retention	**People:** enabler
People	BE12: Employees are subject to fair employment terms	Significant data gaps inhibit generalizable insights; findings largely intuitive, but some potential concerns with trade union access, parental leave and holiday length	Partial	Current data gaps make insights challenging	Current data gaps risk compliance issues; fair contracts are associated with productivity and retention	**People:** enabler
People	BE13: Employees are not subject to **discrimination**	Clear commitment but a need to formalize and embed measures	Good	No formal approach on embedding diversity, equity, and inclusion yet	Increasing importance of diversity, equity, and inclusion among customers, potential and current employees	**People:** enabler
People	BE14: Employee concerns are actively solicited, impartially judged and transparently addressed	Concerns actively addressed and incoming anonymous process but need for employee inclusion in process	Good	We have a process for employee concerns, though employees would benefit from further formalization	Whistleblowing policy in place to cover compliance	**People:** enabler
Products	BE15: Product communications are honest, ethical, and promote responsible use	Product marketing uses misleading claims – business risk (legal & reputation). (Addressed since 2022 through **green claims** process). Solid communication on safety, health and disposal in place	Full	The basics are in place, but historical misleading green claims may confuse consumers	High reputational and legal risk to be accused of **greenwashing**	**Beyond our sustainability strategy:** products
Products	BE16: Product concerns are actively solicited, impartially judged and transparently addressed	Product concerns are likely adequately captured and addressed	Good	Product concerns are addressed and identified	Processes in place are largely adequate to address risks from product concerns	**Beyond our sustainability strategy:** products
Products	BE17: Products do not harm people or the environment	Product portfolio is very vulnerable to tightening regulation as a large share of products contain lead and/ or force users to pollute the environment	Full	Our products comply legally but force users to pollute	High regulatory risk of having materials such as lead in products	**Circularity:** focus area

Future-Fit Business Benchmark assessment summary - continued

	Break-Even Goal	Key insights	Data availability / quality	Risk to society	Risk to business	Most relevant Viessmann sustainability focus area or enabler
Products	BE18: Products emit no greenhouse gases	Two thirds of revenue comes from products that emit GHGs (improved in 2022 to approx. 50%). Massive **climate transition risk** to Viessmann – particularly now that the **EU** shifts away from natural gas even faster.	Good	Direct lifetime emissions from products are significant	High climate transition risk as the global economy **decarbonizes** (e.g. access to finance, revenue, regulation, reputation)	**Net zero:** focus area
Products	BE19: Products can be repurposed	High **recyclability** and durability (expected), but no **decoupling** from **virgin materials**. Only tentative scoring possible (based on a study), despite extensive investigation no primary data for products found.	Partial	Material consumption is a major systemic driver and our products are not currently designed for circularity	Growing supply chain scarcity and potential business opportunities related to circularity	**Circularity:** focus area
Drivers	BE20: Business is conducted ethically	Business ethics is perceived as a relatively low priority for Viessman, with one Compliance Officer for the whole company. More formal procedures are required (and implemented since 2020 - covered in report)	Good	Ethics is not a key area of concern for the industry	Ethics is not a key area of concern for Viessmann or its stakeholders	Not yet addressed
Drivers	BE21 The right tax is paid in the right place at the right time	Tax foundation in place, but more transparency and disclosure needed.	Full	Our tax contributions are one of the major positive impacts of the company and stakeholders should be able to understand them better	Minor reputational risk but law compliance is established — opportunity to be a frontrunner	Not yet addressed
Drivers	BE22: Lobbying and corporate influence safeguard the pursuit of future-fitness	Strong Positive Pursuits but lack of Break-Even requirements. Practice to be formalized. Positive impact to be quantified.	Good	Lack of **due diligence** may result in support of harm, particularly outside Germany	Potential for funding initiatives which undermine net zero could lead to reputational risk	**Beyond our sustainability strategy:** drivers
Drivers	BE23: Financial assets safeguard the pursuit of future-fitness	No systematic way to identify hotspots in M&As because of missing formalized due diligence - partially covered through commitment on non-fossil investments only.	Partial	Green heating technologies need to be scaled sustainably	Potential blind spots in mergers and acquisitions could endanger our progress in becoming future-fit	Not yet addressed
Drivers	BE04: Procurement safeguards the pursuit of future-fitness	Lack of sustainability integration into procurement process. Improvements already in pipeline e.g., improved supplier agreement, risk assessment etc.	Full	Our supply chain is expected to account for most of our negative impacts (except product use GHG emissions)	Lack of knowledge and upcoming stricter regulation	**Zero harm supply chain:** focus area

Future-Fit Business Benchmark assessment summary - continued

	Positive Pursuit	Viessmann's activity	Relevant Viessmann sustainability focus area or enabler
Energy	PP01: Others depend less on non-renewable energy	Financing (M&A), development and sales of non-fossil heating and cooling technologies as well as making non-fossil heating and cooling more energy-efficient Fixed time benefit over product lifetime	**Net zero:** focus area
Energy	PP02: More people have access to energy	To be determined	Not yet addressed
Water	PP03: Others contribute less to water stress	To be determined	Not yet addressed
Water	PP04: More people have access to clean water	To be determined	Not yet addressed
Natural resources	PP05: Others depend less on inadequately-managed natural resources	To be determined	Not yet addressed
Pollution	PP06: Others generate fewer greenhouse gas emissions	Financing (M&A), development and sales of non-fossil heating and cooling technologies as well as making non-fossil heating and cooling more energy-efficient	**Net zero:** focus area
Pollution	PP07: Greenhouse gases are removed from the **atmosphere**	Fixed time benefit over product lifetime	Not yet addressed
Pollution	PP08: Others generate fewer harmful emissions	Financing (M&A), development and sales of non-fossil heating and cooling technologies as well as making non-fossil heating and cooling more energy-efficient Fixed time benefit over product lifetime	**Net zero:** focus area
Pollution	PP09: Harmful emissions are removed from the environment	To be determine	Not yet addressed
Presence	PP10: Others cause less ecosystem degradation	Financing (M&A), development and sales of non-fossil heating and cooling technologies as well as making non-fossil heating and cooling more energy-efficient Fixed time benefit over product lifetime	**Net zero:** focus area
Presence	PP11: Ecosystems are restored	To be determined	Not yet addressed
Presence	PP12: Others cause less damage to areas of high social or cultural value	To be determined	Not yet addressed
Presence	PP13: Areas of high social or cultural value are restored	To be determined	Not yet addressed
Waste	PP14: Others generate less waste	To be determined	Not yet addressed
Waste	PP15: Waste is reclaimed and repurposed	No activitiy was acknowledged in the assessment, however read **page 41** for our first activities	**Circularity:** focus area

Future-Fit Business Benchmark assessment summary - continued

	Positive Pursuit	Viessmann's activity	Relevant Viessmann sustainability focus area or enabler
People	PP16: More people are healthy and safe from harm	Developing and selling products that improve indoor temperature, air and water quality as well as curb the transmission of infectious diseases (e.g., COVID-19) in indoor spaces	**Beyond our sustainability strategy:** products
People	PP17: People's capabilities are strengthened	Offering and supporting vocational training and technology scholarships through Viessmann's foundations	**People:** enabler
People	PP18: More people have access to economic opportunity	To be determined	Not yet addressed
People	PP19: Individual freedoms are upheld for more people	To be determined	Not yet addressed
People	PP20: Social cohesion is strengthened	To be determined	Not yet addressed
Drivers	PP21: Governance is strengthened in pursuit of future-fitness	Using corporate advocacy to challenge industry association standpoints that do not support the pursuit of future-fitness and advocating for regulation in pursuit of future-fitness with policy makers	**Beyond our sustainability strategy:** drivers
Drivers	PP22: Infrastructure is strengthened in pursuit of future-fitness	To be determined	Not yet addressed
Drivers	PP23: Market mechanisms are strengthened in pursuit of future-fitness	Financing the startup incubator wattx, an initiative to support the development and scale of new sustainable business models	**Net zero:** focus area
Drivers	PP24: Social norms increasingly support the pursuit of future-fitness	Running the ViMove for Climate campaign, rewarding physical exercise with **ecosystem** restoration	**Net zero:** focus area

4. Social and environmental challenges across our value chain

Social challenges

	Supply chain	Business and operations	Installer	Society and end-customers
Desired outcome	Zero harm on people through the products and services we buy.	Zero negative impact and preferably a force for good in employees' lives.	Capable of installing the many heat pumps and other products that can run on renewable energy in the time needed.	Energy poverty is prevented and mitigated.
How we work towards the desired outcome	Addressed in our **sustainability strategy** (**zero harm supply chain**).	Addressed in our sustainability strategy (**people**).	We work with 75,000 installation partners (installers, electricians, solators) across our markets. We focus on helping them to become fit for a future free of fossil-based products. We support vocational training, as well as enabling and empowering energy independence through these activities (**people**).	Although not a formal part of our strategy, we see our responsibility to help develop and advocate for solutions to address this issue. This includes developing service-based solutions, including in the context of local distributed heating networks and an unequivocal access to lower carbon heating solutions for tenants. As collective learning and scaling for each heat pump technology progresses, outlay costs will reduce.

Environmental challenges

	Supply chain	Business and operations	Installer	Society and end-customers
Desired outcome	Zero harm on planet through the products and services we buy.	Zero negative impact on climate, limited natural resource stocks, ecosystems.	Involve installers as part of the **end-of-life** value chain, i.e., through addressing packaging waste as well as other circularity options for secondary material recovery.	We do not force customers through our products to emit GHG emission, and we enable them to reduce their household emissions.
How we work towards the desired outcome	Addressed in our sustainability strategy (**zero harm supply chain**).	Addressed in our sustainability strategy (**net zero**; **circularity**).	Packaging waste is not formally addressed in our strategy. We recognize the issue and how it weighs into our authenticity when it comes to addressing sustainability. However, packaging accounts for a very small percentage of our total GHG emissions as of now, so from an overall societal and business risk perspective we chose to not focus on it. We have packaging **take-back systems** and have started to create more awareness of that among installers. This is part of a larger effort to circularize our value chain at the end-of-life of our product and systems solutions through empowering collection (with multi-use containers), **repurposing** of components and materials and involving our installation partners in the extended value chain.	Addressed in our sustainability strategy (**net zero**; **circularity**).

5. Circular business models

Understand which revenue model to design for
Different design choices tackle different issues and opportunities

Key: Minor impact · Some impact · Critical

Circular design models

	Circular software	Circular service (e.g. Climate-as-a-Service)		Circular hardware				
Examples of circular design strategies	**Optimising resource use**	**Repair and maintenance**	**Upgrades**	**Longevity** (12+ years)	**Commercial returns**	**Refurbishing**	**Component harvesting**	**Recycled content**
1. Easy to clean and restore aesthetics	Minor impact	Critical	Critical	Critical	Critical	Minor impact	Minor impact	Minor impact
2. Durable materials and components	Minor impact	Some impact	Minor impact	Critical	Some impact	Critical	Critical	Some impact
3. Easy to assess and track product performance	Critical	Critical	Some impact	Some impact	Critical	Some impact	Some impact	Minor impact
4. Easy to disassemble or reassemble	Minor impact	Critical	Some impact	Critical	Some impact	Critical	Critical	Minor impact
5. Standard and durable spare part selection	Some impact	Critical	Some impact	Critical	Minor impact	Some impact	Critical	Some impact
6. Recyclable and recycled material selection	Minor impact	Minor impact	Minor impact	Minor impact	Minor impact	Minor impact	Minor impact	Critical
7. Easy to dismantle and separate back into pure materials	Minor impact	Minor impact	Minor impact	Minor impact	Minor impact	Minor impact	Minor impact	Critical

6. UN Global Compact index

All relevant reference documents will be available with Viessmann's Communication on Progress on the **UNGC platform**.

UNGC category	UNGC topic	Location of relevant content in Viessmann's UNGC Communication on Progress	Notes
Governance	Policies and Responsibilities	Policies: G1 Responsibilities: G4	Policies Board issues: • An annual statement about the relevance of sustainable development to the company as well as one addressing impacts on both people and the environment (Climate report and sustainability report) • An annual statement highlighting a zero tolerance for corruption (Viessmann Code of Conduct) • Signs off organizational sustainability targets • Supervises ESG reporting • Regularly reviews potential risks related to the business model • Publicly stated commitment regarding human rights, labor rights/decent work, environment, anti-corruption that includes Viessmann's own operations and its **value chain** (e.g. suppliers, customers, communities, other business relationships) Responsibilities: The company has appointed responsible individuals/groups with direct influence at the highest levels of the organization, for the respect of human rights, labor rights/decent work, environment, and anti-corruption. Our Human Rights and Labour Rights topics are handled by our Compliance Officer, who also oversees complaints regarding corruption. 'Decent Work' topics are managed by our works councils and our entire People and Organization function. The highest level responsibility lies with our Chief People Officer. Finally, environmental issues are the responsibility of the Vice President Global Public Affairs and Sustainability, directly reporting to the CEO.
	Prevention	Risk assessment: G6, G6.1, G7, G7.1 G8	We have processes to assess human, labor, and environment risks related to Viessmann's own operations and value chain, and a process to assess corruption risks related to Viessmann's own operations and supply chain.
	Concerns and Grievance Mechanisms	G8	We have an internal complaint mechanism platform as well as a Compliance Officer. The process is communicated to all employees/workers in their local languages, is available to other stakeholders (e.g. suppliers) and is confidential. Concerns about suppliers or other business relationships can also be raised and there is a process in place to avoid retaliation.
	Lessons	G9	To capture lessons regarding human rights, labor rights/decent work, environment, anti-corruption, Viessmann conducts root cause analysis/investigation and changes organizational policies, processes and practices accordingly.
	Executive Pay	G10	Executive pay is not linked to the performance regarding the respect of human rights, labor rights/decent work, anti-corruption, nor environment. Nevertheless, Viessmann is thinking about an adequate timeline to implement these changes, meaning it does have intention to change. Climate change is the first criteria that will be linked to pay as it is the most material topic to Viessmann's internal policy and challenge: within two years, climate change will be taken into consideration in the pay of the Viessmann employees.
	Board Composition	G11	Total number of board members: 20 • Male: 85% • Female: 15% • Non-binary: 0% • Under 30 years old: 0% • 30-50 years old: 30% • Above 50 years old: 70% • From minority or vulnerable groups: 0% • Executive: 55% • Independent: 35%
	Data Assurance	G13	Our scope 1 & 2 emissions are assured by PWC every year.

UN Global Compact index - continued

UNGC category	UNGC topic	Location of relevant content in Viessmann's UNGC Communication on Progress	Notes
Human rights	Materiality (including Saliency)	HR1	Viessmann has identified freedom of association and the effective recognition of the rights to collective bargaining as well as forced labor, as material human rights topics connected with its operations and/or value chain. With regards to forced labor, Viessmann investigated and addresses its potential supply chain exposure to the Xinjiang region in China. We are aware that freedom of association and right to collective bargaining is limited in certain regions and "when local laws restrict these rights, then the Supplier should pursue other ways of engaging in a collaborative and meaningful dialogue with its employees" (extract from **Viessmann Code of Conduct**). See our **Policy Statement**.
	Commitment	HR2 HR2.1	Viessmann has policy commitments in relation to freedom of expression, access to water and sanitation, digital security/privacy, gender equality and women's rights, rights of indigenous people, rights of refugees and migrants. Last update: 2023.
	Prevention	HR3 HR4 HR5 HR6	Viessmann has not engaged with affected stakeholders or their legitimate representatives in relation to the topics mentioned above as it has not received any complaint in the reporting period. To prevent/mitigate the risks/impacts associated with freedom of expression, access to water and sanitation, digital security/privacy, gender equality and women's rights, Viessmann has provided internal training/capacity building for the direct workforce and built capacity among relevant business relationships. No action within the reporting period was made regarding refugees and migrants rights. People receiving training on HR cited above (except refugees and migrants rights) include: all employees, contractors, direct and indirect suppliers of the organization. To assess progress in preventing/mitigating the risks/impacts of the human rights topics cited above, Viessmann sets annual targets/goals, tracks progress over time (internal program only).
	Response	HR8	During the reporting period, Viessmann has not identified any adverse impact or cause regarding rights cited above.
Labor	Commitment	L1	Viessmann has policy commitments in relation to the following labor rights principles: • Freedom of association and the effective recognition of the rights to collective bargaining • Forced labor • Child labour • Non-discrimination in respect of employment and occupation • Safe & healthy working environment • Working conditions (wages, working hours) All labor rights are aligned with international labor standards, are publicly available, are approved at the most senior level of Viessmann, are applied to the company's own operations and value chain, developed in consultation with workers and their representatives, and developed involving labor rights expertise from inside and outside the company.
	Prevention	L2 to L5	In the reporting period, Viessmann has not engaged with affected stakeholders or their legitimate representatives regarding labor topics stated earlier as no complaints have been received. Nevertheless, to prevent any risks/impacts, Viessmann has provided internal training/capacity building for the direct workforce, and built capacity among relevant business relationships. Thus training has been provided to all employees, as well as contractors, direct and indirect suppliers. To assess progress in preventing and mitigating risks associated with labor rights topics, Viessmann reviews all topics on an ad hoc basis.

UN Global Compact index - continued

UNGC category	UNGC topic	Location of relevant content in Viessmann's UNGC Communication on Progress	Notes
Labor - continued	Performance	Collective agreements: L6 Incident rate during reporting period: L9	The Viessmann collective bargaining agreements provided are more favorable than those provided in legislation or in an applicable sectoral agreement, since they provide more favorable conditions related to wages, to working hours, to health coverage and/or to sick leave. Incident rate during reporting period: Frequency of injury over the 13 main Viessmann sites range from 0 (lowest figure) to 19.1 (highest figure) accidents in 1 million working hours.
	Response and Reporting	L11	No adverse impact associated with labor rights topics were identified leading to no remedy given.
Environment	Commitment	E1	Climate change, water, forest/biodiversity/land use, air pollution, waste, energy and resource use are environmental topics all included within a broader policy or as a stand alone policy within Viessmann.
	Prevention	E2 — summary	In the course of the reporting period, Viessmann has collaborated in the prevention/mitigation of risks/impacts on the question of climate change. It has engaged with affected stakeholders on the questions related to water and air pollution to better understand the risks and impacts related to the topics. In order to agree on a way to prevent/mitigate the risks/impacts related to forests/biodiversity/land use, Viessmann engaged with external stakeholders.

	Climate Action	E6	Details on scopes:
			• Scope 1 emissions — full: Direct emissions: 42.6 kilotons
			• Scope 2 emissions — full: Indirect upstream emissions: 13 kilotons
			• Scope 3 — partial:
			  ◦ Indirect upstream emissions : 1,714 kilotons
			  ◦ Indirect downstream emissions : 95,398 kilotons
			
			% of the company's revenue invested in R&D of **low-carbon products**/services: 10%

	Energy/Resource Use	E9	Company's renewable energy consumption / total energy consumption: 38%
	Technology	E10	The portfolio shift and rise of renewable solutions has been a strong focus within the **Climate Strategy** of the Viessmann Group. The percentage of revenue presented here, represents the revenue share of low carbon products of the biggest business area of the Viessmann Group, **Climate Solutions** (2022 revenue share 85%). The figure has increased from 30% to 50% over three years, specifically: 30.3% (2020), 35.9% (2021) to 49.8% (2022). This encompasses revenues from the following product groups: electric system solutions (residential and commercial heat pumps and hybrid systems, photovoltaic modules, battery storage), biomass system solutions, solar thermal solutions — as well as other solutions for ventilation, cooling and water provision.
	Sector-specific: Water	E11	64% of water withdrawn in regions with high or extremely high **water stress**. At our Manisa site, 100% of water comes from a third-party, from the industrial zone. At our Berlin site, fresh water is obtained exclusively via the network connection of Berliner Wasserbetriebe (BWB) as external water.

UN Global Compact index - continued

UNGC category	UNGC topic	Location of relevant content in Viessmann's UNGC Communication on Progress	Notes
Environment - continued	Sector-specific: Forests, Biodiversity, and Land Use	E13	Here are the distances from key **biodiversity** areas (KBA) from our 13 main sites : • Berlin (DE): 12 km away from the **closest KBA** • Faulquemont (FR): 14 km away from the **closest KBA** and 46 km away from the **second closest KBA** • Allendorf (DE): 1 km away from the **closest KBA** • Mittenwalde (DE): 3 km from the **closest KBA** • Manisa (TK): 1 km away from the **closest KBA** • Cologne (DE): 17 km away from the **closest KBA** • Legnica (PL): 20 km away from the **closest KBA** • Dombovar (HG): 26 km away from the **closest KBA** and 32 km away from the **second closest KBA** • Landsberg (DE): 19 km away from the **closest KBA** • Mainz (DE): 2 km away from the **closest KBA** • Porvoo (FIN): 3 km away from the **closest KBA** • Hof (DE): 28 km away from the **closest KBA** • Dachang (CH): 63 km away from the **closest KBA**
	Sector-specific: Air Pollution	E19	Not quantified.
	Sector-specific: Waste		Solid Waste generated in reporting period: 22,807 tons Hazardous waste ratio: 10.5%. The total waste of the ISO 14001 sites is 22,807 tons, of which 2,386 tons is hazardous waste.
	Overall Environment	E20	Not quantified.
Anti-corruption	Commitment	AC1 an AC2	Viessmann has no anti-corruption compliance program as it is not an immediate business priority. Viessmann has a policy and recommendations, included in a broader policy, for employees on how to act in case of doubt and/or in situations that may represent a conflict of interest.
	Prevention	AC3 AC4	Every year, all employees receive training on anti-corruption and integrity. No monitoring of the anti-corruption program is done.
	Response and Reporting	AC6	To address suspected incidents of corruption independently or in response to a dispute or investigation by a government regulator, Viessmann had initial case assessments and internal investigations. Viessmann does not engage in Collective Action against corruption.

7. CSRD and GRI index

We are reporting against the European Sustainability Reporting Standards (ESRS) as part of the **Corporate Sustainability Reporting Directive (CSRD)**. Here, we also map relevant Global Reporting Initiative (GRI) indicators against the current ESRS disclosures. Read more detail on the specific requirements of the **ESRS disclosures**.

Topic	ESRS disclosure	Corresponding GRI disclosure/s	Location of relevant information in this report	Additional notes and omissions
ESRS 2: General disclosures	BP-1 — General basis for preparation of the sustainability statements	2-2 and 2-6	About this report Defining our sustainability strategy	Key principles to our sustainability assessment were: adopting a global approach, taking into account our full value chain and the whole Group. By selecting the Future-Fit Business Benchmark, we enabled a precise, science-based and holistic perspective that took account of our entire value chain. The **materiality assessment** provided the foundation for a focused and effective **sustainability strategy**, permitting all stakeholders — within and outside Viessmann — to respond and enabling us to map the most material risks. The results are explained in this report. We did not omit a specific piece of information when building our sustainability assessment.
	BP-2 — Disclosures in relation to specific circumstances	2-3 and 2-4	About this report Defining our sustainability strategy	We have set 3 different time horizons: • 2025 for operational terms • 2030 for mid-term targets • 2050 for long-term targets Supporting initiatives will be implemented according to Viessmann's operational priorities until 2025. Our commercial strategy is also set until 2025. Mid term targets are required for financial resource planning, budget allocation and prioritization. Long term targets underpin our sustainability vision to become a net zero, circular business with a zero harm supply chain and with this we live up to our company's purpose. We use economic allocation to determine life cycle impacts (e.g. scope 3) and background data from reputable databases (i.e. IEA emission factors, country grid mixes, GESTIS emission factors) to estimate value chain impacts. Going forward, we aim to implement a life cycle assessment based on product-specific evaluation. While doing our Future Fit Business Benchmark assessment, we took samples to determine our current performance across all **key fitness indicators**. It is therefore hard to ensure the evaluation of 100% of our value chain. Nevertheless, these samples were selected to ensure an accurate representation of Viessmann's whole value chain. Market uncertainty also provides context, for example due to regulatory frameworks and other external factors such as geopolitical influences.
	GOV-1 — The role of the administrative, management and supervisory bodies	2-9, 2-10, 2-12, 2-13 and 2-17	UNGC index	Total number of board members: 20, of which: • 85% male • 15% female • 0% non-binary persons • 0% members under 30 years old • 30% members between 30 and 50 years old • 70% members overs 50 years old • 0% members from a minority or vulnerable group • 55% members executive and 35% independent More information can be read on our **website**

CSRD and GRI index - continued

Topic	ESRS disclosure	Corresponding GRI disclosure/s	Location of relevant information in this report	Additional notes and omissions
ESRS 2: General disclosures - continued	GOV-2 — Information provided to and sustainability matters addressed by the undertaking's administrative, management and supervisory bodies	2-12, 2-13 and 2-16	Governance	
	GOV-3 — Integration of sustainability-related performance in incentive schemes	2-19	UNGC index	We plan to link remuneration to environmental performances within the next two years. Climate change is the first criteria that will be linked, since it is the most material topic to Viessmann's internal policy and challenges: within two years, climate change will be taken into consideration in the pay of the Viessmann employees. It is not currently planned to link pay to sustainability issues regarding human rights, labor rights or anti-corruption issues. We do have intention to take further action and we are still thinking about an adequate timeline to implement these other changes.
	GOV-4 — Statement on sustainability due diligence		UNGC index	Our **due diligence** includes risk management processes, risk method screening, training and improvements measures, as well as audits. The Viessmann Group is based in Germany and as such, bound by the requirements of the Supply Chain Act (Lksg) as of 1st January 2023.
	GOV-5 — Risk management and internal controls over sustainability reporting		Zero harm supply chain	Through **human rights and environmental due diligence** (HREDD) and related risk management we cover our entire value chain as well as our own business areas. The reporting is done annually as per Supply Chain Act (Lksg) requirements.
	SBM-1 — Market position, strategy, business model(s) and value chain	2-6, 2-7, 2-22 and 201-1	Our organization today Our system of solutions	
	SBM-2 — Interests and views of stakeholders	2-29 and 3-1	Our colleagues and partners Formalizing our approach Our material sustainability issues Sustainability risk and performance assessments	Engagement with suppliers also goes hand in hand with our contracts negotiations with our suppliers by rolling out, communicating and training our suppliers to our **Supplier Code of Conduct**. These are binding parts in our contractual relationships.
	SBM-3 — Material impacts, risks and opportunities and their interaction with strategy and business model(s)	2-22, 3-1, 3-2 and 3-3	Our vision Our material sustainability issues	

CSRD and GRI index - continued

Topic	ESRS disclosure	Corresponding GRI disclosure/s	Location of relevant information in this report	Additional notes and omissions
ESRS 2: General disclosures - continued	IRO-1 — Description of the processes to identify and assess material impacts, risks and opportunities	2-14 and 3-1	Our material sustainability issues	
	IRO-2 — Disclosure Requirements in ESRS covered by the undertaking's sustainability statements	3-2	Our material sustainability issues	Of 86 ESRS disclosures, we provide responses to 73 (85%).
	DC-P — Policies adopted to manage material sustainability matters	2-23, 2-24 and 3-3	Developing our sustainability strategy	The scope of our sustainability strategy takes into account our entire value chain. The most senior levels at Viessmann accountable for the implementation of the policy are the CEO and Chairman of the Board. All Viessmann's value chain actors (people, suppliers, partners) need our help to implement the policy.
	DC-A — Actions and resources in relation to material sustainability matters	3-3	Net zero Circularity Zero harm supply chain	
	DC-M — Metrics in relation to material sustainability matters	3-3	Detailed performance data	
	DC-T — Tracking effectiveness of policies and actions through targets	3-3	Detailed performance data	

CSRD and GRI index - continued

Topic	ESRS disclosure	Corresponding GRI disclosure/s	Location of relevant information in this report	Additional notes and omissions
ESRS E1: Climate change	E1-1 — Transition plan for climate change mitigation		Net Zero	
	E1-2 — Policies related to climate change mitigation and adaptation	3-3	Viessmann in 2022 Cooling and ventilation in times of global warming Our science-based targets to achieve net zero Product portfolio emissions Future-Fit Business Benchmark assessment summary	The Science Based Targets initiative (SBTi) has validated that our two GHG emissions reduction targets are in line with a 1.5°C trajectory. SBTi is the most credible way to verify that our targets are aligned with the Paris Agreement. External verification of the two science-based targets for our net zero focus area helps us to prepare for new regulatory requirements. It also offers an opportunity to become less dependent on volatile fossil fuel markets and emissions trading schemes such as the **EU ETS**, which will become mandatory for the building sector in 2026. We have broken our SBTi targets down into yearly and intermediate targets, to reach net zero in 2050.The mapping of our climate risks in general and identified water risks in particular is part of the FFBB assessment summary, and as such will be integrated into the Integrated Management Process. We are actively working towards reducing our dependence on fossil fuels and transitioning to more sustainable alternatives. 50% of Viessmann's revenue is from products that can be run on renewable energy and we are increasing the share of renewable energy purchasing for manufacturing and supply chain, for example through the **Viessmann Informative Human Rights and Due Diligence Annex** where we recommend the SBTi to all our suppliers). Read our policy statement on reforestation & **Group environmental policy**.
	E1-3 — Actions and resources in relation to climate change policies	3-3	Net zero	Our scope 1 & 2 emissions reduction has been set according to our investment plan and our scope 3 through our supply chain focus area and portofolio shift.
	E1-4 — Targets related to climate change mitigation and adaptation	3-3 and 305-5	Developing our sustainability strategy Our greenhouse gas emissions UNGC index	2030 targets: Net zero: • Product portfolio and supply chain (scope 3) have 55% lower emissions intensity (science-based target, 2019 base year) • Operations (scope 1 and 2) have 47% less absolute emissions (science-based target, 2019 base year) • Net carbon sinks are established Circularity: • 50% (average) repurposed content in products • 80% (average) of all components can be repurposed • 100% of products are without harmful substances • 30% of revenue comes from circular business models • 100% of operational waste is repurposed Zero harm supply chain: • Effective processes and systems in place: to comply with current and future regulations; to create transparency about suppliers' negative impacts • 50% (average) repurposed content in products • 55% lower emissions intensity in our supply chain (scope 3, science-based target, 2019 base year) • The most significant human rights risks are managed and mitigated

CSRD and GRI index - continued

Topic	ESRS disclosure	Corresponding GRI disclosure/s	Location of relevant information in this report	Additional notes and omissions
ESRS E1: Climate change - continued				**2050 targets** Net zero: • Product portfolio and supply chain have net zero GHG emissions • Operations have net zero GHG emissions **Circularity:** • All products are designed according to sustainable principles • All business models are circular • Operations create zero waste **Zero harm supply chain:** • Effective supply chain sustainability governance is in place • Supply chain causes no harm to people anywhere • Supply chain causes no harm to the planet anywhere
	E1-5 — Energy consumption and mix	302-1, 302-2 and 302-3		**Energy consumption and mix in 2022:** • **Green electricity**: 74.628 MW • Biogas: 12.698 MWh • Bio methane: 5.465 MW • Wood chips — **short rotation plantations**: 5.213 • Wood chips — forests: 5.063 MWh • Pellets: 251 MWh • Logs: 36 MWh • District heating (bio): 1.886 MWh • Biodiesel : 0 MWh • Electricity (grey): 16.564 MWh • Coke : 0 MWh • Heating oil: 2.510 MWh • Acetylene: 308 MWh • Propane/butane: 5.764 MWh • Methane (G20): 746 MWh • Natural gas: 96.787 MWh • District heating: 3.976 MWh • Diesel car: 59.276 MWh • Diesel truck: 2.630 MWh • Petrol: 1.687 MWh • Paraffin: 4.153 MWh • Other test gases: 56 MWh Renewable energy sourced: 35.1%
	E1-6 — Gross scopes 1, 2, 3 and total GHG emissions	305-1, 305-2, 305-3 and 305-4	Performance against our net zero targets	Total scope 1 & 2 GHG emissions (tons CO_2e): 55,564 Total scope 3 GHG emissions (tons CO_2e): 97,111,783
	E1-7 — GHG removals and GHG mitigation projects financed through carbon credits	305-5	UNGC index Progress: net carbon sinks	Viessmann does not do GHG removals nor carbon credits. For more information read our policy statement on the offsetting of emissions and reforestation, available on our **website**.
	E1-8 — Internal carbon pricing			No internal carbon price.
	E1-9 — Potential financial effects from material physical and transition risks and potential climate-related opportunities	201-2		No financial effects quantified.

CSRD and GRI index - continued

Topic	ESRS disclosure	Corresponding GRI disclosure/s	Location of relevant information in this report	Additional notes and omissions
ESRS E2: Pollution	E2-1 — Policies related to pollution	3-3	UNGC index	See our **Group Environmental Policy** and **Code of Conduct**. The Viessmann Executive Board has established the following binding principles of action for all employees: • We improve our environmental performance. We create living spaces for generations to come and in doing so, we continuously improve our environmental performance. In this context, we use the best available technology, taking into account economic viability. We assume compliance with all legal regulations as a minimum requirement. • All employees participate. All employees participate in the creation of living space for generations to come. For this reason, employees in all areas of the company are comprehensively informed, trained and included in the environmental protection concept. • We avoid environmental pollution. All our activities, processes, equipment, new products and services are tested for environmental compatibility before they are used. We regularly evaluate the effects on the environment and reduce them to a minimum wherever possible and economically justifiable. • We conserve resources. We use raw materials sparingly and energy as efficiently as possible. We reduce unavoidable emissions and waste to a minimum. • We consider environmental protection in all processes. Our efforts to continuously improve our environmental performance apply equally to planning and administrative activities and to our services. • We prevent operational disruptions. By means of suitable preventive measures, we avoid operational disruptions as far as possible or keep their effects on the environment as low as possible. • We regularly review our activities. We regularly monitor and evaluate compliance with our environmental policy. • We involve contractual partners and customers. Our contractors and suppliers must apply the same environmental standards as our own employees. Furthermore, we train our customers in the handling of our products and inform them about the relevant environmental aspects. • We are transparent. We are in regular dialogue with stakeholders about Viessmann's activities and environmental impact. Extract from the **Viessmann Code of Conduct**: No Harm to Livelihoods and Health of People We respect the natural basis of our livelihoods and the health of people. Viessmann does not threaten the livelihoods or harm the health of people due to environmental pollution that causes the following: • Threat to the natural conditions for the preservation and production of food. • Denying a person's access to safe and clean drinking water. In this regard, Viessmann gives particular attention when operating in regions of acute water scarcity and extracting large quantities of water. • Make it difficult for a person to access sanitary facilities. Any groundwater contamination or the withdrawal of excessive amounts of water that threatens the access to sanitation. • Harm the health of a person.
	E2-2 — Actions and resources related to pollution	3-3, 303-1, 303-2 and 306-2		We work to implement continuous improvement on minimizing emissions to air, water and soil during operations and product use. We had a 2023 focus on reducing volatile organic compound (VOC) emissions across all operational sites.

CSRD and GRI index - continued

Topic	ESRS disclosure	Corresponding GRI disclosure/s	Location of relevant information in this report	Additional notes and omissions
ESRS E2: Pollution - continued	E2-3 — Targets related to pollution	3-3		We work to minimize VOC emissions from operations and maintenance of production equipment.
	E2-4 — Pollution of air, water and soil	303-4, 305-6, 305-7, 306-3, 306-4, 306-5		We work to implement continuous improvement on minimizing emissions to air, water and soil during operations and product use. We had a 2023 focus on reducing VOC emissions across all operational sites.
	E2-5 — Substances of concern and substances of very high concern	303-4, 305-6, 305-7, 306-3 and 306-5	Progress: zero waste operations	Our waste tracking includes hazardous and non-hazardous waste for our ISO 14001 certified sites, as well as key categories listed in the Future-Fit Business Benchmark, such as recycling and incineration. Extract from our Supplier Code of Conduct: In alignment with the Basel Convention and respective international and national regulations, Viessmann adheres to all trading rules regarding the handling, processing and shipment of hazardous waste. The details of the latter can be found in the Viessmann Informative Human Rights and Due Diligence Annex. Information as per REACH regulation : The EU regulation REACH (Registration, Evaluation, Authorisation and Restriction of Chemicals) regulates the obligations of producers when placing substances, mixtures and products on the market. In addition to data acquisition and registration of substances, these include the transfer of information along the supply chain. Special obligations apply when products are placed on the market that contain "Substances of Very High Concern" (SVHC). These are substances which, due to their hazardous properties, may be subject to authorisation after further examination by the European Chemicals Agency (ECHA) and are included on the so-called "candidate list" (=candidate for the list of substances subject to authorisation according to Annex XIV of the REACH Regulation). According to the information available from our suppliers, Viessmann products may contain the following SVHC: **Substance** / **CAS-NO.** / **Application, Products** Aluminosilicate Refractory Ceramic Fibres / - / High-temperature insulations (cords, mats, plates, moulded parts) Lead / 7439-92-1 / Modules/components with lead as alloy component together with copper (brass), iron, aluminium
	E2-6 — Potential financial effects from pollution-related impacts, risks and opportunities			Not quantified.

CSRD and GRI index - continued

Topic	ESRS disclosure	Corresponding GRI disclosure/s	Location of relevant information in this report	Additional notes and omissions
ESRS E3: Water and marine resources	E3-1 — Policies related to water and marine resources	3-3 and 303-2		**Extract from our Supplier Code of Conduct**: According to our Supplier Code of Conduct, a Viessmann Supplier should not be the cause of, or contribute to harmful soil change, water pollution, air pollution, noise emission and excessive water consumption. A map on water usage of the resource can be found in the **Viessmann Informative Human Rights and Due Diligence Annex**. Viessmann closely monitors its impact and resource consumption, including water and marine resources. The latest meeting of all environmental managers of each Viessmann plant took place in November 2022. Over three days, environmental managers were able to present and discuss all mitigations and steps forwards regarding risks, environmental topics and ambitions.
	E3-2 — Actions and resources related to water and marine resources	3-3 and 303-1	Water	Specific targets will be determined after the baselining exercise.
	E3-3 — Targets related to water and marine resources	3-3 and 303-1	Water	Although our business is not water-intensive in relative terms, we consume 64% of our water in water-stressed areas. Of this 64%, the Berlin site is responsible for most (21%), followed by Manisa (11%), Dachang (11%), and Hof (9%). We regularly audit the quality of our wastewater in compliance with relevant regulations. Specific targets will be determined after the baselining exercise. The Group targets regarding water and marine resources are to minimize water use and maximize efficiency.
	E3-4 — Water consumption	303-3 and 303-5	UNGC index	In 2022, Viessmann was responsible for the withdrawal of 184 megalitres of water. 64% of this came from regions with high or extremely high water stressed areas.
	E3-5 — Potential financial effects from water and marine resources-related impacts, risks and opportunities			Not quantified.

CSRD and GRI index - continued

Topic	ESRS disclosure	Corresponding GRI disclosure/s	Location of relevant information in this report	Additional notes and omissions
ESRS E4: Biodiversity and ecosystems	E4-1 — Transition plan on biodiversity and ecosystems			Extracts from our **Viessmann policy statement on the offsetting of emissions and reforestation**: Viessmann owns several thousand hectares of land in northern Finland and south-eastern Canada. Large parts of the areas are covered with trees, while parts of the land consist also of peatlands or swamps. The investment is part of the company's goal of preserving and sustainably managing forest areas to help mitigate climate change. The forest plots are mixed with a high proportion of young stands with great development and **CO_2** storage potential. In future, the mixed forests should be composed of two coniferous for one deciduous wood which often means a change in the forestry patterns. The forest is managed in a way that the wood removed is primarily used for long-lasting products, for example for the construction of houses, so that the CO_2 saved is actually removed from the **atmosphere** in the long term. Experts roughly calculate that trees absorb around one tonne of CO_2 from the atmosphere for every cubic meter of wood they grow. Depending on the location, 3–7 m^3 of wood per hectare grows back in our forests every year. This is the basis for our calculation to determine the CO_2 positive performance of our practiced sustainable forestry on the climate. **#ViMove for Climate** is our second activity focused on the enhancement and creation of **carbon sinks**. ViMove started as an internal initiative, and has developed into an international movement supported by more than 21,000 people in 50 countries under the #ViMoveForClimate as of today. The idea of the movement is simple: encourage people to participate individually or in teams in ViMove campaigns (by registering in the specially developed ViMove app) that converts sports activities into trees, that Viessmann then plants in its own forests. Our impact today: already more than one million trees. The OneClimate app encourages its users to assess their carbon footprints (on the scientific basis of the German Federal Environment Agency (UBA)) in order to then determine the most effective levers for reducing it. The knowledge about these levers is conveyed step-by-step in concrete proposals for action. Once the reduction potential is exhausted the removal of CO_2 emissions by supporting CO_2 projects on voluntary carbon markets or by purchasing emission certificates on the European Emissions Trading Scheme (EU ETS) is proposed to the user. While we know that carbon removal projects have to be treated with extreme precaution, we strive to set the highest possible principles for the projects proposed by OneClimate. We do so by applying the so-called "Oxford Offsetting Principles", which are: 1. Reduce all CO_2 emissions that can be reduced. 2. Support high quality, additional, transparent, verified and environmentally sound CO_2 storage projects. 3. Prioritize projects that actively remove CO_2 from the atmosphere and store it for the long term, (rather than projects that only store or avoid CO_2 in the short term). 4. Support projects over a longer period of time so that more projects of this kind can be developed and disseminated.
	E4-2 — Policies related to biodiversity and ecosystems	3-3	**Other activities related to net zero**	Information regarding our policy related to **biodiversity** and **ecosystems** can be found on our website in our **policy statement on the offsetting of emissions and reforestation**.
	E4-3 — Actions and resources related to biodiversity and ecosystems	3-3		See E4-1 and E4-2.
	E4-4 — Targets related to biodiversity and ecosystems	3-3		See E4-1 and E4-2.

CSRD and GRI index - continued

Topic	ESRS disclosure	Corresponding GRI disclosure/s	Location of relevant information in this report	Additional notes and omissions
ESRS E4: Biodiversity and ecosystems - continued	E4-5 — Impact metrics related to biodiversity and ecosystems change	304-1, 304-2, 304-3 and 304-4		See E4-1 and E4-2.
	E4-6 — Potential financial effects from biodiversity and ecosystem-related impacts, risks and opportunities			Not quantified.
ESRS E5: Resource use and circular economy	E5-1 — Policies related to resource use and circular economy	2-24 and 3-3	Circularity	
	E5-2 — Actions and resources related to resource use and circular economy	3-3 and 306-2	Circularity Progress: sustainable product design	Progress includes our first reverse product engineering workshop leading to the development of our sustainable product design guideline, the achievement of multiple LCAs and our CE-RISE project to enrich the guideline with detail on material flow, and environmental and social impact data of materials and components.
	E5-3 — Targets related to resource use and circular economy	3-3	Circularity: where we want to be	
	E5-4 — Resource inflows	301-1, 301-2 and 301-3		Not quantified.
	E5-5 — Resource outflows	301-3, 306-3, 306-4 and 306-5	Circularity	
	E5-6 — Potential financial effects from resource use and circular economy-related impacts, risks and opportunities			Not quantified.

CSRD and GRI index - continued

Topic	ESRS disclosure	Corresponding GRI disclosure/s	Location of relevant information in this report	Additional notes and omissions
ESRS S1: Own workforce	S1-1 — Policies related to own workforce	2-23, 2-25, 3-3 and 402-2		Our engagement with our own workforce is mainly done through our **Viessmann Code of Conduct** as well as the corporate handbook "**ViWays of working**" and the **fundamental declaration of human rights**, which are core parts of our policies related to our own workforce. Moreover, Viessmann is a member of the **UN Global Compact** and we draft all our documents based on the framework, covering freedom of association and effective recognition of the right to collective bargaining, forced labour and child labour, non-discrimination in respect of employment and occupational, safe and healthy working environment, and working conditions.
	S1-2 — Processes for engaging with own workers and workers' representatives about impacts	2-29, 3-1 and 403-4		Extract from '**Rules of procedure for the Complaint Mechanisms under the Supply Chain Act**: At Viessmann we live the "Speak-up" culture. Questions can and should be asked. Concerns about possible misconduct can be expressed at any time. Our interaction should be characterized by mutual respect and trust. We want to discuss misconduct in an open and constructive dialogue. The complaints procedure makes it possible, among other things, to point out human rights and environmental risks or violations of obligations that have arisen as a result of the economic actions of a company in the Viessmann Group in its own business area or in the business area of a direct or indirect supplier. Violations and risks can be easily reported online via the whistleblowing system Viessmann — Integrity Line at https://viessmann.integrityline.com. The report via Integrity Line can be made at any time from anywhere and with a device of your choice and will be forwarded directly to the Compliance Officer. Direct contact with the Compliance Officer is, of course, always possible. The contact details can be found on our website. All reported incidents are encrypted and comply with current data protection requirements. If the person reporting the incident so wishes, the report can also be submitted completely anonymously. Viessmann ensures that the identity of the whistleblower cannot be traced and that this remains the case throughout the subsequent investigation process. Confidentiality is the highest priority. Our **UN Global Compact** bargaining agreement provides more favorable rights than those provided in the legislation or in applicable sectoral agreement, by providing more favorable conditions related to wages, working hours, health coverage and/or sick leave. Within the Viessmann Group, there are multiple bargaining agreements based on regional and/or local labor unions and sector agreements e.g., IG Metall and Rahmentarifvertrag in Germany. Finally, Viessmann does regular employee surveys.
	S1-3 — Processes to remediate negative impacts and channels for own workers to raise concerns	2-25		See S1-1 and S1-2.
	S1-4 — Taking action on material impacts on own workforce, and approaches to mitigating material risks and pursuing material opportunities related to own workforce, and effectiveness of those actions	3-3, 403-1, 403-2, 403-3, 403-5, 403-6, 403-7 and 404-2	**People**	

CSRD and GRI index - continued

Topic	ESRS disclosure	Corresponding GRI disclosure/s	Location of relevant information in this report	Additional notes and omissions
ESRS S1: Own workforce - continued	S1-5 — Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities	3-3	People	See above.
	S1-6 — Characteristics of the undertaking's employees	2-7 and 401-1		14,653 employees (blue and white collars): • 21% female • 79% male • 9 employees non-binary
	S1-7 — Characteristics of non-employee workers in the undertaking's own workforce	2-8		Data will be available once the baselining is done.
	S1-8 — Collective bargaining coverage and social dialogue	2-30		Not quantified.
	S1-9 — Diversity indicators	2-9, 405-1	UNGC index	Total number of board members: 20 • Male: 85% • Female: 15% • Non-binary: 0% • Under 30 years old: 0% • 30-50 years old: 30% • Above 50 years old: 70% • From minority or vulnerable groups: 0% • Executive: 55% • Independent: 35% 14,653 employees (blue and white collars): • 21% female • 79% male • 9 employees non-binary
	S1-10 — Adequate wages	202-1		Extract from Viessmann Supplier Code of Conduct: Viessmann remunerates its employees with fair and competitive compensation. Viessmann requires its suppliers to pay their employees fairly and at least equally to the minimum wage in accordance with applicable laws, or if such national law does not exist, i.e., a state has not defined such a minimum wage, adhere to ILO convention 131 on minimum wage. Information on the latter can be found in the Viessmann Informative Human Rights and Due Diligence Annex. Moreover, within the Viessmann Group, there are multiple bargaining agreements based on regional and/or local labor unions and sector, e.g., IG Metall and Rahmentarifvertrag in Germany.

CSRD and GRI index - continued

Topic	ESRS disclosure	Corresponding GRI disclosure/s	Location of relevant information in this report	Additional notes and omissions
ESRS S1: Own workforce - continued	S1-11 — Social protection	401-2	UNGC index	Not quantified.
	S1-12 — Persons with disabilities			Not quantified.
	S1-13 — Training and skills development indicators	402-2, 404-1 and 404-3	Up- and reskilling	
	S1-14 — Health and safety indicators	403-8, 403-9 and 403-10		Health and safety indicators in 2022 for the Group sites in the Integrated Management System: • Total reportable incident rate (1 Mio Hours Rate): 7.42 • Total recordable incidents: 68 • Worked hours: 9.162.338,50 • Lost day cases: 1924
	S1-15 — Work-life balance indicators	401-3		Not quantified.
	S1-16 — Compensation indicators (pay gap and total compensation)	2-21, 3-3 and 405-2	UNGC index	Not quantified.
	S1-17 — Incidents, complaints and severe human rights impacts and incidents	2-27 and 406-1		In the course of the reporting period, Viessmann has not received any complaints. As an employer, business partner and with our diverse social commitment, we assume economic, ecological and social responsibility in everything we do.
ESRS S2: Workers in the value chain	S2-1 — Policies related to value chain workers	2-23, 2-25, 3-3, 414-2		Our **Supplier Code of Conduct** is informed by the Viessmann **Code of Conduct** and is a step forward in making Viessmann Group a company that does not inflict harm on people or the planet along its value chain. We require our suppliers to respect and follow the Viessmann group's sustainability ambitions of becoming a net zero company, being circular by 2050 along with a transparent and zero harm value chain. The Viessmann Group orients its business conduct along its values and state of the art international norms and standards. They are translated in the **Viessmann Informative Human Rights and Due Diligence Annex**. All documents are available **online**.

CSRD and GRI index - continued

Topic	ESRS disclosure	Corresponding GRI disclosure/s	Location of relevant information in this report	Additional notes and omissions
ESRS S2: Workers in the value chain - continued	S2-2 — Processes for engaging with value chain workers about impacts	2-29 and 3-1		Viessmann engages with its value chain workers or their legitimate representatives directly through its **Supplier Code of Conduct and Annex**, the training video attached to it, the test in regards to the content to these documents as well as the **Supply Chain Act training video** available on the Vi Academy. The Supplier Code of Conduct is sent out at each new contract agreement and has been sent out to all existing tier 1 value chain partners since the application of the Supply Chain Act (Lksg) in January 2023. Our VP of Supply Chain is the most senior role within Viessmann that has operational responsibility for ensuring that these engagements happen. Viessmann is also committed to the **UN Global Compact Principles** and invites all its suppliers to do as such.
	S2-3 — Processes to remediate negative impacts and channels for value chain workers to raise concerns	2-25		See our **Rules of Procedure for the Complaints Mechanism under the Supply Chain Act**. At Viessmann we live the "Speak-up" culture. Questions can and should be asked and concerns about possible misconduct can be expressed at any time. Our interaction should be characterized by mutual respect and trust. We want to discuss misconduct in an open and constructive dialogue. The complaints procedure makes it possible, among other things, to point out human rights and environmental risks or violations of obligations that have arisen as a result of the economic actions of a company in the Viessmann Group in its own business area or in the business area of a direct or indirect supplier. Violations and risks can be easily reported online via the whistleblowing system Viessmann — **Integrity Line.** The report via Integrity Line can be made at any time from anywhere and with a device of your choice and will be forwarded directly to the Compliance Officer. Direct contact with the Compliance Officer is, of course, always possible. The contact details can be found on our website.
	S2-4 — Taking action on material impacts on value chain workers, and approaches to mitigating material risks and pursuing material opportunities related to value chain workers, and effectiveness of those actions	3-3		Not quantified.
	S2-5 — Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities	3-3	**Zero harm supply chain**	Through HREDD and related risk management we cover our entire value chain as well as our own business areas. The reporting is done annually as per the German Supply Chain Act requirements.

CSRD and GRI index - continued

Topic	ESRS disclosure	Corresponding GRI disclosure/s	Location of relevant information in this report	Additional notes and omissions
ESRS S3: Affected communities	S3-1 — Policies related to affected communities	2-23, 2-25, 3-3, 411-1 and 413-2		Our **Supplier Code of Conduct** and its Annex, our **Group Policy Statement on Human Rights**, communicate our labor policy, applied to the company's own operations and value chain. Sections 2.8 (No unlawful eviction and deprivation of land) as well as part 6 (Best practices) and 6.1 (Human Rights) from our Supplier Code of Conduct are particularly relevant.
	S3-2 — Processes for engaging with affected communities about impacts	2-29 and 3-1		Extract from our **Supplier Code of Conduct**: Viessmann aims to always respect the lands, forests and waters that secure the livelihoods of people, and adheres, in any case, to the law while conducting a business operation. Viessmann Suppliers should prohibit any unlawful eviction, illegal taking of lands, forests or waters in its business operations or development. In any situation, Viessmann Suppliers should ensure that the livelihood of a person is secured when conducting any business operation.
	S3-3 — Processes to remediate negative impacts and channels for affected communities to raise concerns	2-25	**Progress: zero harm to people**	Viessmann has identified a potential risk in regards to forced labor. With regards to Forced Labour, we investigated and addressed our potential supply chain exposure to the Xinjiang region in China.
	S3-4 — Taking action on material impacts on affected communities, and approaches to mitigating material risks and pursuing material opportunities related to affected communities, and effectiveness of those actions	3-3, 203-1, 411-1 and 413-1		Extract from **Supplier Code of Conduct**: Viessmann aims to always respect the lands, forests and waters that secure the livelihoods of people, and adheres, in any case, to the law while conducting a business operation. Viessmann Suppliers should prohibit any unlawful eviction, illegal taking of lands, forests or waters in its business operations or development. In any situation, Viessmann Suppliers should ensure that the livelihood of a person is secured when conducting any business operation.
	S3-5 — Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities	3-3		See above.

CSRD and GRI index - continued

Topic	ESRS disclosure	Corresponding GRI disclosure/s	Location of relevant information in this report	Additional notes and omissions
ESRS S4: Consumers and end-users	S4-1 — Policies related to consumers and end-users	2-23, 2-25, 3-3, 416-2, 417-2, 417-3 and 418-1	Products	To ensure our product communications and related marketing activities are integrated with our sustainability ambitions beyond our green claims process (page 30), we are in the process of setting formal principles. These principles are our first step to embedding sustainability in the marketing function. The principles for any marketing activity are: needs-based (rather than wants-based), authentic, consistent, goal-orientated, collaborative across functions, customer-centric and purpose-centric.
	S4-2 — Processes for engaging with consumers and end-users about impacts	2-29 and 3-1	Green claims Products	With our green claims process, based on the EU Directive on Green Claims, we screen our communications for validity, increase information to support valid claims where needed, and eliminate claims that cannot be proven as factually correct. All new product communications go through this validation process. We aim to inform customers in a factual way, so they can select the solution that best aligns with their needs and values. We provide end-users and installers with extensive information on safe installation, use, repair, reuse, take-back, recycling, and disposal. Potential health and environmental hazards are transparently and proactively highlighted — building on current disclosure requirements for hazardous substances. We provide our customers and end-users with a range of ways to raise product concerns via local installers or directly with our technical support team, following a three-step process: 1. End users raise product concerns with their installer. 2. If escalation is needed, our technical service team provides further support. 3. If further escalation is needed (e.g. safety concerns for a batch of products), our research and development team gets involved, and the case is investigated.
	S4-3 — Processes to remediate negative impacts and channels for consumers and end-users to raise concerns	2-25	Green claims Products	
	S4-4 — Taking action on material impacts on consumers and end-users, and approaches to mitigating material risks and pursuing material opportunities related to consumers and end-users, and effectiveness of those actions	3-3	Net zero Circularity	Circular business models address end-users in the mitigation of risks related to materials supply and resource constraints. They leverage material opportunities related to the circular economy.
	S4-5 — Targets related to managing material negative impacts, advancing positive impacts, and managing material risks and opportunities	3-3		See above.

CSRD and GRI index - continued

Topic	ESRS disclosure	Corresponding GRI disclosure/s	Location of relevant information in this report	Additional notes and omissions
ESRS G1: Business conduct	G1-1 — Corporate culture and business conduct policies	-12, 2-23, 2-24, 2-26, 3-3 and 205-2		**Vi Ways of Working** is a framework that guides all Viessmann employees, as individuals, teams or organizations and aligns everyone around one common way of working. The 4 guiding beliefs are : • Trust • Family • Flexibility • Viessmann Homes The 7 enablers for the Vi Ways of Working : 1. Values (responsible, team-oriented and entrepreneurial) & Etiquette (planning, communication & communication) 2. Leadership (customer-driven, performance-driven, people driven) 3. Nature of work type 4. Workspaces (Collaboration, workplace and social areas) 5. Healthy routines (Recover, productivity, socialize, networking) 6. Meeting Culture (schedule as few meetings as possible and as many as necessary) 7. Co-Creation Viessmann's corporate culture is also supported through our Code of Conduct and our organizational internal manual.
	G1-2 — Management of relationships with suppliers	308-1, 308-2, 414-1 and 414-2	**Zero harm supply chain**	Viessmann's relationships with its suppliers are driven by our values and contractual requirements set in our Supplier Code of Conduct. The Informative Annex attached to the Code offers guidance for our suppliers to get better and have a better knowledge on ongoing regulations, best practices. These documents are supported by a Supplier Code of Conduct video, a training on our Code as well as a test to ensure the understanding of our requirements. As part of our supply chain focus area, and to kickstart supply chain governance targets, we have taken the following steps : 1. Supplier Code of Conduct: We have made our Supplier Code of Conduct a mandatory part of our supplier terms and conditions. 2. Sustainability Risk and Performance Assessment: We are conducting trials and implementing tools to assess sustainability risks and evaluate supplier performance. 3. Communication and training: We are establishing processes and conducting training sessions for both suppliers and our procurement team to effectively communicate new requirements and processes.
	G1-3 — Prevention and detection of corruption or bribery	2-16, 2-26, 3-3 and 205-1		As mentioned in our **Supplier Code of Conduct**, Viessmann pursues a zero tolerance policy against corruption and bribery in any form: Viessmann suppliers shall conduct their business without bribery, corruption or any kind of fraudulent business practices. The Supplier shall comply with relevant national laws and regulations.

CSRD and GRI index - continued

Topic	ESRS disclosure	Corresponding GRI disclosure/s	Location of relevant information in this report	Additional notes and omissions
ESRS G1: Business conduct - continued	G1-4 — Confirmed incidents of corruption or bribery	205-3		No complaints received in the reporting period.
	G1-5 — Political influence and lobbying activities	2-28 and 415-1		Main topics covered by its lobbying activities and Viessmann's main positions on these in brief: Viessmann fully supports the climate targets set for the building sector and aims to contribute to the achievement of these goals via its lobbying activities. We aim to drive system change in order to **decarbonize** heating and reduce the share of emissions stemming from the building sector. Our focus topics are, for example: Renewable energy and **energy efficiency**, building renovation, digitisation, electricity and gas market design, energy supply security, affordability and a socially just transition, and the circular economy.
	G1-6 — Payment practices			Extract from Viessmann general terms and conditions: Payments are only due after receipt of the goods, the complete invoice and after the agreed delivery date. Unless otherwise agreed, payments shall be made either within 2 weeks of receipt of the invoice with a weeks from receipt of the invoice with a 3% discount or within 45 days net cash. For organizational reasons, payments due in each calendar week shall be made only once a week. All such payments of a week shall also be deemed to be on time for the purpose of taking into account and calculating the agreed discounts as being on time. Each payment shall be made subject to our rights in respect of any defects. We shall be entitled to withhold payments in whole or in part until defects have been remedied or other. The fulfillment of other counterclaims from the entire business relationship, also with other companies of the Viessmann Group. A payment neither signifies recognition of fulfillment nor a waiver of claims for defects; this also applies with regard to the receipt on the occasion of the acceptance of goods.

8. Preliminary EU taxonomy screening

The **EU sustainable finance taxonomy** characterizes and classifies all economic activities with regard to sustainability performance according to dimensions such as climate change mitigation and adaptation, and circularity. In line with the Corporate Sustainability Reporting Directive, the taxonomy requires us to classify our turnover according to the economic activity classification, and adherence to specific contribution and do-no-significant-harm criteria. This in turn enables the classification of specific products and services as being in conformance with the taxonomy criteria.

Our first taxonomy screening for the 2022 revenue of our business area Climate Solutions indicated that:

7%
of revenue is taxonomy conforming

29%
of revenue is generated with products and services that are eligible for taxonomy classification, but which do not fulfill the contribution and/or do-no-significant-harm criteria

46%
of revenue is related to products and services not eligible for taxonomy classification (e.g.; original equipment manufacturer trading goods)

18%
of revenue could not be classified yet due to missing data

Is turnover generated by manufacturing and selling a heat pump in conformance with the EU sustainable finance taxonomy?
It is, as long as it fulfills specific criteria for contribution and do-no-significant-harm. This means the product should be in one of the top-tier **energy efficiency** classes available for the respective product group, should not utilize a refrigerant with a Global Warming Potential above the threshold given by the F-Gas regulation, supports **ecodesign** through information on repair- and reusability, and that there is provision of spare parts and efforts to design for circularity.

End notes

1. **World Economic Forum** — the food loss related emissions we refer to are those only due to lack of cooling and refrigeration.
2. Extrapolated from the Circularity Gap Report, 2019 data.
3. **Overshoot Day**.
4. **World Inequality Report**.
5. **World Economic Forum**.
6. **Our World in Data, World Economic Forum, UNEP**.
7. **New Buildings Institute**.
8. See **Annex 3** for the comprehensive assessment of sustainability related business risks and opportunities conducted by consultancy Nordic Sustainability.
9. For example: Paris Agreement (climate); **EU Green Deal** package, revised ecodesign framework directive, **construction product directive (circularity)**; EU Corporate Sustainability Due Diligence Directive and **Corporate Sustainability Reporting Directive, EU green finance taxonomy** (reporting).
10. 63% of interviewed buyers say that integrating sustainability into their work has increased their supply chain resilience (**Ecovadis/ Stanford White Paper**).
11. For example, recycling is projected to grow faster than mining or materials use until 2060, driven by resource scarcity (**OECD** — page 13).
12. For example, **Harvard Business Review**.
13. **Harvard Business Review**.
14. **Rewiring the Economy**.
15. **Business and Sustainable Development Commission**.
16. Source paper available **here**: "...results show an overall decline in both speed and accuracy measures due to changes in **ambient air temperature**. Accuracy measures and longer exposures are associated with relatively more decline in heat and cold. The estimated temperature-performance correlation follows a bell-shaped curve centered around the average control temperature.
17. Source paper available **here**: Results from subjective questionnaires and objective data show indoor environmental parameters have effects on different degrees on sleep quality, with temperature being the main factor affecting sleep quality. The study also suggested comprehensive optimal conditions, which is a temperature of 20°C, relative humidity of 55%, and light intensity of 150 lx before sleep and 30 lx before waking up.
18. Source paper available **here**: Workers in green certified buildings scored 26.4% higher on cognitive function tests, controlling for annual earnings, job category and level of schooling, and had 30% fewer sick building symptoms than those in non-certified buildings.
19. Business-to-business-to-consumer.
20. We focus on improving across almost all FFBB Break-Even Goals as displayed in the graphic. For the full list of risk evaluation across all Goals, see **Annex 3**.
21. This estimate of the increase in global temperature is the average of many thousands of temperature measurements taken over the world's land and oceans. Temperatures are not changing at the same speed everywhere, however: warming is strongest on continents and is particularly strong in the Arctic in the cold season and in mid-latitude regions in the warm season (**IPCC**).
22. **European Environment Agency**.
23. **Nature Sustainability**.
24. Assuming a similar 20-year lifespan and 20,000 kilowatt hours of heat delivered to the building per year.
25. IEA **Future of Cooling** report.
26. **IPCC**.
27. The graphic is a simplified version of our detailed investment plan and aims to illustrate our approach. It therefore does not include all sites where we have implemented or will implement measures.
28. Source: **Project Drawdown**.
29. Viessmann **policy statement** on offsetting.
30. Full list of positive impacts (Positive Pursuits) in **Annex 3**.
31. Garmin Health Award in the category Most Innovative Solution in Engagement (International), Company Environmental Initiative of the Year at the National ACR & Heat Pump Awards (UK), Company Fitness Award in the category Fitness Challenge by Die Presse (Austria).
32. **Circularity Gap** Report 2021 from the **Stockholm Resilience Centre**.
33. 2023/24 LCAs, **EPD** — PEP Ecopassports, as well as projects: LCAs: Vitocal 111-S (air-to-water split heat pump), Vitocal 100-S (air-to-water split heat pump; EPD — PEP Ecopassport: Vitocharge VX3 (battery + inverter product), Vitosol 300-TM (solar thermal collector), Vitocal 250-A (air-to-water monobloc heat pump), Water tanks (Stainless Steel, Black Steel, Enamelled), Vitovolt 300 (Solar Photovoltaic module); Projects: CE-RISE (Developing block chain based digital systems to store the product's entire lifecycle information and also the environmental impact calculation), Vi product's end-of-life treatment information gathering — project with ENCORY (understanding end-of-life product streams helping us develop **take-back system**), Sustainable Product Design Guideline (includes the dismantling workshop of Vitocal 250-A indoor and outdoor unit).
34. Our LCAs are conducted to the standards ISO 14040 series and EN 15804 and follow the EU product environmental footprint category rules when available. Where external verification schemes or environmental product declarations are common in certain markets, such as PEP (product environmental profile) Eco Passports for the French markets, we apply them to assure product quality for our stakeholders.
35. E.g. German QNG ecolabel for buildings.
36. Including suppliers to Climate Solutions (about 12,000), Invest (about 3,000) and Refrigeration Solutions (about 3,500) — some of which are also suppliers to multiple business areas.
37. E.g. our photovoltaic panels suppliers.
38. This could be post-industrial — materials repurposed after an industrial process, such as cuttings of steel that do not end up in a product and that can be reintroduced into the steel making process. Or it could be post-consumer — materials recovered and repurposed after consumers have disposed of them, for example PET granulate coming from used PET bottles.
39. Ellen MacArthur Foundation **Material Circularity Indicator**.
40. When we talk about "risk assessment", this is equal to what is meant by "abstract risk assessment" in the **German Supply Chain Due Diligence Act**. And our term "performance assessment" refers to the term "concrete risk assessment" in the law.
41. Including the German Supply Chain Due Diligence Act and Corporate Sustainability Due Diligence Directive.
42. Some of our suppliers participated in both the first and second performance assessment pilot and are counted only once.
43. A Western standard meat-based diet produces about 7.2 kilograms of CO_2 equivalent per day, while a vegetarian diet produces 3.8 kg (source available **here**).
44. A full list of acknowledged positive impacts, including those related to people, is found in **Annex 3**.
45. **European Heating Industry**.
46. Using **Key Biodiversity Areas** as a source.
47. More details in **Annex 6**, UN Global Compact Index, E13.
48. Acknowledged as Positive Pursuit.

Viessmann Sustainability Report 2023

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