

CLIMATE TRANSITION PLAN



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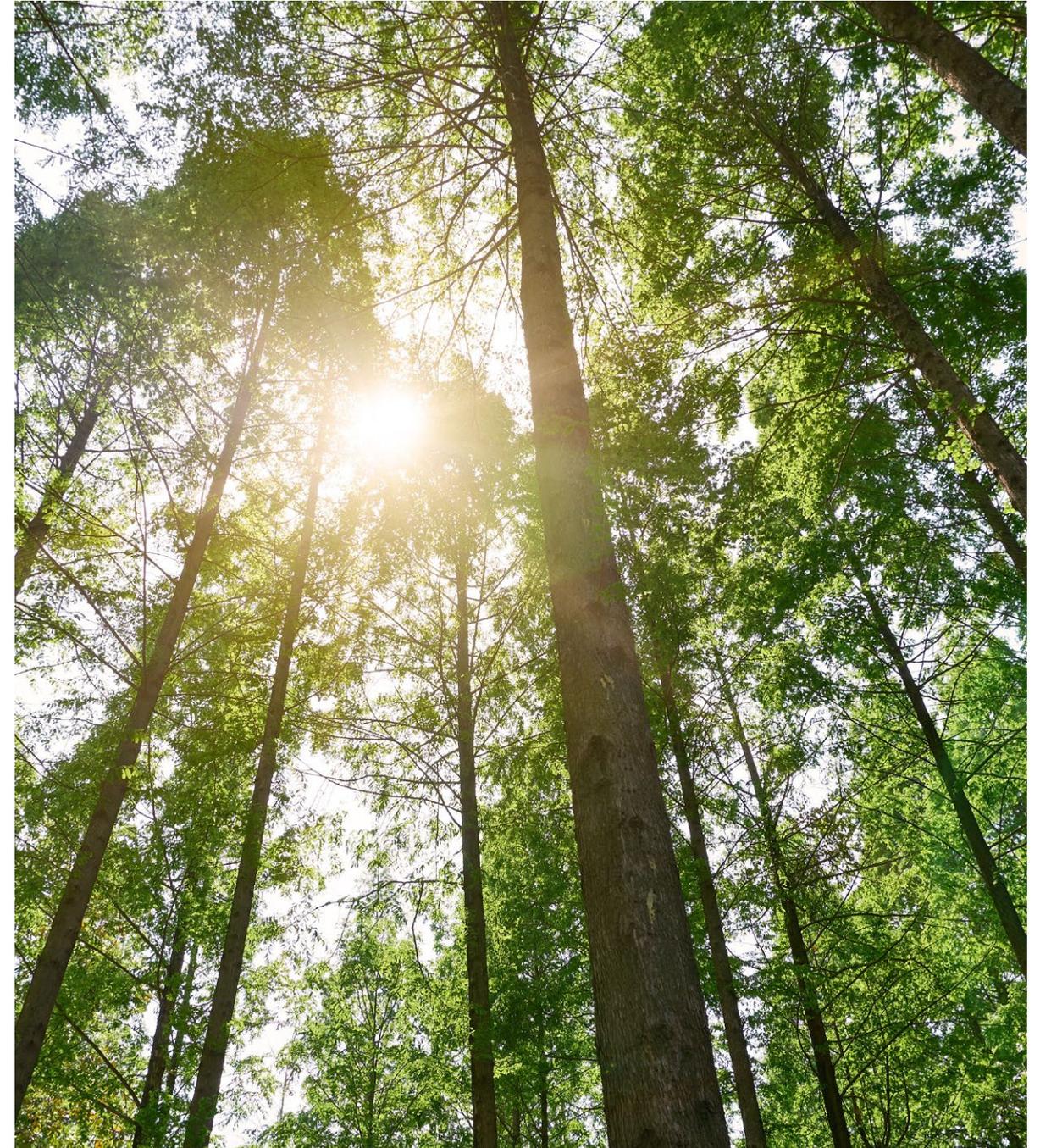
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Sustainable and competitive future



In conversation with **Thomas Hinnerskov**, President and CEO, and **Reetta Lopenen**, Vice President, Sustainability

Valmet launched its strategy ‘Lead the Way’ last year. Thomas, what is the role of sustainability in the strategy?

Thomas: In many ways, we aim to go above and beyond sustainability. Our ‘Lead the Way’ strategy is built around a clear purpose, **Transforming industries towards a regenerative tomorrow**. It reflects both the ambition we have for Valmet and the responsibility we carry for the world around us.

The industries we serve – pulp, paper, tissue, and a broad range of others – have a tremendous opportunity to transform from just reducing their impacts to creating regenerative systems that renew and restore, helping undo past impacts while accelerating a more resilient future. For us at Valmet, this means helping our customers to use fewer raw materials, increase circularity, and cut emissions through technology, solutions, and collaboration.

To do this, we have two missions: **advancing circularity** and **unlocking resource efficiency**. They guide how we innovate and how we grow. And this is an inspiring journey, where we are evolving our technologies, our ways of working, and our partnerships so we can deliver measurable impacts across the value chain and on every stage of our customers’ lifecycle.



Valmet’s Climate Transition Plan is a key milestone on this journey. Why is it important, and how does it connect to the bigger picture Thomas just outlined?

Reetta: The Climate Transition Plan defines how Valmet contributes to the global shift toward a low-carbon, circular economy, one that protects nature and supports long-term business resilience.

Climate change is one of the most urgent planetary challenges, and through this plan we are addressing it head-on. We are reducing emissions in our own operations, working with our suppliers to lower their impacts, and enabling our customers to achieve major emission reductions through our technologies.

This plan is not only about compliance or meeting targets; it’s about how sustainability drives our business forward. By integrating climate action into innovation, customer collaboration, and investment decisions, we strengthen our competitiveness and create long-term value for both our company and society.

What does this journey toward a sustainable and future-ready industry look like in practice?

Reetta: Industrial transformation calls for technologies for carbon capture, utilization and storage (CCUS), for next-generation biomaterials and -fuels, and advancing recycling technologies for textiles, plastics, and new value streams.

Already today, we work together with our customers throughout the entire lifecycle, helping them to optimize efficiency, reduce downtime, and make informed decisions to deliver measurable environmental and operational benefits.

Thomas: Sustainability is increasingly a driver of competitiveness, resilience and growth, both for us and for our customers. What truly matters now is how we deliver customer value across the entire lifecycle. When we work side-by-side with customers for many years, our impact stretches far beyond individual projects. Our role isn’t just to deliver technology; it’s to ensure that our customers continue to operate more efficiently, more sustainably and more profitably, creating lasting value for their stakeholders.

“Our customers can become more successful in their business by going above and beyond sustainability.”

Towards regenerative industries

Valmet carries both the responsibility and capability to drive industrial transformation in the pulp, paper, and energy sectors. Climate change, biodiversity loss, and resource overconsumption are the defining challenges of our time.

Our strategy is implemented through two focused business segments, Process performance solutions ja Biomaterial solutions and services, both with a clear mission.



Moving from minimizing harm to actively renewing resources, restoring ecosystems, and building resilient industrial systems.

VALMET'S OWN OPERATIONS

- Commitment to Net zero by 2040
- Design for Circularity principles in R&D
- Minimizing waste and emissions
- Environmental actions at locations.

PROCESS PERFORMANCE SOLUTIONS

- Automation solutions for optimized resource use
- Flow control for efficiency and safety
- Smart monitoring and predictive maintenance
- Digital tools that reduce downtime, waste, and energy.

BIOMATERIAL SOLUTIONS & SERVICES

- Closed-loop and recovery solutions
- Improving customers' fiber and energy use
- Fossil-free energy enablement
- Use of recycled raw materials.

INNOVATING BEYOND TODAY

- Recycling technologies for new material value streams
- Carbon capture and storage/utilization
- Next-gen biomaterials
- Industrial electrification
- Partnerships for breakthrough innovation.

Empowering customers to turn climate ambition into action

Valmet's technologies and services play an essential role in decarbonizing the pulp, paper, tissue, energy and process industries. Across all business areas, our solutions enable customers to cut energy use, replace fossil fuels, optimize resources, and transition toward renewable, circular production.

Valmet's **Pulp, Energy and Circularity** business area plays a critical role in reducing emissions from the pulp, paper, and bioenergy sectors. By delivering high-performance power and recovery boilers and other technologies enabling fossil replacement, we support industrial customers in their transition away from fossil fuels and materials toward renewable alternatives made from wood, wood residues and various annual fibers like agrobiomass. The integration of advanced emission-control and carbon capture solutions at pulp mills and bioenergy plants further strengthens the potential to significantly lower emissions.

In the **Packaging and Paper** business area we develop innovations to improve resource efficiency of packaging and paper production. Enhancing drying efficiency with advanced air systems and heat-recovery technologies helps cut energy use. Electrification and bio-based drying components enable fossil-free production, while closed-loop systems reduce water and chemical use, contributing to resource efficiency and climate goals.

In the **Tissue** business area, Valmet enables fossil-free tissue production through integrated technologies and services that reduce energy, water, and fiber consumption. Process innovations such as flexible pressing and drying technologies improve operational efficiency and end-product quality while lowering emissions. Technologies for structured tissue enable significant fiber savings.

Through the **Automation Solutions** business, Valmet helps customers enhance process efficiency and environmental performance. Advanced process controls and real-time emissions monitoring enable companies to lower energy and raw material use while responding quickly to deviations. The use of data-driven optimization tools supports emission reductions by simulating and improving energy performance before implementation.

The **Flow Control** business provides mission-critical valve and valve-automation technologies that ensure precise and reliable regulation of steam, gas, and liquids in industrial processes. These technologies improve energy efficiency and reduce material losses in industries such as chemicals, refining, energy production, and power generation. They also support safe, efficient shutdowns and startups, limiting unnecessary emissions caused by process variability.

“Valmet's technologies empower customers to reduce energy consumption, cut carbon emissions, and improve resource efficiency.”



A robust Climate Transition Plan driving our net-zero ambition

Valmet's Climate Transition Plan strengthens and supports our strategic direction. It brings our climate work into one clear and measurable framework, showing how we reduce emissions across our value chain and where we can create the greatest impact.

The plan:

- Sets a 2040 net-zero target for own operations and 2050 net-zero ambition for the value chain
- Introduces a robust, science-based decarbonization plan, including key levers across our operations, technologies, and customer collaboration
- Recognizes the commercial potential of sustainability, enabling growth through net-zero and circular economy aligned solutions
- Focuses on practical, achievable and measurable actions, co-created with business areas and support functions
- Supports customer pathways toward net-zero by shifting our focus toward commercial excellence in sustainability
- Is aligned with the latest climate science and global goals.

Where our impact comes from

Our climate work focuses on three areas where Valmet can make the biggest contribution to climate action:

- Material and service selection as well as sourcing practices and supplier engagement
- Reducing GHG emissions in our own operations.
We aim to decrease emissions in our own operations by 60 percent by 2030, on the path to net-zero by 2040.
- Scaling Valmet's net-zero and circular economy aligned solutions

We develop technologies that help customers reduce emissions and increase circularity, providing climate benefits both in their operations and across the value chain. Examples include process industry electrification, advanced process technologies, high-efficiency automation, material and fiber recovery, and circular solutions across the value chain.

The plan strengthens our ability to lead change: turning strategy and purpose into measurable progress, supporting industries on their path toward a more resource-efficient, low-carbon future, and recognizing sustainability as a commercial opportunity.

Valmet Climate and Nature Policy Statement

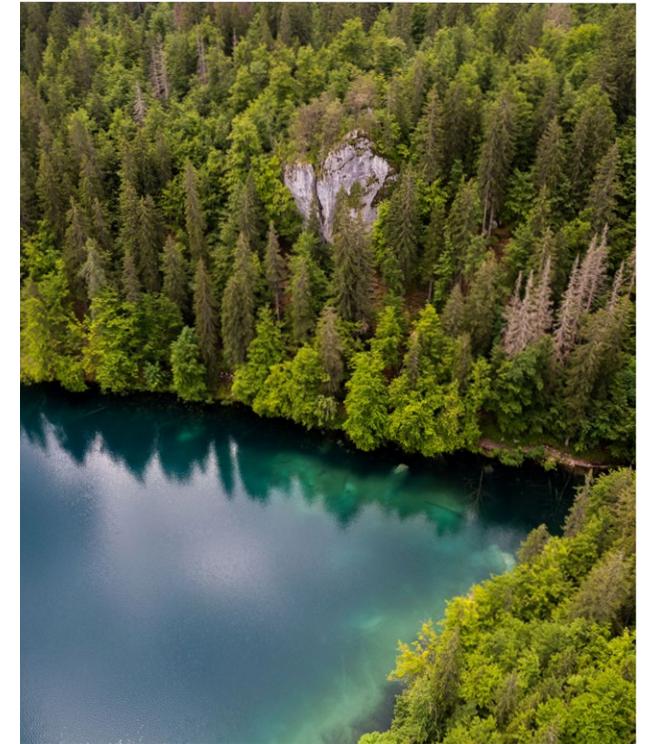
In 2025, Valmet published a Climate and Nature Policy Statement to guide our transformation toward a regenerative tomorrow.

Our climate commitments

- Achieve net-zero greenhouse gas emissions across the value chain by 2050.
- Set science-based targets for Scope 1, 2, and 3 emissions every five years.
- Reduce emissions in own operations by increasing energy efficiency and switching to fossil-free energy.
- Purchase only fossil-free electricity by 2030.
- Engage with suppliers and collaborate with customers to reduce climate impacts.

Our nature and biodiversity commitments

- Support the Kunming-Montreal Global Biodiversity Framework.
- Prevent deforestation and forest degradation in the supply chain.
- Protect ecosystems near operational sites.
- Follow a Sustainability Due Diligence Framework to manage environmental and social impacts.



Net-zero

Net-zero emissions are achieved when human-caused GHG emissions are balanced by removing the same quantity of emissions from the atmosphere over a specified period of time ([IPCC, 2018](#)). A company becomes net-zero by reducing its own greenhouse-gas emissions across its operations and value chain, and neutralizing the unavoidable residual emissions with permanent carbon removals.

Science-based targets

Science-based targets help companies align emissions reductions with the Paris Agreement and aim for net-zero by 2050. Valmet's Climate Transition Plan includes updating its own targets and encouraging suppliers and customers to set science-based targets.

Valmet's climate targets



Upstream

50%

Share of spend from suppliers with aligned climate targets by 2030

2024 baseline 9%

Own operations

60%

Emission reduction in own operations by 2030

2024 baseline 68,000 tCO₂e

Own operations

Net-zero

by 2040

Downstream

60%

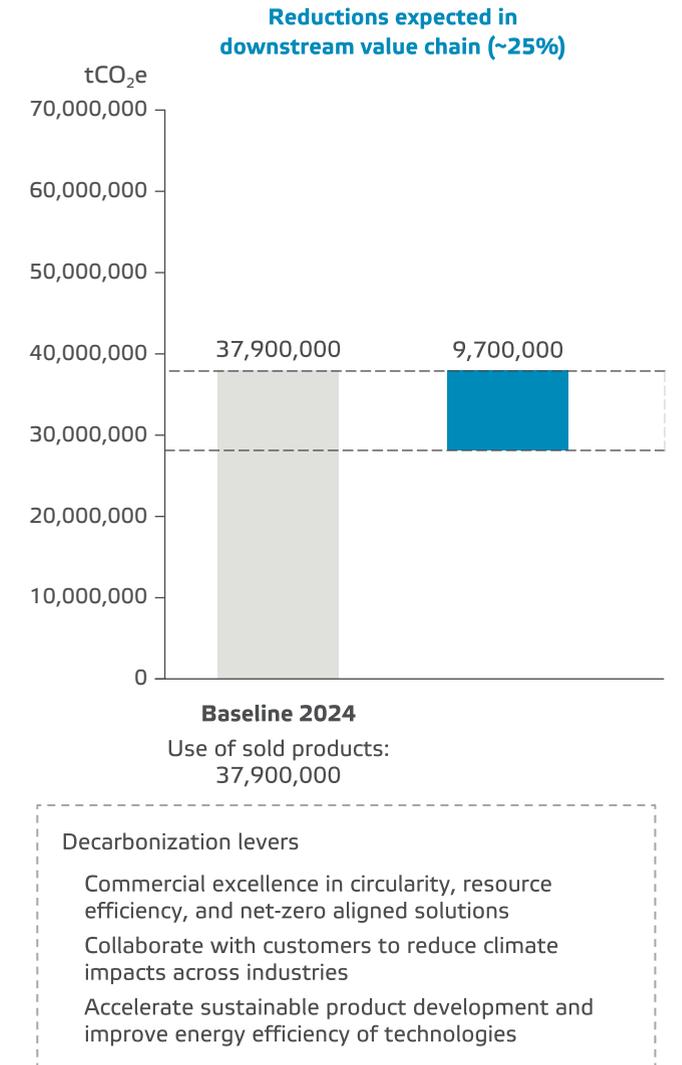
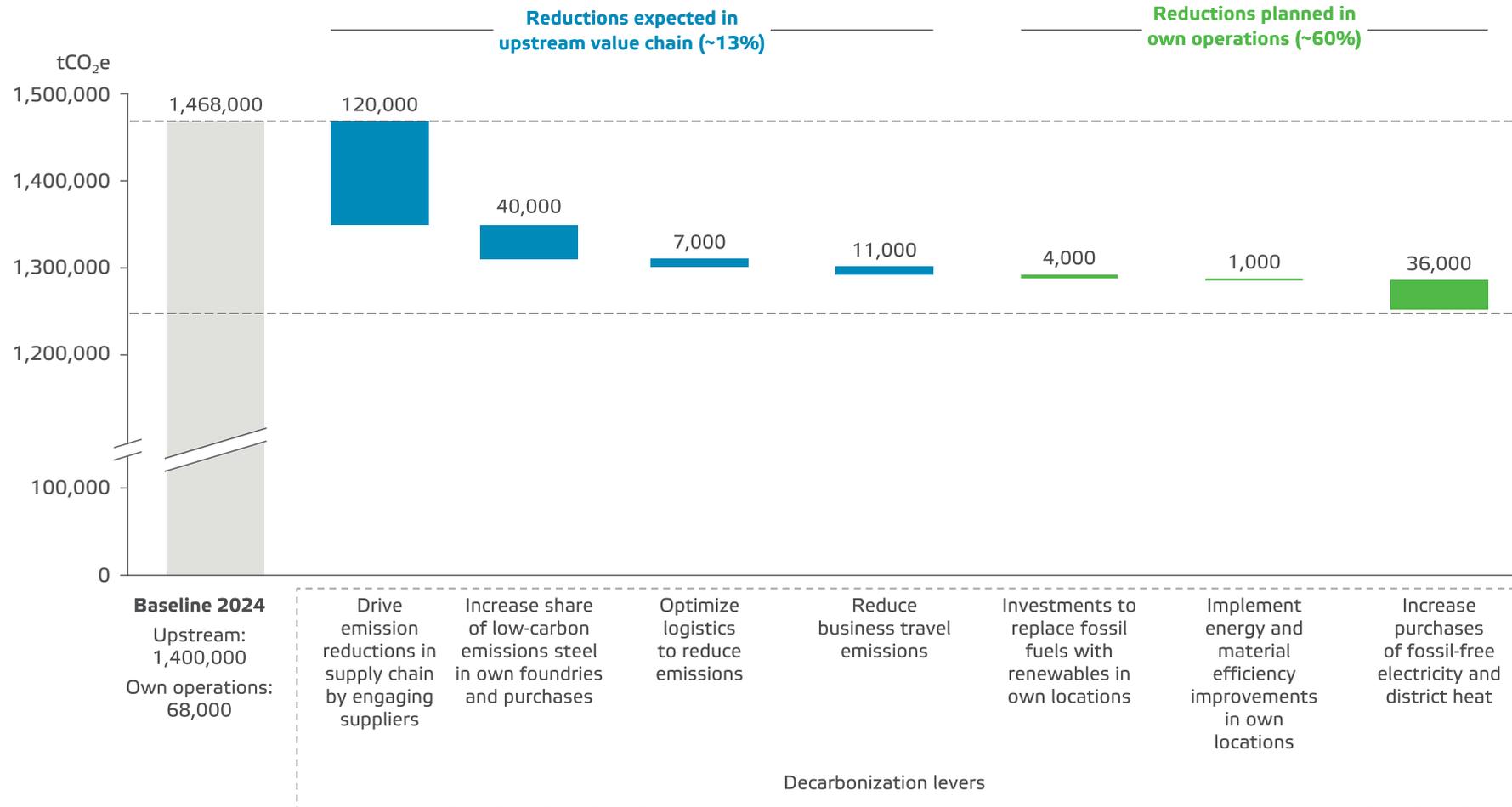
Share of sales from net-zero and circular economy aligned solutions and services by 2040

2024 baseline 23%

Value chain net-zero ambition by 2050

Expected emission reductions by 2030

This graphic shows how much each decarbonization lever can reduce Valmet’s emissions by 2030. The bars illustrate the reduction potential in three parts of the value chain — upstream, own operations, and downstream — with larger bars indicating bigger emission-reduction impacts. The grey bars represent the total baseline emissions before reductions.



Greenhouse gas (GHG) emissions across Valmet's value chain in 2025

This overview shows how emissions are distributed across Scopes 1, 2, and 3. It provides a foundation for prioritizing actions and tracking progress toward our net-zero targets.

GHG emissions by Scope (tCO ₂ e)	2025
Scope 1 GHG emissions	
Scope 1	21,006
Scope 2 GHG emissions	
Location-based Scope 2	68,250
Market-based Scope 2	33,821
Significant Scope 3 GHG emissions	
1 Purchased goods and services	1,273,000
4 Upstream transportation and distribution	184,000
6 Business travel	45,000
11 Use of sold products	62,800,000
Total GHG emissions (tCO₂e)	2025
Total Scope 1 and 2 (market-based) GHG emissions	54,827
Total Scope 3 GHG emissions	64,302,000
Total Scope 1, 2 (market-based) and 3 GHG emissions	64,356,827

GHG emissions Scope description

Direct Scope 1 GHG emissions derive from sources that are owned or controlled by Valmet, such as fossil fuel consumption at its locations.

Indirect Scope 2 GHG emissions result from the generation of electricity, heating, and steam purchased and consumed by Valmet.

Indirect Scope 3 GHG emissions occur in Valmet's value chain, including significant upstream and downstream emissions.

- **Scope 3.1:** Purchased goods and services emissions include emissions from production of raw materials and components as well as services purchased by Valmet.
- **Scope 3.4:** Upstream transportation and distribution emissions derive from logistics services purchased by Valmet.
- **Scope 3.6:** Business travel emissions include air, road, and rail travel and hotel stays by Valmet employees.
- **Scope 3.11:** Use of sold products emissions include emissions from the energy consumption by customers in Valmet's sold technologies during their estimated lifetime of 25 years.

From plan to practice: The levers powering climate transition

Valmet’s climate transition levers are practical actions, technologies, and strategic initiatives designed to reduce greenhouse gas emissions across the entire value chain.

Decarbonization levers have been formulated based on our possibilities to influence the emissions in different parts of the value chain:

OWN OPERATIONS

Scope 1 and 2 emissions are controlled by Valmet directly.

SUPPLIERS

Upstream Scope 3 emissions are caused by purchased goods and services, logistics, and business travel.

CUSTOMERS

Downstream Scope 3 emissions are driven by customers’ use of Valmet’s technologies.

LEVERS

- Investment to replace fossil fuels with renewables in own locations
- Implementing energy and material efficiency improvements in own locations
- Increasing purchases of fossil-free electricity and district heat
- Driving emission reductions in supply chain by engaging suppliers
- Increasing share of low-carbon emissions steel in own foundries and purchases
- Optimizing logistics to reduce emissions
- Reducing business travel emissions
- Commercial excellence in circularity, resource efficiency, and net-zero solutions and services
- Collaboration with customers to reduce climate impacts across industries
- Accelerating sustainable product development and improving energy efficiency of technologies

Through the identified decarbonization levers, Valmet is on the path to net-zero by 2050.

OWN OPERATIONS | SUPPLIERS | CUSTOMERS

Transforming our own operations

At Valmet, emissions from own operations primarily result from the use of fuels, electricity, heat, and steam, especially in energy-intensive facilities. They are the biggest contributors to operational emissions because of high-temperature processes, continuous heating and ventilation, and use of steam and compressed air systems.

Valmet operates globally with 74 production units, 110 service centers, more than 170 sales offices, and 33 R&D centers. The majority of emissions from our own operations originate from our manufacturing sites, which include foundries, service workshops, and production units.

In 2025, Valmet's energy consumption comprised of 25 percent fuel consumption and 75 percent purchased electricity, heating, and steam. The share of fossil-free energy consumption was 53 percent of total energy consumption.

Foundries

In our foundries, we cast metal components ranging from small, hand-held parts to massive steel pieces weighing up to ten tons. The casting process is energy-intensive and relies heavily on electricity and fossil fuels. While some operations can be powered by electricity, others require fuel such as gas or oil for heating.

Production units

At the manufacturing sites, raw materials, mainly metal, are processed into precision-engineered machine parts and large industrial components. Semi-finished steel blocks are received and refined through drilling, turning, and rotating to meet exact specifications. We manufacture high-precision components that are critical to our technology and cannot be outsourced.

Service centers

Our service workshops focus on maintenance, servicing, and repairs. These activities consume both electricity and fuel such as gas, especially for heat treatment processes that ensure final material strength. Electricity is also used to power machinery for grinding, turning, rotating, lifting, and moving components. Additionally, fuel may be used for heating the facilities, depending on local conditions.

DECARBONIZATION TARGETS AND LEVERS

Targets:

- Reduce absolute Scope 1 and 2 emissions by 60 percent by 2030
- Net zero by 2040

Levers:

- Investment to replace fossil fuels with renewables in own locations
- Implement energy and material efficiency improvements in own locations
- Increase purchases of fossil-free electricity and district heat



Actions and future focus

Investment plan for replacing fossil fuels

Valmet is committed to reducing Scope 1 emissions, which are fully within our direct control. We have developed a roadmap and investment plans for all relevant sites – defined as locations that still use fossil fuels and therefore generate direct emissions. These include production units where fossil-based energy is used for heating, processing, or facility operations.

Our priority is to eliminate fossil fuel use by:

- Optimizing energy sources
- Upgrading equipment
- Improving internal processes

Wherever possible, we aim to replace fossil fuels with renewable energy and electricity, actively avoiding fossil-based solutions.

Energy efficiency and material efficiency

Since 2019, energy consumption has decreased by 7 percent, reflecting our continuous improvement target of 1 percent annual reduction. Energy efficiency initiatives are typically sound financial investments that significantly reduce climate impact.

Each year, we implement a range of energy efficiency measures across our sites, including:

- Machinery upgrades
- Facility maintenance and renovations
- Heating and ventilation improvements with heat recovery
- Energy-efficient lighting
- Process optimization and compressed air system improvements

OWN OPERATIONS | SUPPLIERS | CUSTOMERS

Our target is to reduce Scope 1 and 2 emissions by 60 percent from a 2024 base year and to reach net-zero by 2040 in own operations.

To improve material efficiency, our goal is to reduce material use and maximize resource efficiency. Examples include:

- Designing components such as paper machine parts that require minimal machining
- Repairing component flaws without compromising quality, instead of dismantling and remelting

Fossil-free electricity purchases

We are committed to only purchasing fossil-free electricity by 2030. This transition is being implemented region by region, and we have already completed the shift in Finland and Sweden.

Challenges and dependencies

Sourcing fossil-free energy

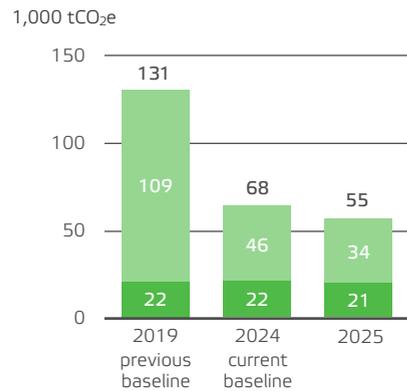
We are actively exploring options to secure fossil-free energy across all regions, but availability may be limited:

United States: Natural gas is still a primary energy source for production and heating. While alternatives exist, a full transition away from natural gas is neither quick nor cost-efficient. We continue to monitor emerging technologies and evaluate new energy solutions to accelerate this shift.

Southeast Asia: In some regions, fossil-based electricity remains the dominant option.

We are working to identify viable fossil-free alternatives and expand access where possible.

Scope 1 and 2 GHG emissions



■ Direct GHG emissions (Scope 1)
 ■ Indirect GHG emissions (Scope 2, market-based)

During our previous climate target period 2019–2024, the emissions from fuels, heating, and electricity in Valmet’s own locations worldwide have decreased approximately by more than 49 percent.

Switching to fossil-free heat in Tampere

Valmet’s Fabrics production site in Tampere, Finland, focuses on producing industrial fabrics and felts for paper machines, as well as research and development. Until now, the plant has relied on natural gas for thermal oil production and facility heating.

In 2026, an electric boiler powered by fossil-free electricity will be installed in parallel with the natural gas boilers. The new boiler will be integrated into the existing system, with special attention to thermal oil quality and process optimization. It is expected to replace approximately one-third of the energy currently sourced from natural gas at the Tampere site. Energy use will remain steady, but shift from fossil-based to fossil-free electricity.

The main driver for the investment is emission reduction, but the installation will also save energy costs and reduce dependency on natural gas in the long run. This project is a major step toward Valmet’s goal of net-zero operations by 2040.



OWN OPERATIONS | SUPPLIERS | CUSTOMERS

Tackling upstream emissions with supplier engagement and smart sourcing

Valmet’s supply chain is essential to turning our technologies into reality. By sourcing everything from steel and machinery to site services, we support the delivery of pulp, paper, energy, automation, and flow control solutions worldwide. Supplier collaboration and material choices are central to our decarbonization journey.

Steel dominates Valmet’s upstream emissions. In 2025 alone, we utilized approximately 155,000 tons of steel across our technologies. To lower our climate impact, we focus on designing modular and lightweight products, increasing the use of recycled steel in our foundries, and reducing dependence on virgin raw materials.

Steel production is one of the most carbon-intensive industrial processes, accounting for 7–8 percent of global CO₂ emissions.* In order to lower our climate impact, steel sourcing decisions represent the greatest opportunity to decarbonize Valmet’s value chain.

Valmet works with approximately 20,000 active suppliers in over 60 countries, making direct and indirect purchases exceeding EUR 3 billion annually. Materials, machinery, and components make up about two-thirds of our spending, while purchased services account for the remaining third.

Purchased goods and services account for around 3 percent of Valmet’s total annual emissions, and steel dominates the category. Around 65 percent of these emissions come from steel used in Valmet’s own foundries and in externally sourced components and fabricated structures. Purchased services also play a significant role, contributing a notable share of emissions through IT services, subcontracted site work, and outsourced production capacity.

* Source: World Steel Association

DECARBONIZATION TARGETS AND LEVERS

2030 Target:

- 50 percent share of spend from suppliers with aligned climate targets

Levers:

- Drive emission reductions in supply chain by engaging suppliers
- Increase share of low-carbon emissions steel in own foundries and purchases
- Optimize logistics to reduce emissions
- Reduce business travel emissions

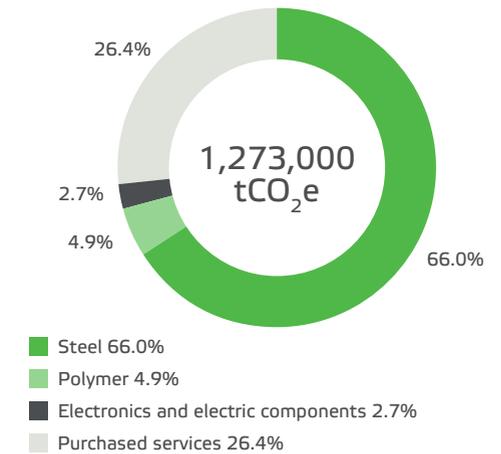


Low-carbon emissions steel



Low-carbon emissions steel is produced with substantially lower greenhouse gas emissions compared to conventional blast-furnace steelmaking.

Valmet purchased goods and services emissions 2025



Actions and future focus

Our work will focus on deepening supplier engagement to support emission reduction in carbon-intensive procurement categories and on further increasing the share of low-carbon emissions steel in our sourcing and own foundries. We will continue to improve material efficiency to reduce the overall amount of steel used in our products, while directing spend toward suppliers whose climate targets align with ours. In addition, we will advance emission reductions in business travel, especially by air.

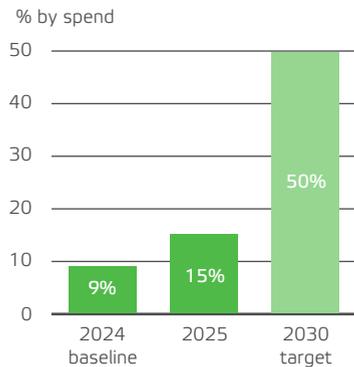
Challenges and dependencies

- Availability of low-carbon emissions steel remains limited, and prices remain significantly higher than conventional steel.
- Many small and medium-sized suppliers are at different maturity levels in their climate journey, making alignment slower.
- Our ability to reduce transport emissions relies heavily on the pace of transformation in global logistics.

OWN OPERATIONS | SUPPLIERS | CUSTOMERS

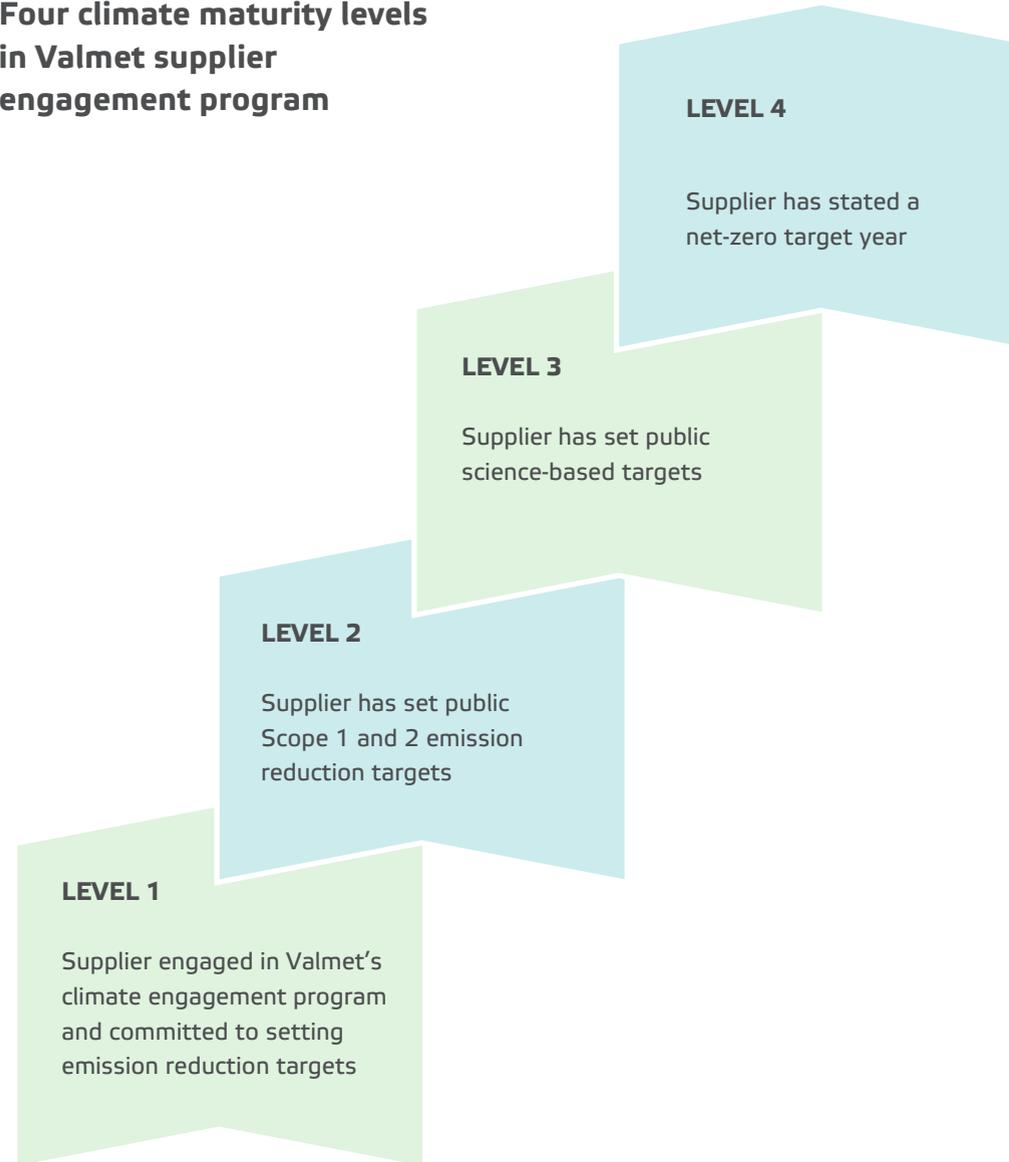
Valmet is increasing its focus on centralizing spend with suppliers who share similar climate ambitions. This approach ensures that sustainability commitments are embedded throughout the supply chain.

Suppliers with aligned climate targets



Valmet has set a new target that 50 percent of its suppliers by spend have set aligned climate targets by 2030. Aligned targets include science-based targets and public Scope 1 and 2 emission reduction targets.

Four climate maturity levels in Valmet supplier engagement program



Supplier sustainability engagement: Accelerating low-carbon supply chains

Valmet's Supplier Sustainability Engagement Program aims to align suppliers' climate ambitions with Valmet's net-zero ambition and support the transition toward a low-carbon supply chain.

As part of this program, we have identified our most carbon-intensive suppliers and actively collaborate with them to reduce emissions. In 2025, 15 percent of Valmet's suppliers by spend have set aligned climate targets. In 2026, we will also focus on engaging our largest suppliers that import iron and steel into the EU and fall under the Scope of the EU's Carbon Border Adjustment Mechanism (CBAM).

We also encourage suppliers to set science-based targets and align with the Paris Agreement objectives. To support suppliers, we provide practical tools and resources such as online training on climate action and sustainability practices, an emission calculator to measure and track emissions, and a best practice library featuring case studies and guidance for low-carbon operations.



OWN OPERATIONS | SUPPLIERS | CUSTOMERS

Commercial excellence in circularity and net-zero solutions and services

Valmet offers solutions that empower customers to advance toward two critical sustainability goals: achieving net-zero emissions and a circular economy. These solutions are designed to align with credible, science-based pathways, ensuring measurable environmental benefits.

Net-zero aligned solutions help customers reduce greenhouse gas emissions on their decarbonization journey. These solutions focus on enabling transitions to low-carbon operations through energy efficiency, renewable energy integration, and technologies that minimize fossil fuel dependency.

We offer **solutions and services in line with the circular economy**. We aim to extend the lifecycle of our technologies, keep products and materials in circulation, reduce reliance on finite resources, and promote the use of recycled and renewable materials. Valmet supports customers in closing material loops and minimizing waste, fostering a more resource-efficient industrial ecosystem.

We work together with our customers throughout the entire lifecycle, delivering cutting-edge technologies and services as well as mission-critical automation and flow control solutions.

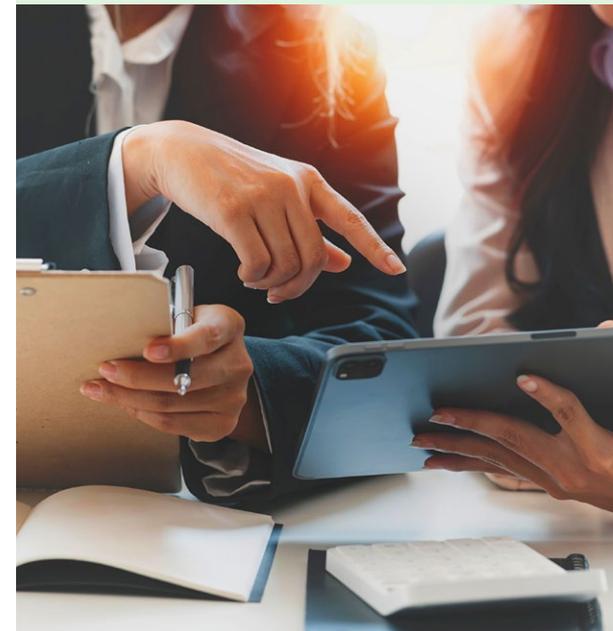
DECARBONIZATION TARGETS AND LEVERS

Target:

- 60 percent of sales from net-zero and circular economy aligned solutions by 2040
- 70 percent of customers by net sales from the Biomaterial Solutions and Services segment have set science-based targets by 2030.

Levers:

- Commercial excellence in circularity, resource efficiency, and net-zero solutions and services
- Collaboration with customers to reduce climate impacts across industries
- Accelerate sustainable product development and improve energy efficiency of technologies



Actions and future focus

Lifecycle focus and service

Seamless lifecycle services are at the core of how Valmet supports customers in reducing environmental impacts and maximizing performance. By expanding Life Cycle Assessments (LCAs), we deepen our understanding of the environmental footprint of our technologies and identify opportunities for continuous improvement. Throughout every stage of the lifecycle, our services – from modernization of control systems and automation upgrades to predictive and condition-based monitoring and component refurbishment – ensure that equipment stays reliable, efficient, and up to date.

Our digital platforms further strengthen lifecycle performance by providing real-time insights for condition monitoring and preventive maintenance. Leveraging data analytics, we help customers optimize efficiency, reduce downtime, and make informed decisions, turning lifecycle services into measurable environmental and operational benefits.

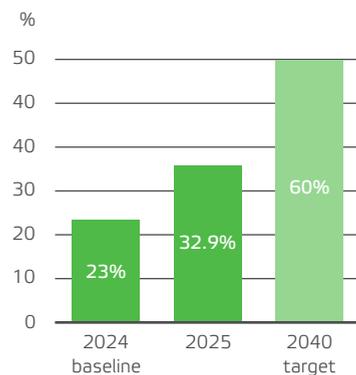
Enabling fossil-free production

Today, all of Valmet's technologies are designed to support fossil-free production of pulp, board, tissue, and paper for customers with access to renewable energy sources. By enabling operations that rely entirely on fossil-free energy, these technologies help reduce GHG emissions, increase sustainability, and accelerate the transition toward a low-carbon, circular industrial ecosystem.

OWN OPERATIONS | SUPPLIERS | CUSTOMERS

Our target is to reach 60 percent of sales from net-zero and circular economy aligned solutions by 2040.

Sales from net-zero and circular economy aligned solutions



Future technologies

To reach net-zero goals by 2050, carbon emissions must be heavily curtailed in industrial environments. Valmet’s unique solutions and services offering is based on leading technology and the continuous development of new solutions to improve our customers’ performance.

Valmet focuses on industrial electrification, recycling technologies for new material value streams, carbon capture and storage/utilization, and next-generation biomaterials.

Valmet’s customer industries have been highly reliant on fossil fuels to produce the energy needed in processes such as heat needed for drying in paper machines. Through technologies such as electrical heaters and high-temperature heat pumps, energy-intensive thermal operations can be decarbonized efficiently and in a smart way. Customer interest in these solutions is growing, and we actively collaborate to implement them.

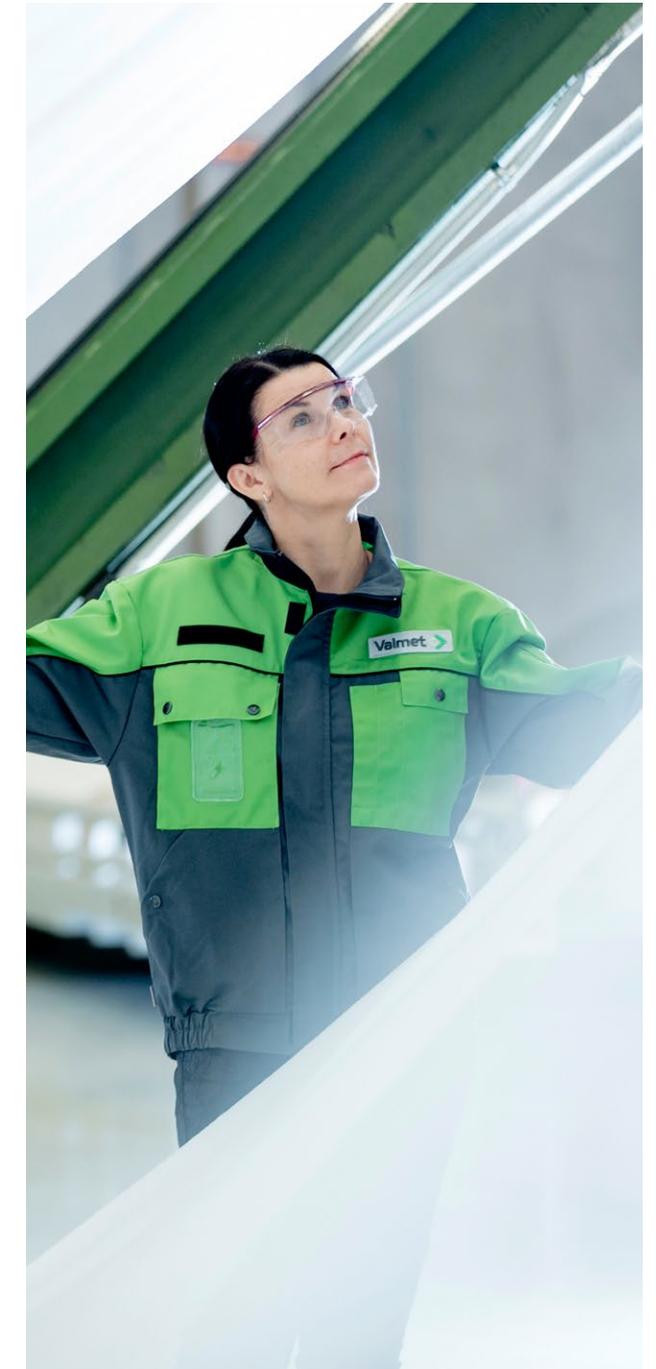
We are developing recycling technologies in textiles, plastics, and panelboard. While many solutions already exist, development and adoption must speed up, and that’s where we lead.

As Carbon Capture and Storage (CCS) moves from pilot to full-scale deployment, the focus is on advanced flue gas cleaning solutions. Valmet provides flue gas pre-treatment solutions, which are key to the successful implementation of carbon capture plants. Flue gas pre-treatment requires sophisticated optimization of flue gas cleaning solutions, not only to ensure compliance with the stringent emission standards but also to ameliorate the efficiency of the decarbonization process.

Challenges and dependencies

Progress of the green transition

Our ability to drive sustainable solutions is closely linked to the progress of the green transition in our customers’ markets. The pace at which industries adopt renewable energy, low-carbon processes, and circular practices directly affects the deployment and impact of our technologies. Advancements in policies, infrastructure, and market incentives are therefore critical dependencies for realizing the full potential of our innovations and achieving meaningful environmental outcomes. Market volatility and changing regulations create uncertainty, affecting customers’ investments in our low-carbon technologies and the adoption of sustainable solutions.



OWN OPERATIONS | SUPPLIERS | CUSTOMERS

Innovation and R&D for low-carbon and circular technologies

Valmet places research and development (R&D) at the heart of its sustainability strategy, ensuring that our technologies help customers reduce emissions and operating costs. By continuously improving energy-efficiency and resource use, we enable significant reductions in use-phase emissions across pulp, paper, board, tissue and energy production.

Our approach combines innovation and advanced engineering with close collaboration. We work with customers, universities, and research partners worldwide to develop solutions that minimize fossil fuel dependency and optimize material use. To support this transition, Valmet invests in energy-efficient design of best available technologies and drives sustainable product development that reduces raw material needs and waste. Our pilot facilities play a key role by allowing both Valmet and our customers to test materials and processes, optimize energy and water efficiency, and manage commercialization risks before full-scale implementation. We also share knowledge and raise awareness of circular and resource-smart products among stakeholders to foster dialogue and encourage sustainable practices.

DECARBONIZATION TARGET AND LEVER

Target:

- Since 2019, Valmet has achieved an average 12 percent improvement in energy efficiency for existing technologies in pulp, paper, board, and tissue. We remain committed to achieving a 20 percent improvement by 2030

Lever:

- Accelerate sustainable product development and improve energy efficiency of technologies



Turning climate impact into business value



Seamless integration with Valmet Perini ECOre

Valmet Perini ECOre is a retrofit-ready innovation that cuts material use and improves resource efficiency in tissue production. The system enables manufacturers to produce coreless rolls without major layout changes, reducing cardboard and adhesive consumption and lowering energy needs tied to core production and recycling.

Its high-speed, flexible design maintains product quality while allowing quick switching between cored and coreless formats, helping mills respond to market demand with minimal waste. By extending the capabilities of existing lines instead of requiring new equipment, ECOre supports circularity, reduces environmental impact, and delivers measurable emission reduction benefits across the value chain, from manufacturing to logistics.



Advancing circularity and climate performance with Bioneer press roll covers

Valmet's new Bioneer press roll covers accelerate the shift toward circularity by replacing fossil-based materials with recycled, renewable, and bio-based alternatives. Designed for board, paper, tissue, and pulp drying machines, the covers maintain high durability and dewatering performance while reducing reliance on virgin fossil resources.

The Bioneer roll cover family is also the first on the market to include product-specific life cycle assessments (LCA), giving customers transparent climate impact data to support informed, low-carbon purchasing decisions. For instance, the Valmet Press Roll Cover PF Bioneer delivers up to 12.2 percent lower cradle-to-gate CO₂ emissions through REDcert²-certified renewable and recycled materials used via the mass balance approach (compared to a standard product). The solution demonstrates how material innovations and transparent LCA data can drive low-carbon choices in papermaking.



Supporting clean energy transition in South Korea

Valmet is contributing to South Korea's clean energy transition through the automation delivery for a 20-megawatt hydrogen fuel cell facility in Naepo New Town. The project strengthens the city's shift toward low-emission energy by complementing existing LNG-based power generation with hydrogen powered production.

The Distributed Control System optimizes operations across 48 hydrogen fuel cells, ensuring reliable, efficient, and low-emission power generation. By enabling efficient operation of hydrogen-based energy systems and integration with future infrastructure, this project illustrates how advanced automation contributes to lowering the carbon intensity of regional energy systems.



Hydrogen fuel cells transform Shrewsbury site

At Valmet Flow Control's Shrewsbury site in Massachusetts, USA, internal logistics carbon dioxide emissions are expected to decrease by 30 percent within one year thanks to the switch from lead-acid batteries to hydrogen fuel cells in forklifts. Over a six-year period, emissions from internal logistics are projected to fall by up to 51 percent.

The transition also improves operational efficiency by recovering approximately 585 square meters of factory floor space previously used for battery charging, and reducing electricity consumption and maintenance needs. The initiative demonstrates how adopting hydrogen technologies can enhance operations while reducing Scope 1 and 2 emissions.



Delivering fully renewable district heating in Gothenburg

Supported by Valmet's biomass-fired steam boiler delivered to Göteborg Energi, the city of Gothenburg, Sweden, has reached its target of providing fully recovered and renewable district heating by 2025. Built on a tight schedule and integrated into the existing Rya CHP plant, the 156-megawatt unit replaces fossil natural gas and strengthens the city's energy security. By utilizing recycled wood and forest residues, the solution reduces fossil CO₂ emissions by an estimated 30,000–150,000 tonnes annually, depending on operating conditions.

Valmet's delivery included a BFB boiler, flue gas cleaning and condensing systems, boiler building, and integration with the existing steam turbine. Long-term operation and maintenance services, supported by digital optimization, ensure efficient, reliable, and low-carbon heat and power production. The project, Gothenburg's largest climate investment ever, demonstrates how advanced, high-efficiency biomass technologies and strong collaboration can accelerate local decarbonization and secure resilient, renewable district heating for the future.



Cutting carbon with wood powder

Valmet's Pulp, Energy, and Circularity business area is pioneering fossil-free solutions with its lime kiln technology, a critical component in kraft pulp mills. Traditionally, lime kilns are the largest single source of fossil fuel use in pulp mills, making them a key target for emission reduction. In a recent life cycle assessment (LCA), we explored the climate impact of switching lime kiln fuel from fossil sources to wood powder.

The assessment, based on a real customer delivery in Aveiro, Portugal, included all required system modifications such as wood powder storage, grinding, and a specialized burner. The results were significant: an 89 percent reduction in GHG emissions compared to oil and 86 percent compared to gas. These findings confirm that wood powder offers pulp mills a highly impactful and technologically feasible decarbonization pathway without major infrastructure changes, in line with ISO 14067 standards.



Valmet LignoBoost: turning side streams into climate action

Lignin is a natural and renewable polymer found in the cell walls of plants, where it binds cellulose and hemicellulose together. Valmet's patented LignoBoost technology recovers lignin from black liquor, a side stream of the kraft pulping process, turning it into a renewable resource. This technology enables pulp mills to optimize and decarbonize production, reduce costs, and create new value streams by replacing fossil raw materials or energy sources. Lignin can be used in multiple high value end products like carbon products, resins and bioplastics.

A life cycle assessment (LCA) for lime kiln fuel replacement shows that LignoBoost delivers an emission reduction of 498 kgCO₂e/ton of produced lignin compared to traditional pulp mill operations. Over its lifetime, LignoBoost enables pulp mills to cut thousands of tons of GHG emissions, supporting customers on their decarbonization journey.



Valmet Pyrolyzer – a unique circularity solution

As global industries accelerate their shift toward low-carbon energy and materials, pyrolysis has emerged as a key enabler in transforming waste and biomass into sustainable value. Valmet's Pyrolyzer exemplifies this potential by offering a scalable and efficient solution for converting biomass and plastic waste into valuable products.

This thermal conversion technology can be used for liquid biofuels and biochemicals with significant potential to reduce CO₂ emissions compared to fossil-based fuels or chemicals. From biomass residues, the pyrolyzer can produce high quality catalytic pyrolysis oil with low oxygen content, which provides a cost-efficient processing route to biodiesel or other interesting biofuels and biochemicals.

Additionally, the technology is developed for plastic chemical recycling enabling recycling of the plastics, that cannot be recycled by mechanical recycling, thus increasing recycling rates and reducing the need for fossil raw materials. Scalability optimized energy concept, high product yield and safety make the Valmet Pyrolyzer unique.

Financing the transition

Climate transition requires substantial investment, both within Valmet’s own operations and across our value chain. Progress is powered by significant investments and green finance.

Climate actions described on the previous pages rely on continued, and in many cases increased, investment.

The actions include, for example:

- Replacing fossil fuels with renewable energy in our facilities
- Increasing purchases of fossil-free electricity and district heat
- Continuously improving energy and material efficiency
- Expanding the use of recycled materials such as recycled steel

Green Finance Framework

In 2024, Valmet established a Green Finance Framework for issuing green debt instruments, further integrating our sustainability targets into our financing. The framework supports the financing or refinancing of eligible assets and expenditures that contribute to two key environmental objectives: enabling the transition to a circular economy and mitigating climate change.

Valmet’s Green Finance Committee reviews and approves eligible projects to ensure alignment with the framework’s environmental objectives.

To support transparency, an investor report (“**Green Finance Report**”) is published on our website, enabling investors, lenders, and stakeholders to track the development of financed and refinanced assets and expenditures.

In 2024, Valmet issued two green debt instruments under the Green Finance Framework totaling EUR 250 million.

The transactions were:

- **EUR 200 million** green bond (senior unsecured green notes) issued in March 2024.
- **EUR 50 million** green loan issued in November 2024.

In 2025, we made several investments to climate action:

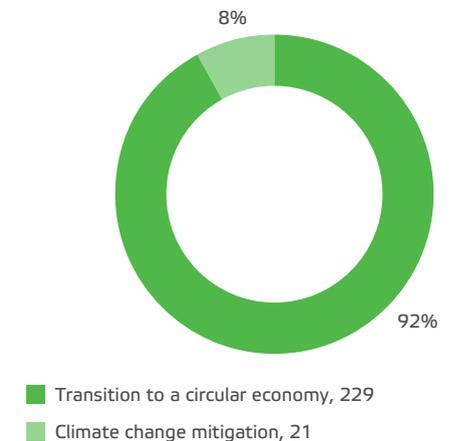
- **EUR 126 million** in research and development (R&D), supporting the climate transition.
- **EUR 57 million** in taxonomy-aligned CapEx (30.7 percent of total CapEx) supporting climate mitigation and circularity.
- One major investment area was the **Beyond Circularity** R&D program, which totaled **EUR 40 million** during 2022–2025.

Green Finance



A Green Finance Framework is a set of rules and guidelines that a company uses to make sure money raised through green bonds or loans is spent on environmentally sustainable projects. It helps investors understand how the company selects, manages, and reports on these projects.

Annual allocation per category in 2024, EUR million



Source: Green Finance Report 2024

Navigating risks and seizing opportunities

Successful management of climate-related opportunities and risks is essential to delivering Valmet’s strategy. Valmet has an Enterprise Risk Management (ERM) Process in which climate-related issues are identified and evaluated.

The following climate-related opportunities and risks have been identified

Material sustainability matter	Material impact, risk or opportunity in brief	Description	Category	Time horizon	Location in value chain
Climate change mitigation	Transition to low-carbon and circular economy, and related regulation	The transition to a low-carbon circular economy and emerging regulation increases demand for biomaterial solutions and services and process performance solutions.	Financial opportunity	Medium- and long-term 	Own operations, upstream and downstream value chain
	Emerging climate-related regulation and carbon pricing mechanisms	Transition risk due to emerging climate-related regulation and carbon pricing mechanisms, which may affect Valmet’s technologies and cause financial risk.	Financial risk	Short-, medium-, and long-term 	Own operations, upstream and downstream value chain
Energy	Transition to low-carbon and circular economy, and related regulation	The transition to a low-carbon circular economy and emerging regulation increases demand for energy-efficient technologies and renewable energy solutions.	Financial opportunity	Medium- and long-term 	Own operations, and downstream value chain
	Energy transition and related regulation, energy pricing	Transition risk due to energy transition, emerging energy-related regulation and energy pricing volatility, which may affect Valmet’s own operations and technologies.	Financial risk	Short-, medium-, and long-term 	Own operations, upstream and downstream value chain

Preparing for the different climate scenarios

Valmet has analyzed the potential impact of climate change on its operations and business environment across the value chain, including the supply chain, its own operations, and customers’ use phase of Valmet’s technologies. The exposure to climate-change-related risks and opportunities has been analyzed under the following risk categories: physical (acute and chronic); regulatory; technological; market; reputational; and social.

What could the different climate scenarios mean for us in the future? The potential long-term impacts of climate change have been analyzed in two different climate scenarios. In the first, global warming is limited to 1.5 °C; in the second, global warming has reached 4 °C. The scenarios are in line with the Task Force on Climate-related Financial Disclosures (TCFD) reporting. Resilience analysis is then used to assess our ability to withstand and adapt to climate-related risks under those scenarios.

Based on the analysis, physical and transition risks may have implications across our global operations. The analyzed drivers mobilize developments that in the short and medium terms also affect the operating environment. Demand for technologies enabling fossil-free pulp, paper, and energy production with alternative energy sources such as biomass and fossil-free electricity is likely to increase rapidly.

Market opportunities from transformation

Valmet’s contribution to the transformation of the pulp, paper, and energy industries toward a low-carbon and circular economy represents a market opportunity. The transition is driving increased demand for energy-efficient technologies and renewable energy solutions.

Emerging regulation related to the energy transition, carbon capture, and climate change mitigation is expected to further increase demand for Valmet’s solutions. Customer demand and market opportunities are growing for air emission control systems, wastewater treatment, and closed-loop water solutions.

There is also significant business potential in technologies and solutions that enhance resource efficiency and enable the use of renewable and recycled resources. Additionally, Valmet’s services that support life cycle extension of lifetime and efficiency of technologies present further business opportunities.

Valmet’s climate performance and sales of net-zero and circular economy aligned solutions may also improve its access to green finance, potentially reducing the cost of capital through better financing terms.

Climate leadership and governance

This Climate Transition Plan is an integral part of our sustainability strategy as it addresses our climate-related impacts, risks and opportunities and includes GHG emission reduction and value chain climate targets and tangible actions for the whole value chain.

This plan is approved by our Board of Directors, with the execution led by our business areas. Progress is reviewed quarterly by Valmet's President and CEO together with the Executive Leadership Team (ELT), and annually by the Board of Directors.

The ELT monitors climate and sustainability targets to ensure global alignment across business areas and supply chains. They also approve our sustainability strategy, setting priorities for climate action, circularity, resource efficiency, and responsible business practices.

Every Valmet business area has dedicated sustainability representatives who turn strategy into action, embedding our sustainability vision into daily operations and driving meaningful change. In 2026, the focus is to train employees on this Climate Transition Plan.

Incentives support climate action

Our remuneration principles, approved by the Annual General Meeting, are built on fairness, competitiveness, and high performance. Valmet's long-term incentive is a share-based incentive plan (Performance Share Plan). The Board of Directors has decided to always include a sustainability measure in at least one of the ongoing plans.

The 2025–2027 Performance Share Plan has an ESG-index as a three-year strategic performance measure, and it has a weight of 20 percent of the long-term incentive maximum opportunity. The sustainability index is related to the growth of Valmet's business contributing to climate change mitigation and the circular economy as outlined in the EU Taxonomy and Valmet's GHG emission reduction target for own operations.

In December 2025, the Board of Directors of Valmet resolved to establish a new Performance Share Plan 2026–2028 in which one of the performance criteria is tied to GHG emission reduction in operations.



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