



1KOMMA5°

**1KOMMA5°
IMPACT REPORT
2025**

— WELCOME

MESSAGE FROM THE CEO

The energy system is at a turning point. For more than a century, our energy supply has been based on fossil fuels – an expensive system defined by centralized infrastructure and geopolitical dependencies. Driven by AI and electrification, we are entering a **historic global energy supercycle** where electricity demand is surging. It's time for a new model: decentralized, digital, cost-effective – and powered by renewables.

At 1KOMMA5°, our vision is to live on wind and sunlight forever for free. By connecting solar, batteries, heat pumps, air conditioning, and e-mobility in households and businesses, **we are building the infrastructure for a new energy system**. A recent study by Roland Berger estimates the economic potential of the decentralized energy solutions in Germany at up to €255 billion, underlining the power of connected flexibility.

Heartbeat AI is turning the volatility of renewables into an opportunity, unlocking energy abundance for everyone. Our energy AI connects customers to the spot market, intelligently controlling electricity generation and sale in time with the wind and sun. We have been **opening up the platform to millions** of installed systems in Germany – transforming Heartbeat AI into the operating system for the energy market.

We translate sustainability ambitions into measurable impact: In 2025 alone,

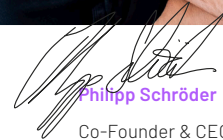
we achieved a **net avoidance of around 550,000 tons of CO₂ emissions**, after subtracting the induced emissions associated with the installed systems. Another important milestone is that our methodology has now been externally verified by the sustainability consultancy ERM and aligned with the standards of the World Business Council for Sustainable Development.

While scaling our external impact, we demonstrated again in 2025 that **organizational growth and ESG responsibility go hand in hand**. Across all three ESG pillars, we drove measurable progress. To highlight some of our key milestones: environmentally, we advanced our Corporate Carbon Footprint analysis by systematically mapping our emissions to drive our own decarbonization journey; socially, we narrowed our Gender Pay Gap by 3.44 percentage points to 2.06 %; and from a governance perspective, we significantly expanded supplier assessments while further strengthening governance structures.

Together with our partners, customers, and teams worldwide, **we are transforming sustainability ambitions into action**. Ultimately, this transition is about more than just decarbonization – it's the shift from energy scarcity to living in an era of intelligent, renewable abundance! House by house, city by city.

The best is yet to come.




Philipp Schröder
Co-Founder & CEO 1KOMMA5°

OUR YEAR AT A GLANCE

Annual net avoided emissions of

1.5°



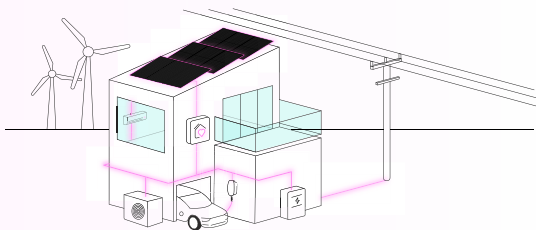
569,279 tCO₂ avoided
-21,171 tCO₂ induced

548,108 tCO₂



Every 1K5° FTE represents
a net avoidance of

250 tCO₂



Cumulative gross
avoided emissions of

>2.1 Mio tCO₂

Corporate carbon footprint



Scope 1 1,801 tCO₂



Scope 2
market-based 2,327 tCO₂
location-based 1,449 tCO₂



Scope 3 168,899 tCO₂

17%

EV & hybrid fleet share relative increase vs. 2024



Economic impact €255 Billion

Roland Berger study: Macroeconomic
benefit of decentralized energy models by 2045



Flexibility capacity 600 MW

One of Europe's largest virtual power plants

Demographics

20%

Female
C-Level



80%

Male
C-Level

19%

Female
Employees



81%

Male
Employees

2.06%

Gender Pay Gap
(unadjusted)



65

Nationalities



Opening of Heartbeat AI
for millions of existing energy systems




Net-zero target coverage 46%

of 2025 Scope 3 emissions by suppliers targets

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**1KOM
MA5°**

**1KOM
MA5°**



**ABOUT
1KOMMA5°**

1

SCALING THE MISSION

1KOMMA5° is a leading provider of **climate-friendly energy, heating and mobility**. Founded in Hamburg, Germany, in 2021, the energy company operates around 80 locations in 7 markets worldwide, serving as the one-stop shop for **intelligent, integrated energy solutions** such as photovoltaics, energy storage systems, heat pumps, air conditioning and EV chargers.

Its core technology is **Heartbeat AI**: the energy intelligence currently **optimizes more than 60,000 systems**, creating one of Europe's largest virtual

power plants that connects customers with the energy market and controls electricity generation and sales in time with the wind and sun. 1KOMMA5° has already installed over **300,000 decentralized, controllable energy systems**.

By 2030, the company aims to convert more than **1.5 million buildings to a climate-friendly energy supply**, thus contributing to achieving the **Paris climate target of 1.5°**.



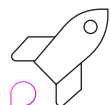
Headquarter

Hamburg, Germany



TechLab Research and Development Center

Berlin, Germany



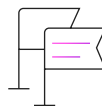
7 Markets

Germany, Sweden, Finland, Denmark, Spain, the Netherlands, Australia



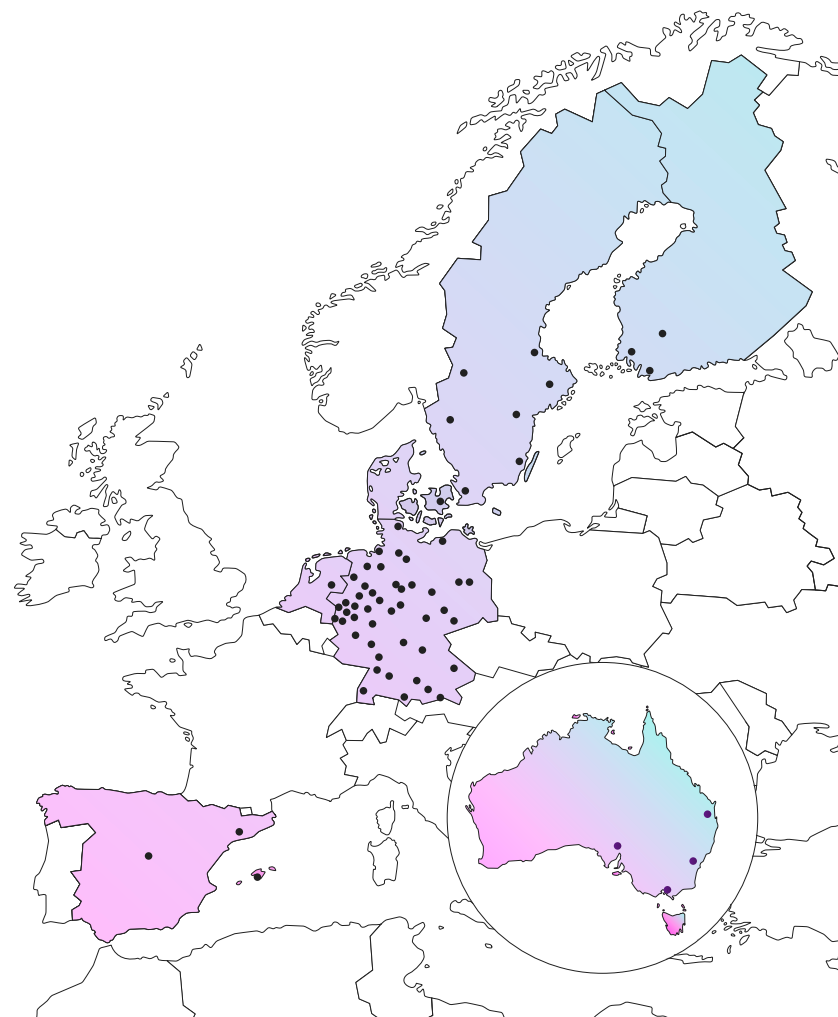
80+ Locations

servicing as local one-stop shops



25+ Flagship Showrooms

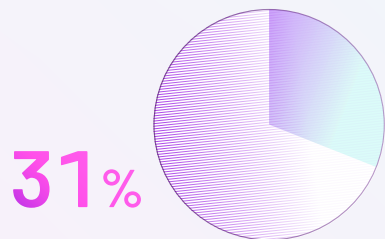
in Hamburg, Munich, Helsinki, Malmö, Melbourne & more



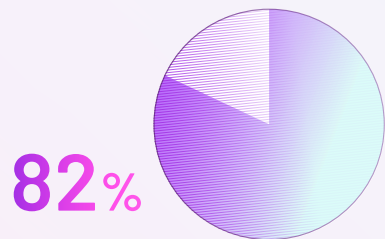
THE GLOBAL OPPORTUNITY AND NEW ENERGY ALLIANCE

THE GLOBAL CHALLENGE

As **2025** is tied with 2023 to be the **second-warmest year** on record, the Paris Agreement is under extreme pressure. To keep the 1.5°C target within reach, one main driver is to **decarbonize the building sector**.



The building sector accounts for 31% of global CO₂ emissions.



The real opportunity lies here: 82% of these emissions come from residential and non-residential energy use. Sources we have the power to decarbonize today.

Sources: IPCC (2022), Copernicus (2025), Roland Berger (2025)

THE BIG OPPORTUNITY

To drive structural change, **1KOMMA5° stepped up as one of the key initiators of the New Energy Alliance**. The coalition of industry leaders stands for a unified, systemic approach. Commissioned and presented by the alliance, a 2025 study by Roland Berger quantifies the power of the movement:

€ **255** BN

The projected economic value for Germany through decentralized energy by 2045.

UP TO **50%**

Lower energy costs for households and SMEs through smart integration of PV, storage, heat pumps, and e-mobility.

CORE STRATEGIC PILLARS



Decentralization Shifting power from fossil utilities to households and businesses



Interconnectivity Promoting a fully integrated system of hardware and software



Political Speed Advocating for the removal of regulatory barriers and setting clear national flexibility targets

THE VIRTUAL POWER PLANT

REPLACING A HUNDRED-YEAR-OLD ECOSYSTEM

Energy assets reach their full potential only when they are intelligently optimized.

Heartbeat AI synchronizes decentralized hardware with real-time market signals to harmonize consumption and production, leading into one of Europe's largest **virtual power plants (VPP)**:

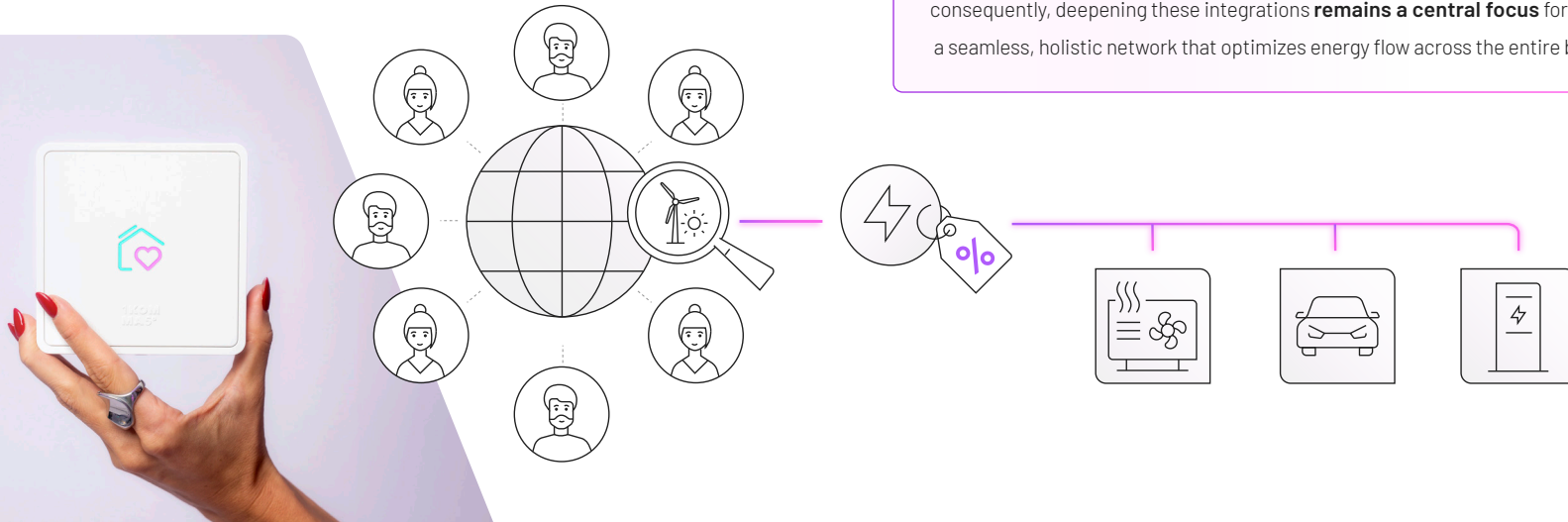
- **Volume** 60,000+ systems integrated
- **Capacity** 600+ MW pooled

A KEY MILESTONE

was set in 2025: Heartbeat AI is now open to all consumers, commercial customers, manufacturers, grid operators and legacy utilities. By moving from a closed model to a standard of **universal compatibility**:

- Our software now integrates with third-party components, removing hardware-specific barriers.
- This shift allows us to bring the benefits of our VPP to millions of additional homes.

1KOMMA5° is placing **record investments into Heartbeat AI** to accelerate the mission; consequently, deepening these integrations **remains a central focus** for 2026, creating a seamless, holistic network that optimizes energy flow across the entire building sector.



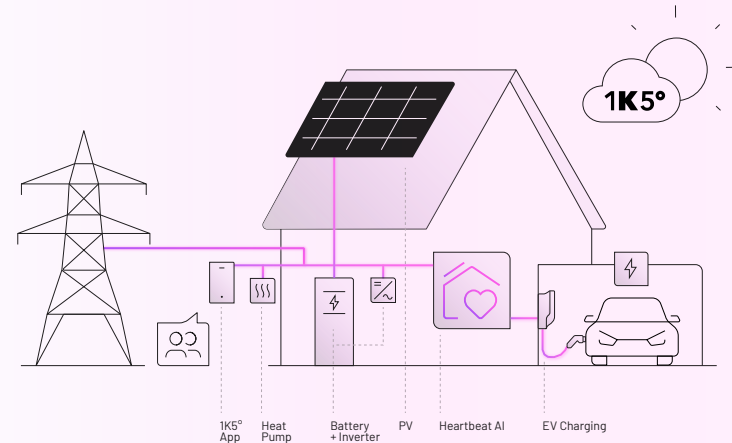
THE PULSE OF NEW ENERGY

PROCESSING OVER
4.8 MIO

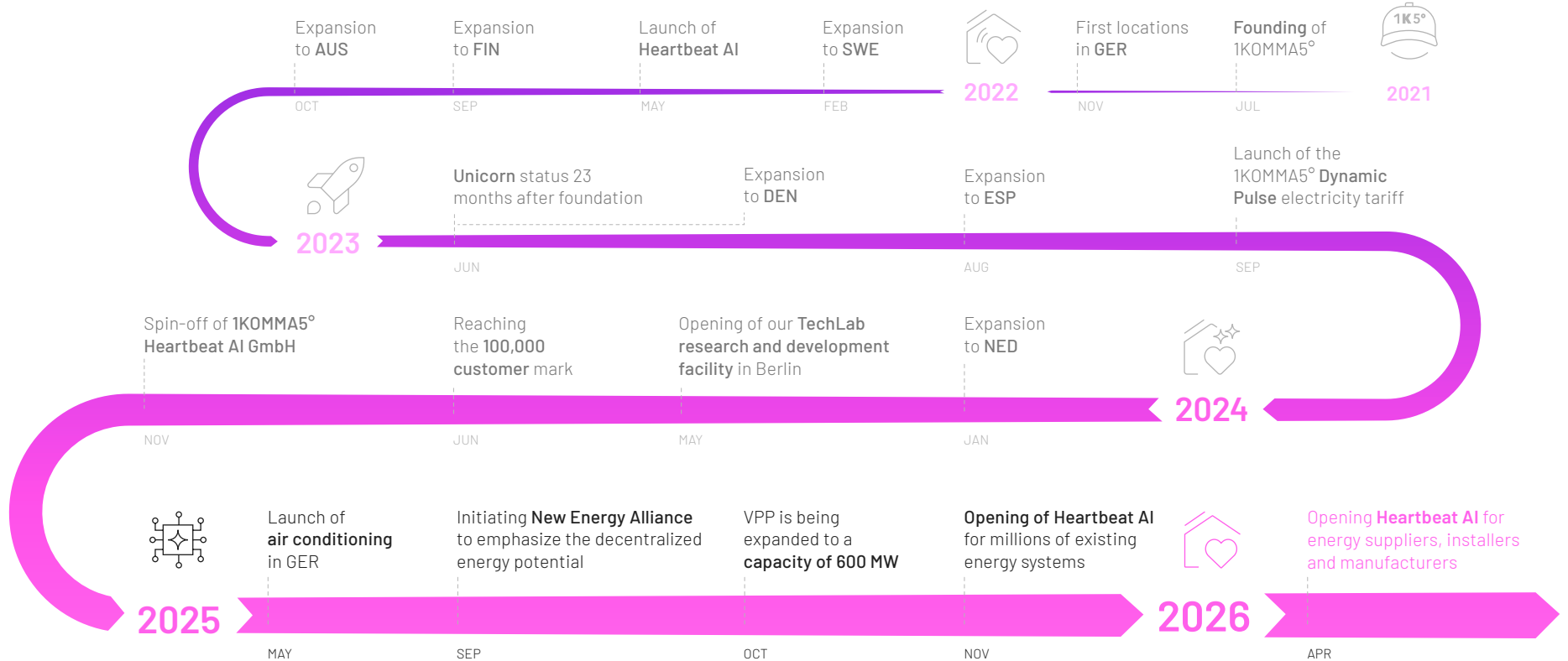
optimization decisions every single day,
Heartbeat AI stands for the technological
core of the energy transition.

Heartbeat AI is becoming the first fully automated Energy AI in Europe, automating complex workflows to unlock exceptionally strong returns for clients. This is achieved by optimizing energy consumption when:

- 1 Own solar production is at its peak**
Surplus energy is automatically directed to storage to maximize self-consumption
- 2 The share of renewables in the grid is highest**
Flexible loads are shifted to windows with high wind and solar feed-in
- 3 Electricity market prices are low**
Real-time exchange signals are utilized to draw power during cost-efficient or even negative price phases
- 4 The power grid requires stabilization**
By harmonizing production and consumption, Heartbeat AI takes pressure off the grid and reduces the need for fossil back-up capacities



... AND THE BEST IS YET TO COME



**ENVIRONMENTAL
IMPACT**

UNDERSTANDING OUR CARBON FOOTPRINT

Scope 3 18.5%

Others (marketing, transportation, consulting, etc.)

Scope 3 3.3%

End-of-life treatment of sold products

Scope 3 9.3%

Use of sold products

Scope 3 0.3%

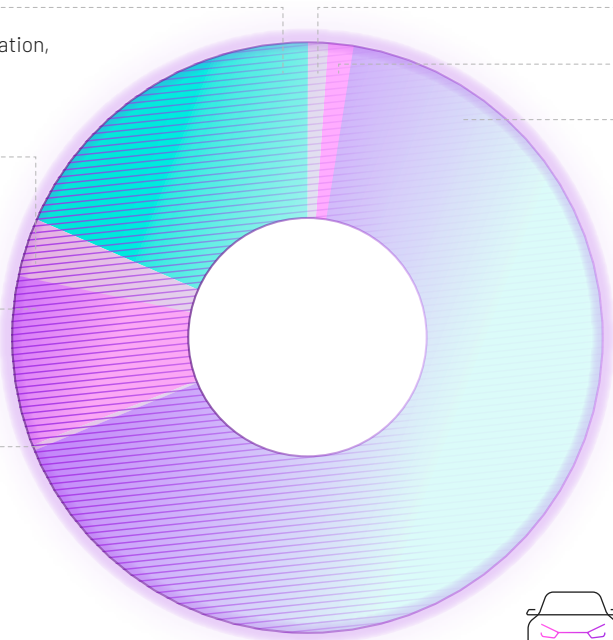
Employee commuting

Scope 1 1%

Scope 2 1.3%

Scope 3 66.3%

Finished goods manufacturing



17%

Relative increase of our EV and hybrid fleet share to 55% compared to 2024, shifting emissions from Scope 1 to Scope 2

67% calculated activity-based

33% calculated spend-based

The appendix provides a detailed explanation of the methodology and scopes.

Category *	2025 Emissions (tCO ₂ e)
Scope 1	1,801
Scope 2 (market-based)	2,327
Scope 2 (location-based)	1,449
Scope 3 Finished goods manufacturing	114,710
Scope 3 Employee commuting	444
Scope 3 Use of sold products	16,025
Scope 3 End-of-Life Treatment of sold products	5,624
Scope 3 Other (marketing, installations, consulting etc.)	32,096
Overall Corporate Carbon Footprint	173,027

* Our carbon accounting follows the GHG Protocol to ensure a standardized and comprehensive approach. The process was supported by Code Gaia's ESG platform and climate experts to guarantee accuracy, consistency, and alignment with industry best practices.

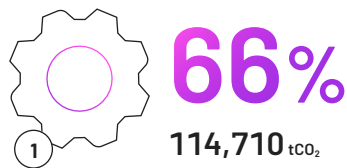
DEEP DIVE SCOPE 3 EMISSIONS

98% is driven by
**Scope 3
emissions**

Nearly all of our emissions fall under Scope 3, occurring almost entirely outside our direct operations.

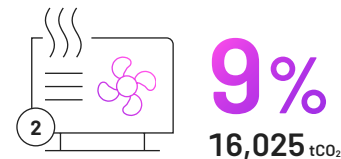
Two-thirds (66%) of our total carbon footprint stems from Finished Goods Manufacturing. This share represents the embodied CO₂ emissions in our core hardware, ranging from PV modules and batteries to heat pumps, inverters and EV chargers.

Source: CDP & Capgemini (2023)



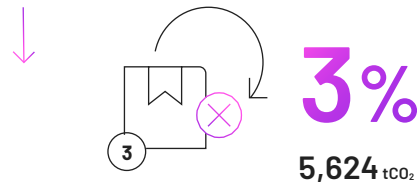
MANUFACTURING PHASE

The **cradle-to-gate phase** is by far our biggest emitter which covers everything from the moment a raw material is extracted to the point it leaves the factory gates. Explore our ambitious decarbonization efforts and engagement across our supplier base in chapter 5.



USE PHASE

Although product lifetimes can span up to 30 years, the **use phase** impacts are limited to 9%. This is primarily driven by the intelligent energy optimization of our installed products, which maximizes self-consumption of PV generation and employs real-time grid optimization. This stands in stark contrast to the European industry average, where the use of sold products typically accounts for 64% of total Scope 3 emissions.



END-OF-LIFE PHASE

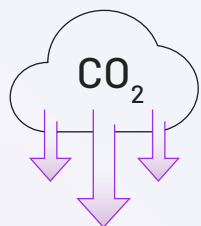
The smallest portion of emissions lies in the **end-of-life phase**, which covers the decommissioning, transport and systematic dismantling of our hardware.

THE GOOD ENERGY NEWS

THE WORLD HAS REACHED A HISTORIC TIPPING POINT IN THE ENERGY LANDSCAPE.

Today, electricity has become the single largest supplier of useful energy, surpassing all other fuels and carriers in its importance to our global infrastructure.

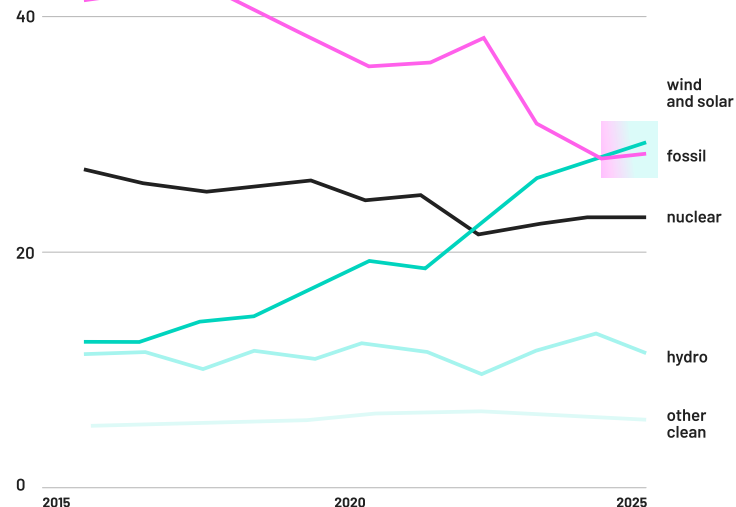
This shift is powered by a **monumental surge in clean energy**: for the first time in history, the EU is generating more electricity from wind and solar than from fossil fuels!



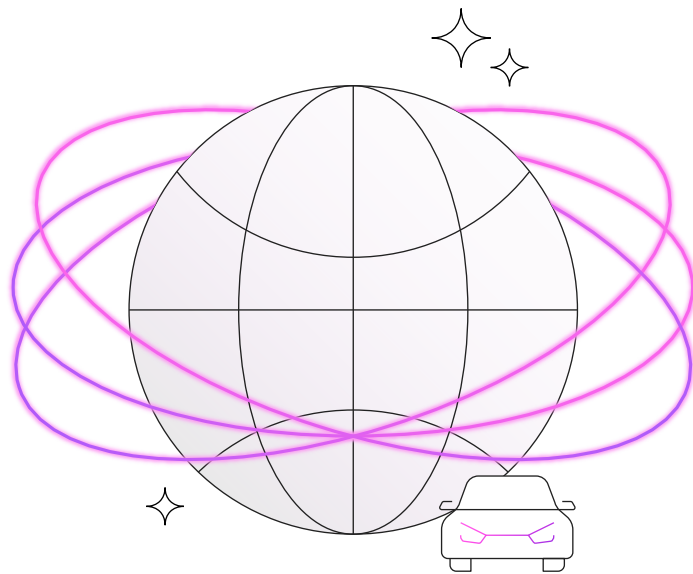
MEASURABLE CO₂ AVOIDANCE

What the transition to a renewable-led energy system achieves in terms of **measurable CO₂ avoidance**, enabled by 1KOMMA5° systems, is detailed on the following pages.

SHARE OF ELECTRICITY GENERATION (%)



ANNUAL NET CO₂-AVOIDANCE



Annual operational net impact

$$\begin{array}{r}
 569,279 \text{ tCO}_2 \\
 - 21,171 \text{ tCO}_2 \\
 \hline
 548,108 \text{ tCO}_2
 \end{array}$$

Sources: German Environment Agency (2025), WBCSD (2025), myclimate (2026)

Equivalent to
driving around
the world

49,380 times

40,000 km, petrol as fuel (6,83l /100km), small car = 11.1t CO₂ per round-the-world trip

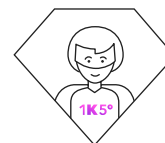
METHOD

Our Net Avoidance represents the total **annual CO₂ avoidance** from all active systems installed by 1KOMMA5° sites. To ensure an accurate net value, we subtract the full cradle-to-grave carbon footprint of every product from its operational avoided emissions.

The scope includes the following components:

- PV modules
- Heat pumps
- Wallboxes
- Optimized grid sourcing

To ensure accuracy and reliability, the methodology was **independently verified** by the sustainability consultancy ERM which concluded best practice and that it demonstrates strong alignment with the latest **WBCSD guidance** on the assessment of avoided emissions.



250 tCO₂

Net Avoidance per 1K5°
Full-Time Employee in 2025

Equivalent to the annual carbon footprint of 36 people (EU)

CUMULATIVE GROSS CO₂-AVOIDANCE

Cumulative gross impact

>2.1 Mio
tCO₂

Totals all annual operational impacts
since the founding of 1KOMMA5° in 2021

THAT IS EQUIVALENT TO AVOIDING



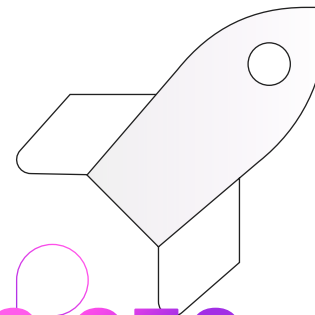
4.8 times

the annual GHG
emissions of Adelaide

the southernmost operational
location of 1KOMMA5° globally

With 440,737 tCO₂ annual GHG emissions in Adelaide

OR



6,250

rocket launches

Based on 336t of CO₂ per launch, getting through 112t of refined kerosene



**1 KOM
MA5°**

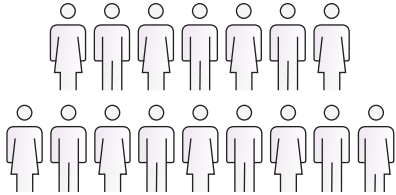
**SOCIAL
IMPACT**

3

LOCAL EXPERTISE GLOBAL IMPACT

2,192

Full-time employees

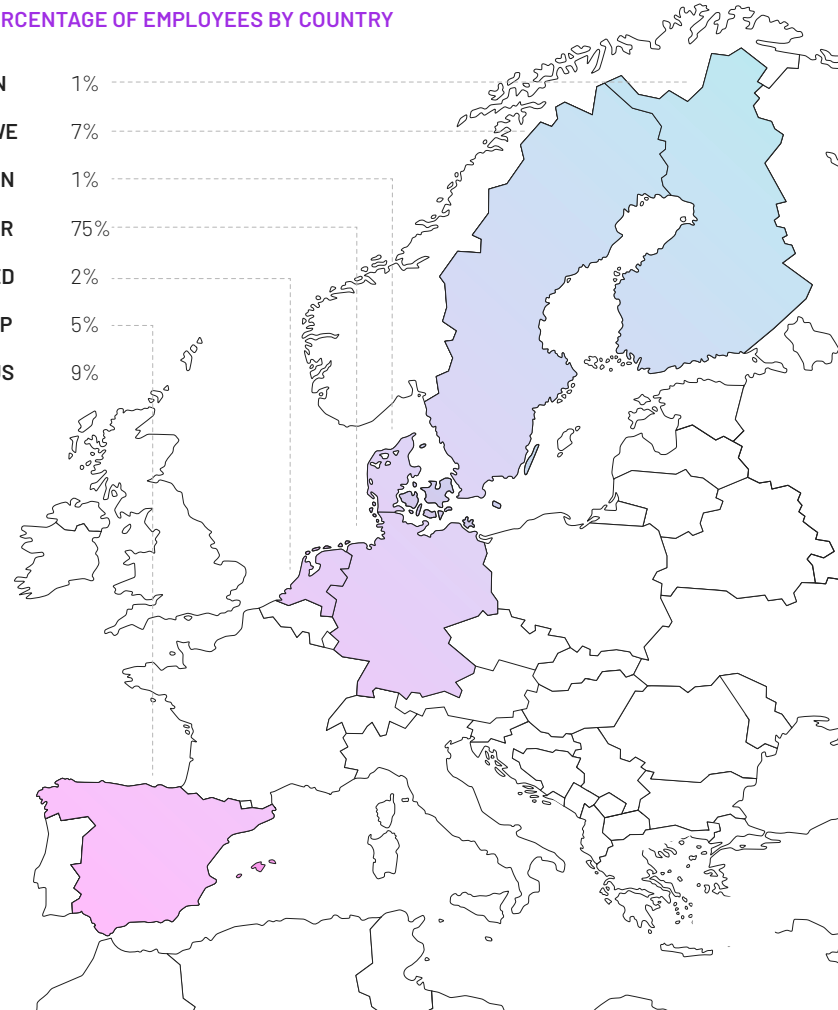


Compared to 2024, our number of **full-time employees** increased by

>14%

PERCENTAGE OF EMPLOYEES BY COUNTRY

FIN	1%
SWE	7%
DEN	1%
GER	75%
NED	2%
ESP	5%
AUS	9%



DEMOGRAPHICS

Such a significant workforce brings both **profound responsibility** and the function of **real social impact**. This data provides a transparent baseline of our current organizational structure.

As we continue to scale, these metrics serve as a benchmark for our ongoing commitment to building a balanced and professional workforce across all levels of the company while acknowledging the systemic reality of the energy tech sector, where women remain underrepresented.

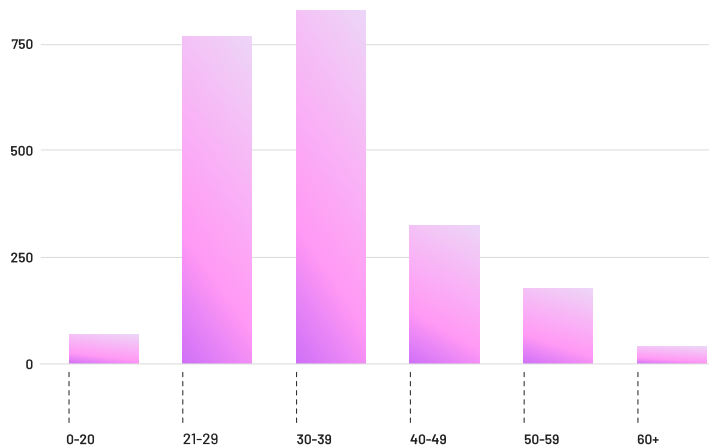
A baseline we are determined to move. Over the past year, we reduced our unadjusted **gender pay gap** by 3.44 percentage points, bringing it **down to 2.06%**. While this is significantly lower than the EU average of 11.1%, this is just **a milestone**; our commitment to total equity is absolute.

FEMALE REPRESENTATION IN THE ENERGY AND TECH SECTOR

10%
In **technical trades** (GER)

1 in 5 jobs
In the **energy sector** (globally)

ABSOLUTE FTE BY AGE GROUP



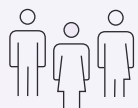
C-LEVEL

20% **80%**
Women Men



GENDER PAY GAP

2.06%



OVERALL

19% **81%** **<1%**
Women Men Undisclosed



NATIONALITIES

65

See the next page of how we are putting our values into action through initiatives that build community and champion diversity.

Calculations are based on Full-Time Employees and figures as of Dec. 31, 2025 // Sources: IEA (2025), Destatis (2026a), Destatis (2026b)

CHALLENGING THE STATUS QUO

BRIDGING THE TALENT GAP & OUR COMMITMENT TO DIVERSITY

Simply put, we do not accept the status quo; whether it is the climate, the energy landscape or the diversity of talent.

For example, the status quo is characterized by a significant gender imbalance, given the substantial underrepresentation of women in the energy and tech industries. To bridge the gap, 1KOMMA5° has established initiatives like **“Women Leading Tech and Energy”**. Since 2024, the platform has expanded across various locations, offering **networking**, expert **panels** and dedicated **mentoring**.

We are committed to diversity in any form, from our multinational team to our advocacy for Pride. We foster **a culture of inclusion** by practicing in our daily operations, specialized workshops or by hosting public events designed to raise awareness.

MOVE FOR GOOD

At 1KOMMA5°, we believe **change is a team sport**. That is why we launched MOVE, an initiative that transforms the abstract energy transition into a tangible, **community-driven movement**.

By turning physical activity into collective impact, MOVE is more than just exercise; it is an open invitation for everyone to build the social momentum needed to move forward. One step, one pedal and one community at a time.

At least once a month, 1KOMMA5° hosts missions backed by diverse partners, ranging from social runs to local clean-up activities.





**1KOM
MA5°**

**GOVERNANCE
IMPACT**

4

THE GOVERNANCE FRAMEWORK

In 2025, we continued to develop our ESG framework; further prioritising high standards of environmental protection, human rights and supply chain integrity.

Our core principles remain strictly aligned with international UN, ILO, and OECD frameworks, **ensuring transparency and accountability across all operations and partnerships.**



SUSTAINABILITY POLICY

Shared across all locations and integrated into our onboarding, this framework ensures team members are aligned with our mission from day one. It serves as our definitive guide, covering the environmental, social and governance standards we live by.



SUPPLIER CODE OF CONDUCT

Shared with all of our key suppliers, this code defines the rigorous environmental and ethical standards we require of our partners. It ensures our values are upheld throughout the entire supply chain.



DECLARATION OF PRINCIPLES FOR THE RESPECT FOR HUMAN RIGHTS

Publicly available on our website and updated in 2025, this declaration serves as our social compass. It reaffirms our unwavering commitment to human rights and ethical conduct.



WHISTLEBLOWER PROCEDURE

To maintain high standards of integrity, we provide a direct whistleblower channel on our website.

Backed by an independent external ombudsman, this platform guarantees a secure and confidential space for reporting grievances or compliance violations.



AI PRINCIPLES AND DATA PROTECTION

Responsibility is built into our tech stack. We govern data and AI through a robust policy framework and host all information in European data centers.

We further utilize Google Cloud Platform (GCP) to store and process customer data, benefiting from its industry-leading security standards and auth0 for end user authentication and authorization.

Critical data is backed up in multiple regions across different data centers, enhancing redundancy and mitigating risks associated with regional security incidents.

**1KOM
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**SUPPLY CHAIN
IMPACT**

5

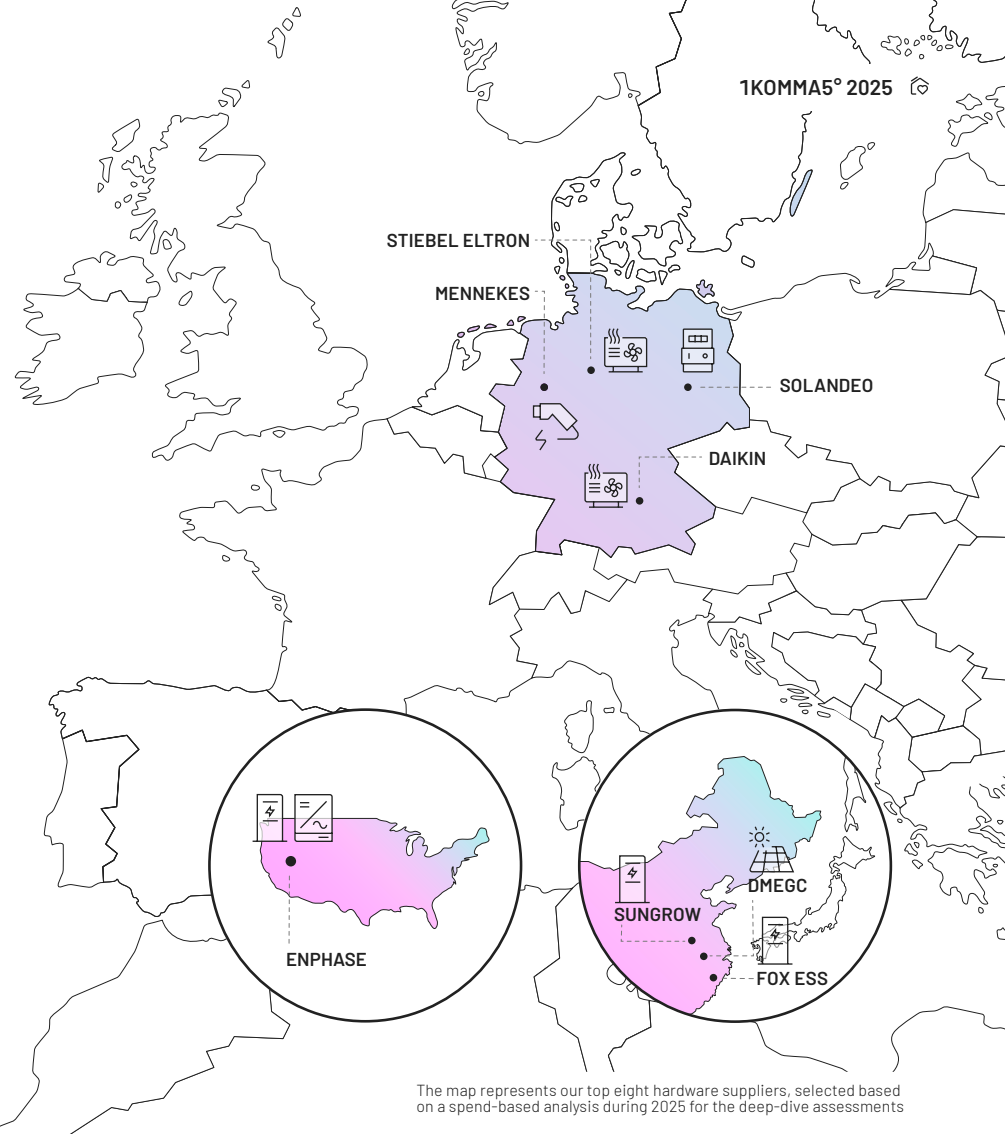
SECURING A NEW ENERGY FUTURE

INTEGRITY IN OUR SUPPLY CHAIN

Supply chain integrity is central to our ESG management. We view our suppliers as partners in our mission, ensuring that our collective impact is rooted in fair labor, carbon responsibility and uncompromising governance standards.

To maintain constant due diligence, we utilize **Prowave for real-time supply chain screening**. For our most critical partners, determined by our total YTD spend across hardware and software, we conduct **deep-dive assessments through ESG questionnaires**. This annual evaluation encompasses a broad spectrum of critical ESG criteria, ranging from raw material provenance and climate transition plans to verified audits and workplace safety standards.

Our **annual executive board meeting** under the German Supply Chain Act ensures oversight of our value chain. By reviewing risk data and supplier performance directly with leadership, it keeps our operations aligned with our long-term commitment to human rights and environmental integrity.

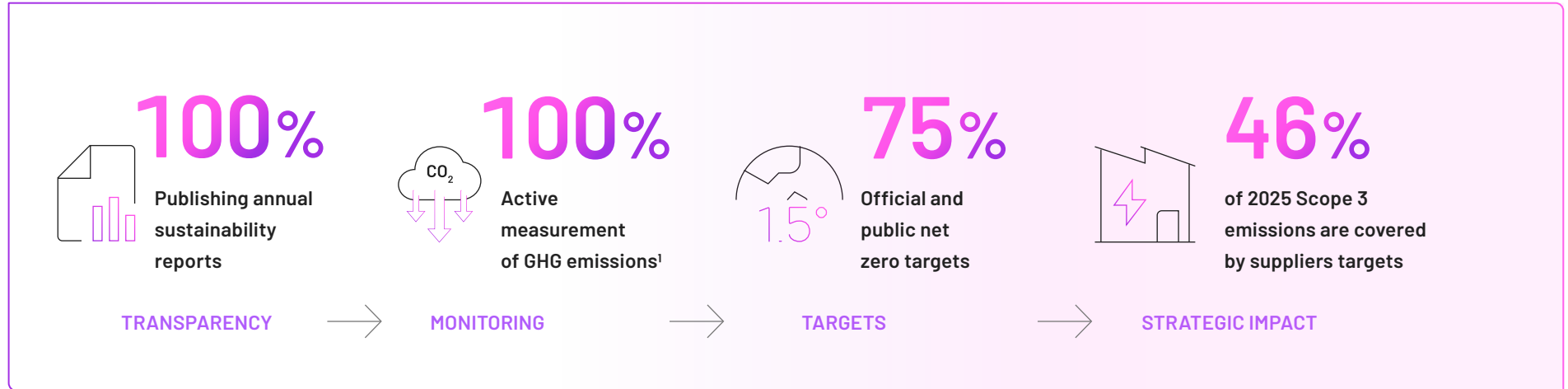


The map represents our top eight hardware suppliers, selected based on a spend-based analysis during 2025 for the deep-dive assessments

ON OUR WAY TO DECARBONIZATION

As the vast majority of our carbon footprint is driven by Scope 3 emissions, primarily Purchased Goods (3.1), our supply chain remains our **most powerful lever for decarbonization**. As the data shows an evolving landscape, we are maintaining

consistent engagement across our supply base to accelerate our shared transition. We are continuously developing our decarbonization strategy with the goal of publishing it in alignment with SBTi criteria.



¹at least Scope 1 and 2, with 75% measuring Scope 1, 2 and 3

This data represents our eight largest suppliers, selected based on their share of our 2025 Scope 3 emissions that can be directly attributed to their activities.



**1 KOM
MA 5°**

**GLOSSARY &
APPENDIX**

6

EXPLANATION OF TERMS

ANNUAL OPERATIONAL IMPACT

The avoided CO₂ emissions from all active systems in a specific year, including both existing and newly installed systems.

ANNUAL OPERATIONAL NET IMPACT

The “Net” impact means the gross environmental benefits of a given year are reduced by subtracting that year’s proportional share of the product’s total lifecycle emissions (production, use, and end-of-life).

The annual product footprint is determined by dividing the total impact by the system’s expected lifetime, ensuring a fair and balanced annual accounting.

CARBON DIOXIDE EQUIVALENTS (CO₂e)

A single measure that combines all greenhouse gases including carbon dioxide, methane, nitrous oxide, and fluorinated gases and is used to create a single, easy-to-understand number for greenhouse gas footprints.

CORPORATE CARBON FOOTPRINT (CCF)

The total amount of greenhouse gas emissions caused directly and indirectly by a company’s activities, measured in CO₂ equivalents. It includes:

- **SCOPE 1**

Direct emissions from owned or controlled sources, such as on-site fuel combustion and company vehicles

- **SCOPE 2**

Indirect emissions from purchased energy, such as electricity, heating & cooling consumed by the company

- **SCOPE 3**

All other indirect emissions across the value chain, such as purchased goods and services, logistics, and business travel

CRADLE TO GATE

The phase of a product’s life cycle that covers everything from the moment a raw material is extracted to the point it leaves the factory gates.

EXPLANATION OF TERMS

CRADLE TO GRAVE

The full life cycle of a product, measuring its complete carbon footprint from material extraction through manufacturing, distribution, and use, all the way to its ultimate disposal or recycling.

GENDER PAY GAP (UNADJUSTED)

The difference between the average earnings of men and women across an organization, without adjusting for factors such as role, education, or experience.

GHG PROTOCOL

A standardized framework for carbon accounting utilized to ensure a comprehensive approach that aligns with industry best practices.

HEARTBEAT AI FOR EXISTING SYSTEMS

A strategic shift launched in 2025 to open the Heartbeat AI system, allowing it to integrate with third-party components for universal compatibility.

NEW ENERGY ALLIANCE

A coalition of industry leaders advocating for a unified, systemic approach to decentralized energy and the removal of regulatory barriers.

SYSTEM

The standard 1KOMMA5° renewable energy system: a fully integrated solution typically featuring PV modules, battery storage, a heat pump, and an EV charging station.

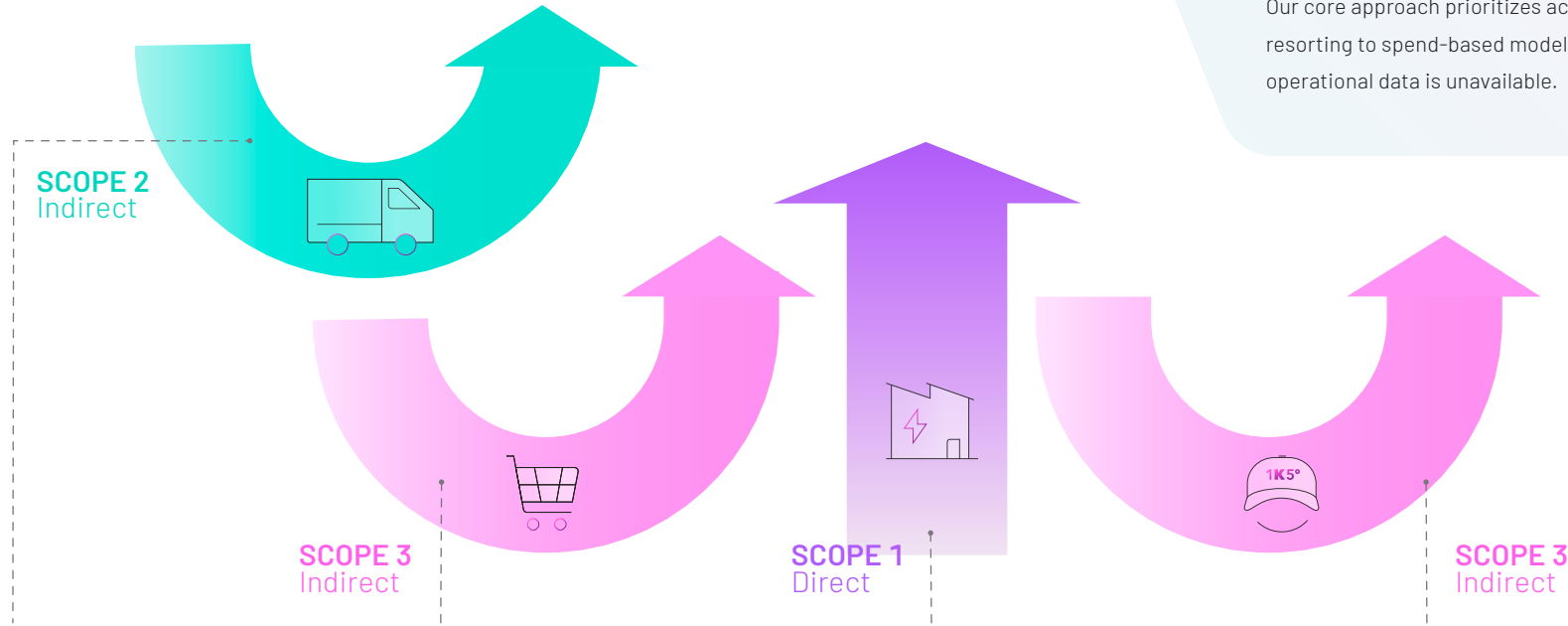
VIRTUAL POWER PLANT (VPP)

A decentralized network that pools together multiple small-scale, decentralized energy resources into a single, collective power plant.

WBCSD STANDARDS

The World Business Council for Sustainable Development standard, which is used for a standardized measurement of CO₂ avoidance.

METHODOLOGY CORPORATE CARBON FOOTPRINT



We calculate our Scope 1, Scope 2, and Scope 3 emissions in accordance with the **Greenhouse Gas (GHG) Protocol** Standard.

Our core approach prioritizes accurate, activity-based data, resorting to spend-based modeling only when specific operational data is unavailable.

Fleet We integrate actual fuel consumption and mileage data via our fleet management tool for Germany and Code Gaia for International.

Purchased Goods We prioritize direct Product Carbon Footprints (PCFs) provided by our suppliers. Where primary data is missing, we apply robust proxy emission factors derived from scientific literature reviews.

Facilities We utilize the centralized ESG platform Code Gaia across all global branches to accurately report energy consumption, heating, cooling, and refrigerant loss.

Employee Commuting We deploy global employee surveys to capture actual commuting habits (transport mode, distance, frequency), resulting in accurate activity-based data.

METHODOLOGY

AVOIDED CO₂ EMISSIONS

We follow the **World Business Council for Sustainable Development (WBCSD) Guidance** to reliably quantify the decarbonization impact of our PV systems, heat pumps, EV chargers and optimized grid sourcing through Heartbeat AI. The methodology is **third-party verified** by the sustainability consultancy ERM.

To ensure precise calculation, we utilize **country-specific data** to reflect distinct regional market realities and energy mixes. We continuously **renew our data whenever more updated or accurate information becomes available** to ensure our assessments remain robust over time.



THE 5-STEP CALCULATION APPROACH

We systematically quantify our impact by

- 1) Identifying the timeframe
- 2) Defining a precise reference scenario
- 3) Analyzing full lifecycle emissions of both scenarios
- 4) Calculating the final avoided emissions
- 5) Quantitatively validating the contribution legitimacy



YEAR-ON-YEAR (YOY) ASSESSMENT

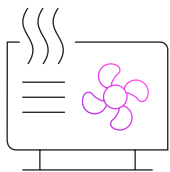
We evaluate the actual annual performance of our solutions against the most likely alternative reference scenario (e.g., country-specific conventional heating). A YoY approach replaces a reliance on long-term forecasts with real-world annual data, allowing us to account for dynamic factors like yearly grid decarbonization.



TRANSPARENT REPORTING

In strong alignment with the WBCSD standard, we report avoided emissions completely separately from our corporate carbon footprint (Scopes 1, 2, and 3). We strictly prohibit any “netting” or compensation between our operational emissions and our solutions’ positive impact, ensuring our claims are fully transparent and not misleading.

MEASURING AVOIDED CO₂-EMISSIONS: HEAT PUMP CASE



- 1 Timeframe:** We employ a year-over-year approach, which allows for precise monitoring and ensures real-world data accuracy.
- 2 Reference scenario:** The baseline represents the most likely alternative scenario, utilizing the actual 2025 energy mix for residential heating and hot water across our seven markets to quantify the direct displacement achieved by our heat pump solutions.
- 3 Assess induced life cycle emissions for both scenarios:** For the 1K5° solution scenario, we calculate cradle-to-grave emissions, covering production, usage, and end-of-life, by factoring in country- and year-specific grid mixes alongside our heat pumps' Seasonal Coefficient of Performance (SCOP). For the reference scenario¹, we focus solely on

use-phase emissions. These are determined by multiplying average local household energy consumption for space and water heating by the respective country-specific energy mix and the latest emission factors.

- 4 Calculate avoided emissions for 1K5° solution scenario:** We determine use-phase avoidance by comparing the reference scenario against the solution scenario. From this gross avoidance, we subtract the heat pumps' production and end-of-life emissions from Step 3. This ensures the final figure represents net avoided emissions.
- 5 Validate contribution legitimacy:** We ensure credibility through independent third-party verification of our model. This confirms the cause-and-effect link between our solution and the avoided emissions, ensuring our impact is material and robust.

¹ Due to data gaps, the reference scenario excludes production-phase emissions (energy sources also lack a physical end-of-life phase). This is a conservative approach, as including the "carbon backpack" of traditional systems would result in higher reported avoidance.

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