

WELCOME TO OUR SUSTAINABILITY REPORT

2024 was a pivotal year for 1KOMMA5°, and climate protection alike.

In the face of record-breaking global temperatures and an increase in extreme weather events, our mission is more vital than ever: Living on wind and sunlight forever for free. As a #NewEnergy company, we aim to electrify, decarbonize, and flexibilize energy in every home and every building worldwide; and we've made significant progress. By the end of 2024, we installed over 300,000 decentralized, controllable energy systems globally, from solar panels and energy storage systems to heat pumps and EV chargers. Together with our customers, we have made a significant contribution to reducing carbon emissions, achieving a cumulative ${\bf C0}_2$ saving of over 1,800,000 tons by year-end. We demonstrated that individual action matters. Together, we can lead the way toward a carbon-neutral energy future.

Our electricity market software, **Heartbeat AI**, **continued to expand rapidly**, bringing affordable and clean energy to tens of thousands of customers. It is now available in Germany, Sweden, Denmark and the Netherlands, creating **Europe's largest virtual power plant for residential customers**. More than 40,000 systems are optimized

daily, precisely aligning energy consumption in time with the production through wind and sun, while connecting customers to the energy market. This not only helps to lower household energy costs but also eases pressure on the grid whilst increasing the integration of renewables when they are available at a large scale.

While scaling our external impact, we have also doubled down on our own ESG performance. In 2024, we strengthened our corporate sustainability efforts by improving the accuracy of our carbon accounting. Building on our 2023 baseline, we enhanced our data by integrating more activity-based information, including detailed product carbon footprints, which remains one of the most powerful levers within our value chain.

We also **enhanced our ESG-related analysis** across key business areas to derive actionable metrics, published new and updated ESG policies, and initiated concrete steps toward aligning with European Sustainability Reporting Standards (ESRS). Additionally, we **exceeded the targets set the previous year**, including an 8 % increase in our share of hybrid and electric vehicles in our fleet and a 31 % increase in renewable energy production at our locations worldwide.

House by house, city by city – every system installed, every ton of ${\rm CO_2}$ avoided and every step forward in our ESG journey brings us closer to a more sustainable future. The challenges of our times are real, but so is the momentum we have built for New Energy to become the new normal. Along with our partners, customers, and teams worldwide, we are transforming sustainability ambitions into action.

The best is yet to come!

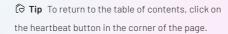
Philipp Schröder

Co-Founder & CEO 1KOMMA5



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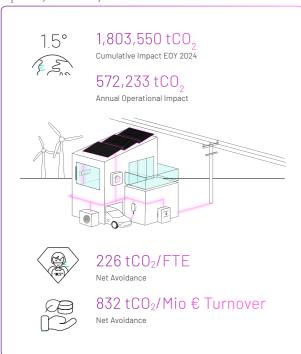
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OUR YEAR AT A GLANCE

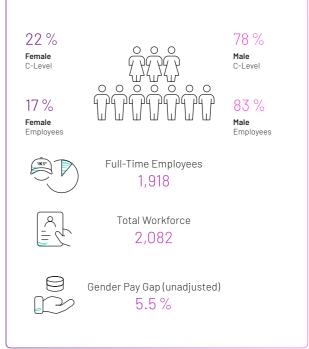
Positive Impact CO, saved by our installed systems



Corporate Carbon Footprint



Global Workforce



1KOM MA5°

----- WHO WE ARE

ONE MISSION NEW ENERGY

1KOMMA5° is the CleanTech start-up for CO₂-neutral energy, heat and mobility. Founded in Hamburg, Germany, in 2021, the company operates around 80 locations in 7 markets worldwide, serving as the one-stop shop for intelligent, integrated energy solutions such as photovoltaics, battery storage systems, heat pumps and EV chargers. Our energy management system **Heartbeat AI** currently optimizes more than 40,000 systems, creating Europe's largest virtual power plant that connects our customers with the energy market. Heartbeat Al aligns the production and consumption of our customers' systems with the rhythm of wind and sun utilizing the full potential of renewable resources. In total, we have already installed over 300,000 decentralized, controllable energy systems. 1KOMMA5° is one of the fastest and most profitable growing start-ups in Europe.

In 2024, 1KOMMA5° expanded its operations, growing to a team of around **2,100 employees** across **Germany, Sweden, Australia, Denmark, the Netherlands, Finland and Spain.**

What we are here for

In 2024, **global temperatures reached a record high, exceeding the 1.5 °C threshold** above pre-industrial levels for the first time over an entire calendar year. It has been confirmed that 2024 was the warmest year since records began in 1850, marked by extreme heatwaves and heavy rainfall.

This isn't just a challenge: It's our mission

With every energy system we install, we reduce the amount of CO₂ emitted. By 2030, we aim to convert more than 1.5 million buildings to a climate-friendly energy supply and thus contribute to achieving the Paris climate target, fighting for our own 1.5 °C target.



OUR HEART BEATS AI

At 1KOMMA5° we're persistently building **Europe's largest virtual power plant** for residential customers via **Heartbeat AI**, that links all our customers' photovoltaics, battery storage systems, heat pumps and EV chargers. Our dedicated technology division provides our global customers with direct access to the wholesale electricity market: ensuring the **cleanest and most affordable energy** possible.

All in line with our vision to live on wind and sunlight forever for free!

In 2024 we took major steps toward this vision by opening our one-of-a-kind **TechLab** for research and development in Berlin. The new TechLab is an environment where an **entire home energy system**

is simulated, with different scenarios which can be digitally controlled. This allows our experts to test and simulate real-time usage scenarios, that cater for any day of the year — **from Helsinki to Adelaide and beyond.**

At the same time, we laid the foundation for future growth by establishing 1KOMMA5° Heartbeat AI GmbH as an independent company.

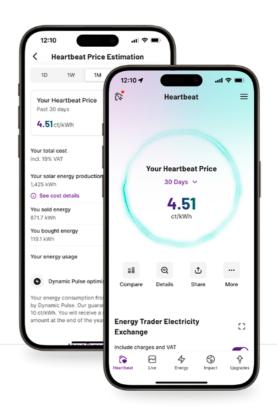
We believe that Heartbeat Al is the enabling technology to drive the energy transition forward and to shape a fossil-free future!

Different weather conditions

Solar irradiance

🍃 Shading

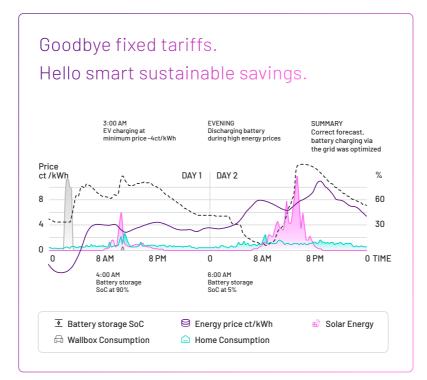
million optimization decisions per day



ENERGY SUPPLY IS DYNAMIC

Let's explore how Heartbeat AI empowers the energy transition. For a long time, electricity tariffs followed a very simple pattern: consumers paid a fixed price per kilowatt hour consumed – regardless of when the electricity was used.

Heartbeat AI enables our customers to actively participate in the energy transition by **intelligently shifting electricity consumption to the most sustainable and cost-efficient times.** It does so by dynamically controlling flexible household loads such as battery storage systems, heat pumps, and electric vehicles, ensuring they are automatically drawing power when the own solar production is high, or grid electricity is green and cheap.

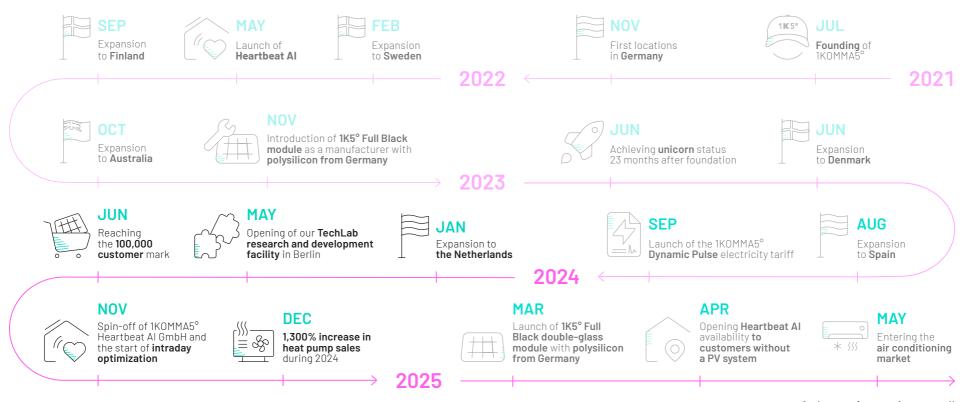


This smart energy management is made possible by consulting real-time data, weather forecasts, electricity market signals, and user references.

As a result, Heartbeat Al increases the share of self-consumed renewable electricity, dramatically reduces energy costs, and strengthens household energy autonomy. It also contributes to overall grid stability and accelerates the integration of renewable energy sources by acting as a buffer.

Heartbeat Al is designed precisely for this future: a decentralized, digital energy system in which consumers, technology, and market signals interact to enable clean, efficient, and economically smart electricity use.

SCALING NEW ENERGY FROM HELSINKI TO ADELAIDE

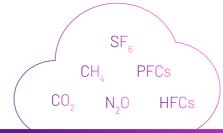


UNDERSTANDING OUR GREENHOUSE GAS EMISSIONS

For our **Corporate Carbon Footprint** (CCF) calculation, we prioritized activity-based data whenever possible, supplementing it with spend-based factors where necessary. We followed a GHG Protocol-compliant $\rm CO_2$ accounting process to ensure a comprehensive and standardized approach for measuring and reporting our emissions. The ESG management platform and climate experts from Code Gaia accompanied the process to ensure accuracy, consistency, and alignment with best practices in carbon accounting.



A 1KOMMA5° integrated energy solution reaches carbon payback in <1.5 years on average.



	2024	2023
Scope 1 Direct Direct emissions from sources which are owned and controlled by the company.	2,259 tCO ₂	2,234 tco ₂
Scope 2 Indirect Indirect emissions purchased or acquired electricity, steam, heat and cooling.	1,734 tCO ₂ market-based ¹ 1,356 tCO ₂ location-based ²	$860\ \text{tCO}_2 \\ \text{market-based}^1 \\ 612\ \text{tCO}_2 \\ \text{location-based}^2$
Scope 3 Indirect All indirect emissions (not included in scope 2) that occur in the value chain of the reporting company, incl. both upstream and downstream emissions.	135,691 tco ₂	112,987 tco ₂

¹ Market-based: Considers specific energy contracts and the actual energy mix the company procured. Emissions can vary depending on the source of the purchased electricity.

² Location-based: Considers the average energy mix of the regional grid, regardless of the company's specific procurement decisions.

NDERSTANDING OUR GREENHOUSE GAS EMISSIONS



2,259 tco.

Scope 1 Direct

Scope 1 encompasses direct CO₂ emissions from sources owned or controlled by 1KOMMA5°. These originate primarily from our vehicle fleet and from heating systems that fall under our operational responsibility. **Our fleet**, primarily used for distributing our energy systems, accounts for 2% of our total CCF. Despite business growth and an expanding fleet, our Scope 1 emissions have remained nearly unchanged, thanks to an 8 percentage increase in the share of hybrid and electric vehicles, bringing the total to 47 %. To further reduce emissions, we aim to equip over half of our fleet with hybrid and electric vehicles by 2025, thus achieving a 55 % target.



Scope 2 Indirect

Emissions associated with Scope 2 arise from purchased electricity, steam, heating, and cooling used by 1KOMMA5°. Beyond our growth, a key factor contributing to the increase in Scope 2 emissions from 2023 to 2024 is the rising share of hybrid and electric vehicles in 1KOMMA5°'s fleet. As more company vehicles transitioned from combustion engines to electric power, emissions that were previously classified under Scope 1(from fuel combustion) shifted to Scope 2 due to the higher electricity consumption required for charging.



135,691 tco.

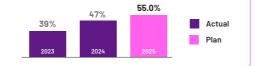
Scope 3 Indirect

As a company with physical products, **Scope 3 emissions** represent 97 % of our CCF. The majority (91 %) stems from purchased goods and services, including photovoltaics, inverters, battery storage units, heat pumps, and EV chargers. To ensure accuracy, we directly requested **product carbon footprints** from our suppliers whenever available and supplemented this data with comprehensive research, including literature reviews and comparisons with similar products. Employee commuting contributes less than 1% of our total emissions. The increase in Scope 3 emissions is primarily driven by our growth and thus the rising number of products sold, which are significant emission drivers.

At the same time, the average carbon payback time, which indicates how long it takes for a 1KOMMA5° integrated energy solution to offset its initial carbon footprint, is less than 1.5 years.



Our next target is to build on the progress from 2023 to 2024 by raising the share of hybrid and electric vehicles by an additional 8 percentage increase in 2025.



THE NET ZERO RACE

Before we discuss 1KOMMA5°'s way to avoid CO, emissions, we need to define the problem:



75%

greenhouse gas emissions.

To achieve net zero emissions by 2050, 90 % of the required energy must come from renewable sources.

The energy sector accounts for 75 % of global

The energy sector remains the largest source of global greenhouse gas emissions, making it one of the most urgent challenges in the fight against climate change.

At 1KOMMA5° we take action. We are rethinking energy from the ground up, creating intelligent, scalable systems that not only generate and store power, but also manage it with precision and purpose. Instead of complexity and fragmentation, we offer the one-stop-shop solution that makes switching to renewables as simple as possible by turning the biggest emitter into an easy climate solution.

Our mission is bold yet simple: avoid fossil fuels and CO₂ across electricity, heating, and mobility. In this context, heating played a key role for us in 2024 and marked a significant milestone on the path to a net-zero energy landscape. With a 1,300% increase in heat pump sales throughout the year, we have further strengthened our position in clean heating, enhancing our contribution to a sustainable tomorrow.

Next, let's dive into how we turn this vision into reality!

The solution is **#NewEnergy**: an integrated approach to producing, consuming, and optimizing renewable power for a fossil-free future.

IN NUMBERS

To illustrate the positive impact 1KOMMA5° generates, we use a key metric called the **Net Annual Operational Impact**.

We start with the **Annual Operational Impact**, which is the total amount of CO_2 our customers avoid in a given year enabled by our installed systems. From this figure, we subtract our **Corporate Carbon Footprint** for the same year. This includes all emissions generated by our operations, including those associated with the installation and operation of our systems. The result is the **Net Annual Operational Impact**. It reflects how much CO_2 was actually avoided after accounting for the emissions required to enable that reduction.

572,233 tCO₂ Annual Operational Impact

- 139,683 tCO₂
Corporate Carbon Footprint of 1K5

432,549 tCO₂
Net Annual Operational Impact

474,743 tCO₂
Annual Operational Impact

116,082 tCO₂
 Corporate Carbon Footprint of 1K5°

358,661 tCO₂
Net Annual Operational Impact

In 2024, we avoided CO₂ emissions equal to



870,000

Return flights Frankfur to Mallorca



1,300

Rocket launches



215,000

Annual CO₂ footprints of petrol-powered cars

2024

+ 21%

in avoided CO₂ emissions compared to 2023

IN NUMBERS

In addition to measuring our impact of a single year, we also track our **Cumulative Impact**. This metric sums up all the **Annual Operational Impacts** from each year since the founding of 1KOMMA5°.



1,803,550 tco₂

SINCE THE FOUNDING OF 1KOMMA5° IN 2021, WE HAVE AVOIDED CO, EMISSIONS EQUAL TO:



5,400 Rocket launches

With 259 rocket launches per year, this equals avoiding

21 years' worth of global space launch emissions.



The cumulative impact of our systems equals planting a forest of over **500,000 fully** grown trees across **26 km²**: Right in the heart of our headquarters in **Hamburg**.



CARBON INTENSITY

Why intensity KPIs matter for fast-growing companies

As 1KOMMA5° continues to grow quickly in headcount and turnover, absolute emissions alone don't tell the full story of our climate performance. That's why we use intensity-based KPIs. Measuring how efficiently we create impact relative to our size.

We measure impact intensity with two KPIs that reflect our net CO₂ contribution per:

- Full-Time Equivalent (FTE)
- € Million Turnover

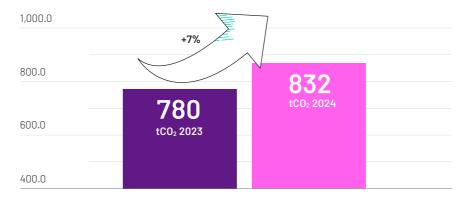
The results

By dividing our Net Annual Operational Impact by the number of FTEs and by turnover in million euros, we obtain the following results:





Avoided emissions in tCO, per turnover in € million



NEW ENERGY EVERY DAY STARTING WITH OUR OWN ROOFS

As 1KOMMA5°, we have a unique role in enabling energy production and ownership – starting with the roofs of our own offices and warehouses. In 2024, we achieved remarkable growth, increasing our energy production by 31% to 1,556,442 kWh, well above our 20% target set the previous year. This marks a significant jump from the 1,191,160 kWh generated in 2023.

The image shows our 1KOMMA5° location in **Breidenbach**, **Germany**, where a large photovoltaic system powers an **innovative rotating office** that follows the sun's path throughout the day.



OUR WORKFORCE

THE MISSION: A FOSSIL FREE WORLD

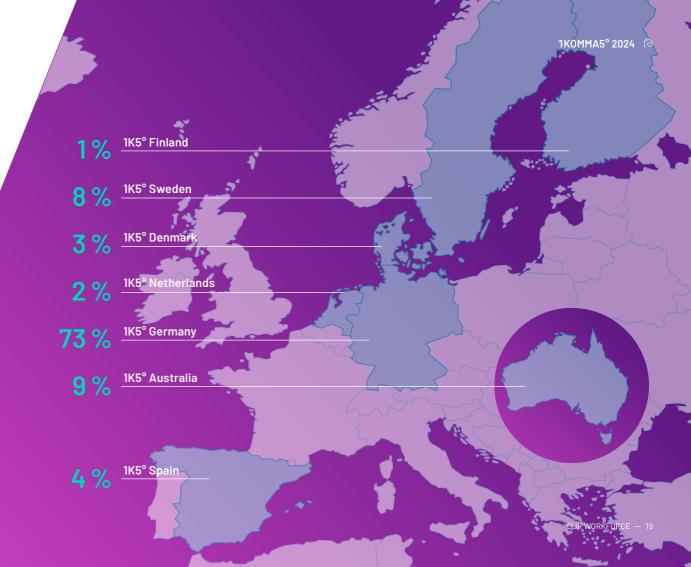
Compared to 2023, our number of full-time **employees increased by 19** %.



2,082
Total Workforce



1,918
Full-Time Employees



ENERGY, TECH & CRAFTSMANSHIP



17 % Women Employee



83 % Men Employees



22 % Women in C-level



78 % Men in C-level



5.5 % Gender Pay Gap (unadjusted)

Our female representation reflects the reality of the energy sector being one of the most maledominated industries globally. The global employment rate for women stands at 16 %, whereas women occupy 17.3 % of leadership positions within the energy sector.

Comparing our unadjusted gender pay gap of 5.5% with regional benchmarks offers a broader perspective.

According to the latest EU data from 2023, the unadjusted gender pay gap across the EU stands at 12%. In Germany, as of February 2025, women earned on average 16% less than their male counterparts.

 $73\,\%$ of our workforce being based in Germany, our gender pay gap is significantly lower at $5.5\,\%$. It is important to note that the unadjusted gender pay gap

does not account for differences in occupation, job role, or educational background.

What's clear is that **our journey toward complete pay equity remains ongoing**. We are committed to reducing it by promoting equal career development opportunities, and empowering women to reach their full potential.

Recognizing that women remain underrepresented in the energy and IT sectors, we further launched initiatives like "Women Leading Tech and Energy" to attract more women into the CleanTech industry.

By offering targeted mentorship programs and showcasing female role models, these ongoing efforts create lasting opportunities for women while helping to overcome systemic barriers.



- ESG POLICIES

1K0MMA5° 2024

CLEAN ENERGY, CLEAR PRINCIPLES

In 2024, we developed and updated our policies addressing our key ESG priorities. These policies reinforce our commitment to protecting the environment, managing ESG risks, promoting sustainability, upholding human rights across our operations and supply chain, and setting clear ESG expectations for our suppliers. They are defined in accordance with the standards of leading international frameworks, including the United Nations' Universal Declaration of Human Rights, the ILO Core Labour Standards and the OECD Guidelines for Responsible Business Conduct.

Additionally, we **have implemented a whistleblower system** that is effectively
tested, fully anonymous, and accessible
through a dedicated channel on our website.



Declaration of Principles for the Respect for Human Rights



Sustainability Policy



Supplier Code of Conduct

These policies are available on our <u>website</u> and shared internally.

LEADING RESPONSIBLY

To offer our customers the cleanest and most affordable energy, our energy management system Heartbeat Al relies on smart, data-driven energy management that enables intelligent consumption optimization. At the same time, it's both important and self-evident to us to manage our data processing and computing resources responsibly. Computing power is typically resource-intensive and can lead to significant CO₂ emissions, especially in the context of artificial intelligence. Moreover, handling customer data carries a special responsibility, as it involves highly sensitive information.

CO₂ footprint

To minimize the impact of Heartbeat AI, we rely on Google Cloud, which powers its data centers with **renewable energy** and aims to run all data centers 24/7 on renewable energy by 2030. Our data is processed in Google's **European data** center in Belgium, where operations already run on 82 % renewable energy, with a grid carbon intensity of just 110 g CO₂ per kWh. In comparison, Germany's electricity grid emits an average of 363 g CO₂ per kilowatt hour, producing more than three times the amount as the Google Cloud data center.



Data security

While we use Google Cloud to process customer data, Google itself has no access to this data at any time. At the same time, we benefit from the platform's industry-leading security infrastructure. Additionally, we only collect as little data from our customers as is strictly necessary for our products to function properly. Wherever possible, we store this data in **anonymized** form while ensuring this doesn't limit the functionality of the product. The same applies to the duration of data storage. Here too, we take the approach of deleting data that is no longer required as guickly and securely as possible. Additionally, our security team relies on advanced security solutions for the early detection, prevention and defense against threats. These include vulnerability scans and sophisticated thread

protection. No security incidents occurred in 2024.





OUR SUPPLY CHAIN

SECURING A NEW ENERGY FUTURE

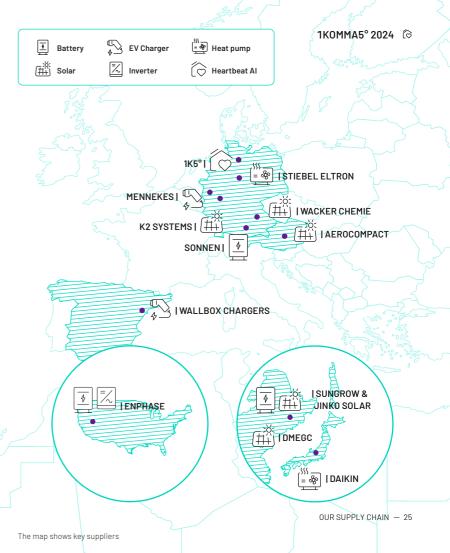
Due diligence strengthening

In the context of supply chain management, 1KOMMA5° continued to strengthen its due diligence and transparency efforts. Through tracking of our key suppliers via the Prewave platform, no ESG critical incidents were identified that were linked to our company or its products.

We received improved access to **Product Carbon Footprints (PCFs)**, enabling a more accurate assessment of our upstream emissions. In addition, our **Supplier Code of Conduct** continued to be distributed to our most relevant suppliers to reinforce compliance with our environmental, social, and ethical standards.
We also continued our sustainable procurement for our
1KOMMA5° solar module, for which we source **polysilicon from Wacker Chemie in Germany** despite significantly higher production costs.

Looking at our suppliers

Our strategic suppliers are likewise demonstrating strong commitment in their sustainability journeys. For instance, Enphase operates on 70 % renewable energy and has significantly expanded its solar generation capacity, achieving a remarkable 228 % year-over-year growth. **DMEGC** manufactures its photovoltaic modules using 100 % green electricity and holds a zero-carbon factory certification. Another standout is **Mennekes**, operating entirely on green electricity and producing its latest generation of wallboxes through a fully climate-neutral process. Aerocompact, too, is a forward-thinking example with two manufacturing sites powered by solar energy systems, equipped with real-time CO₂ savings monitoring that is accessible to the public via their website. In addition, Daikin has established its Environmental Vision 2050 and already achieved a 17 % reduction in CO, emissions in 2023 compared to business-as-usual levels. Stiebel Eltron, another key player, has committed to a 70 % CO₃ reduction by 2030 and is actively transitioning to fully renewable energy sources.



System

A single installed renewable energy device of 1KOMMA5°, such as a photovoltaic (PV) system, battery unit, heat pump, or EV charger.

Corporate Carbon Footprint (CCF)

The total amount of greenhouse gas $\mbox{emissions caused directly and indirectly by} \mbox{ a company's activities, measured in $\rm CO_2$ \\ \mbox{equivalents. It includes:} \label{eq:company}$

- Scope 1 Direct emissions from owned or controlled sources
- Scope 2 Indirect emissions from purchased energy
- Scope 3 All other indirect emissions across the value chain

Carbon Payback Time

Carbon Payback Time refers to the average number of years that a complete 1KOMMA5° integrated energy solution consisting of photovoltaic panels, battery storage, a heat pump and an EV charging station requires to offset its initial carbon footprint through avoided CO₂ emissions.

Annual Operational Impact

 $\label{eq:continuous} The \ CO_2 \ savings \ generated \ by \ all \ active$ $systems \ during \ a \ specific \ year, \ including$ $both \ existing \ and \ newly \ installed \ systems.$

Net Annual Operational Impact

The net ${\rm CO_2}$ savings in a year, factoring in both emissions avoided by active systems and any operational emissions generated.

Cumulative Impact

The total accumulated ${\rm CO_2}$ savings from all installed systems over time until EOY 2024.

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.

1KOM MA5°

GLOSSARY

RETRIEVED FROM:

1KOM MA5°

Copernicus Climate Change Service (C3S). (2025)

International Energy Agency (IEA). (2024)

International Energy Agency (IEA). (2022)

International Renewable Energy Agency (IRENA). (2021, March)

Kraftfahrt-Bundesamt (KBA). (2024)

Landwirtschaftskammer Niedersachsen. (n.d.)

MyClimate. (2025). CO2-Rechner

Science Focus. (n.d.)

Statistisches Bundesamt (Destatis). (2025, March 04)

Statista. (2024)

Umweltbundesamt (UBA). (2024)

Umweltbundesamt (UBA). (2023a)

Umweltbundesamt (UBA), (2023b)

Universität Münster. (n.d.)

REFERENCES





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