MUNICH ELECTRIFICATION

MUNICH ELECTRIFICATION

SUSTAINABILITY REPORT

2024

SUSTAINABILITY REPORT

AGENDA

SUSTAINABILITY REPORT

PREFACE FROM THE CEO

10 YEARS MUNICH ELECTRIFICATION!

In 2024, we celebrated a significant milestone for our company – the 10th anniversary of our founding. It is a moment to express our gratitude for the trust and support we have received from our partners, clients, and employees. Together, we have built a company that is not only successful but also focused on innovation and sustainability.

Despite increasingly difficult market conditions, we experienced substantial growth to over 230 employees at the end of the year. Each of them plays an essential role in driving our mission forward, and we are excited to see the continued impact of their work in the years to come. Among the new hires is our Chief Operating Officer Dr. Christian Sorg who now oversees our operational strategy and drives excellence in performance, quality and sustainability for all our customer projects.

One highlight of the year was our participation at IAA Transportation in Hanover where we showcased our innovative battery management systems (BMS) and software solutions for a more sustainable transport industry and connected with our partners and clients. Moreover, we achieved a significant milestone in the energy storage market by shipping first series BMS components for large-scale BESS to a leading global energy storage company. The collaboration with Eaton, announced in 2024, also marks a significant accomplishment, resulting in the development of the new Battery Configuration Switch.

In our sustainability team, one great achievement was the performance of a double materiality assessment - a core tool for prioritizing sustainability endeavours. Based on the assessment's outcomes, a sustainability strategy for the year 2025 has been formulated. In terms of supply chain topics, a sustainability due diligence has been conducted. With this risk assessment at hand, further measures for improving upstream social and environmental performances are planned for 2025 and beyond.

As we look ahead, sustainability continues to be at the core of what we do. We are dedicated to making lasting contributions to a greener, more sustainable future, while remaining at the forefront of industry innovation.

We are excited for what the next decade holds.

Georg-Friedrich Graf
CEO

SUSTAINABILITY REPORT

2024 AT A GLANCE

+47%

REVENUE GROWTH

+43%

TEAM GROWTH
COMPARED TO
+50% in 2023

TOTAL GHG EMISSIONS

7961

TONS OF CO_2E
-12 % COMPARED TO 2023

19.6

TRAINING HOURS
PER EMPLOYEE

5%

PERMANENT
EMPLOYEE
FLUCTUATION

EMPLOYEE INTENSITY

41.2

TONS OF CO_2E
-47 % COMPARED TO 2023

FIRST **DOUBLE MATERIALITY ASSESSMENT** PERFORMED

FIRST **SUSTAINABILITY STRATEGY** DEVELOPED

FIRST **SUPPLIER RISK ASSESSMENT** CONDUCTED

FIRST SUPPLIER **CODE OF CONDUCT** CREATED

AWARD FOR SAQ IMPROVEMENT:
MOST IMPROVED SUPPLIERS OF
Q2 2024 BY SUPPLIER ASSURANCE

SUSTAINABILITY REPORT

GENERAL INFORMATION

GENERAL INFORMATION

INFORMATION ON REPORTING SCOPE AND FRAMEWORKS

THE REPORTING YEAR EQUALS THE FISCAL YEAR AND ALSO THE CALENDAR YEAR OF 2024. THIS REPORT FOR THE PRIVATELY - OWNED MUNICH ELECTRIFICATION GROUP COMPRISES CONSOLIDATED ESG DATA FOR MUNICH ELECTRIFICATION GMBH (ME) AND ITS SEVEN FULLY OWNED AND CONTROLLED SUBSIDIARIES. THE REPORT DID NOT UNDERGO A REVIEW BY AN EXTERNAL AUDITOR.

The disclosed data points in this report are inspired by the European Sustainability Reporting Standard (ESRS), especially when it comes to the topics of climate change and our own workforce. Despite the postponement of the EU regulation on non-financial reporting - the “Omnibus proposal” -, we continue to report voluntarily taking the disclosures and data points included in the **ESRS and VSME as our major guidance.** The carbon footprint calculations are based on the **Greenhouse Gas (GHG) Protocol** as the most prevalent standard for carbon accounting.

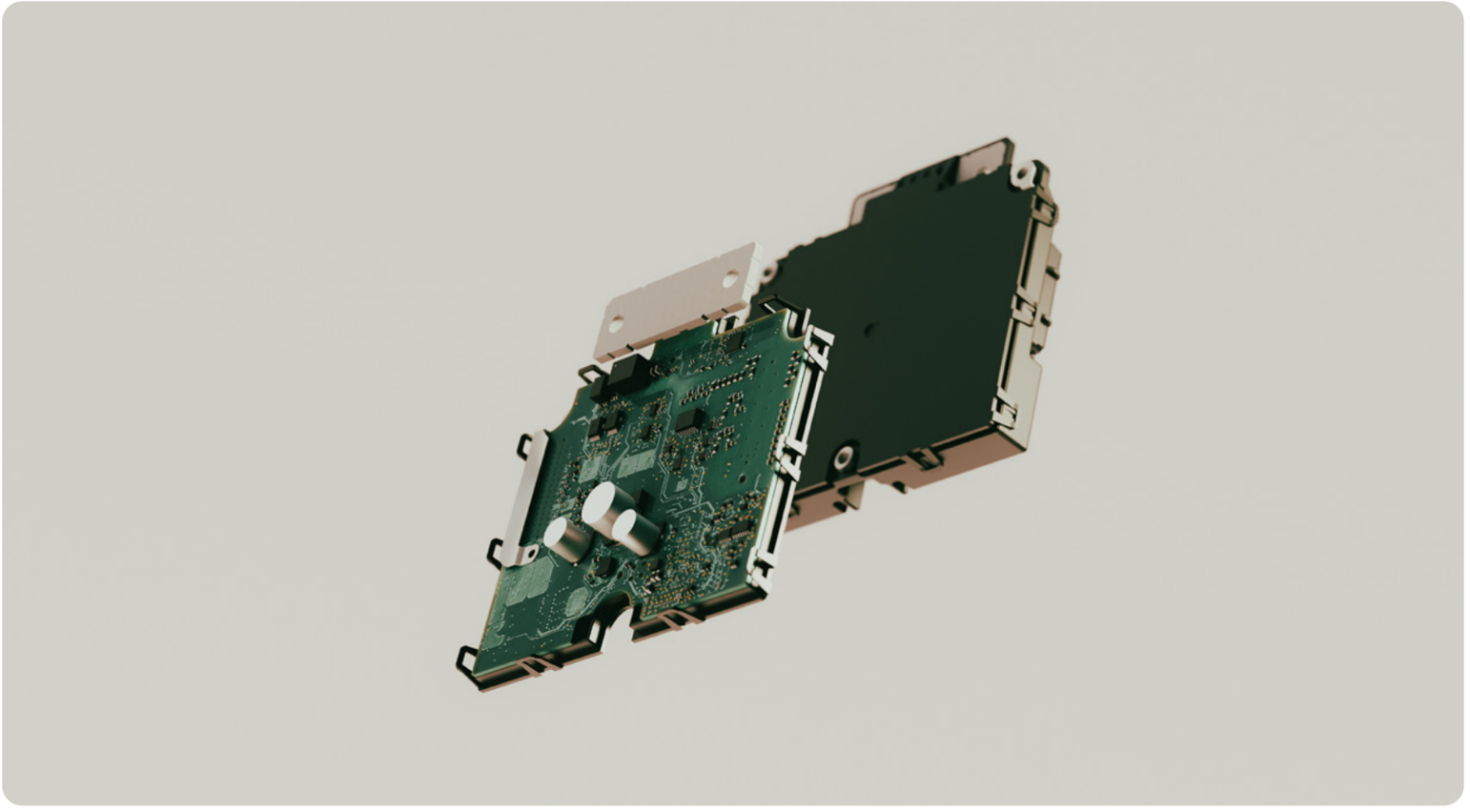
GENERAL INFORMATION

CORE BUSINESS

MUNICH ELECTRIFICATION GROUP SPECIALIZES IN CUTTING-EDGE BATTERY MANAGEMENT SYSTEMS AND SOFTWARE SOLUTIONS.

By focusing on connected mobility and clean energy storage technologies, ME aims to create a meaningful impact on everyone’s life.

Headquartered in Munich, we operate on a global scale with production at partner companies in Europe.



GENERAL INFORMATION

OUR VALUES

One of our core values is **technological leadership:** we challenge the status quo of the technologies we use and continuously learn to better meet our customers' needs.

Entrepreneurial spirit is also a key value - we think creatively, embrace change, take calculated risks and focus on sustainable financial returns.

Sustainability is central to Munich Electrification. We take responsibility for our business practices and their impacts, striving to contribute to a better future.

Finally, our greatest strength lies in our **team culture** - „we" is our strongest asset. By inspiring and supporting one another, we foster innovation and enhance the enjoyment of work.

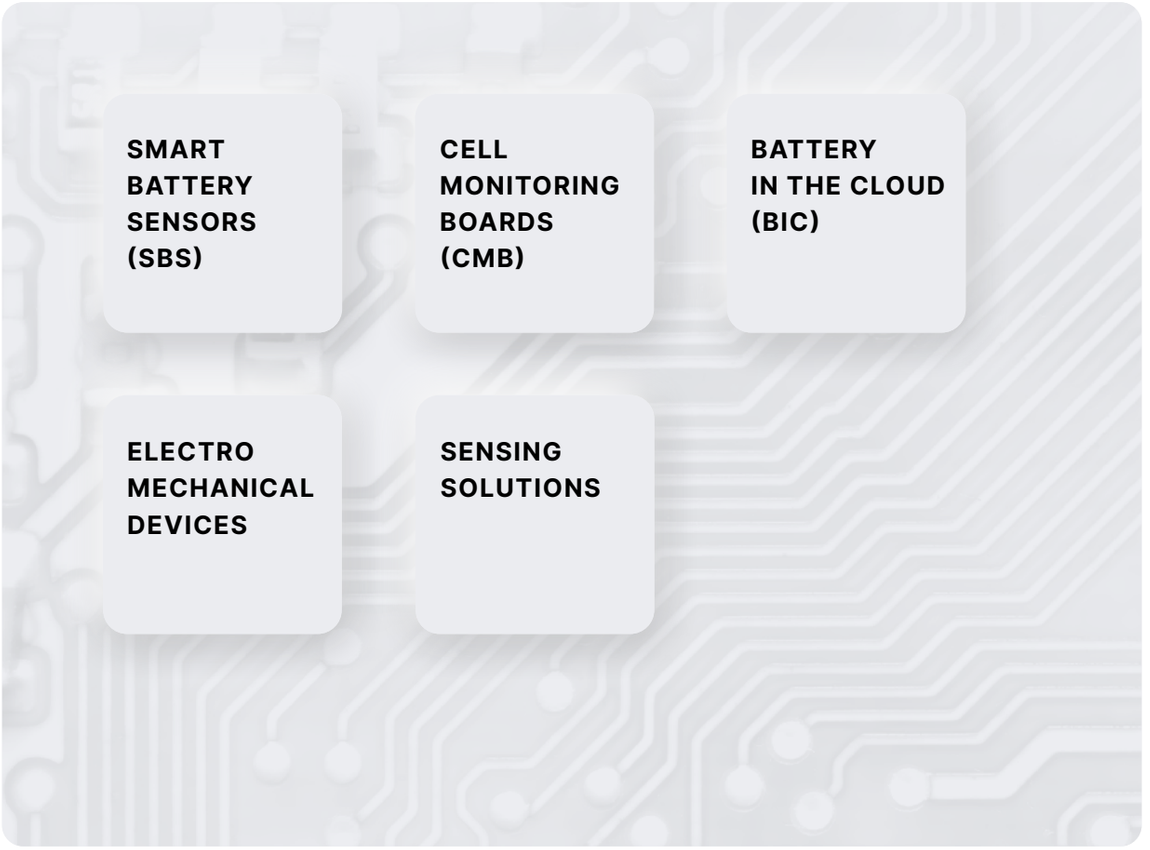
GENERAL INFORMATION

PRODUCT PORTFOLIO

OUR COMMITMENT TO THE VALUES OUTLINED ABOVE IS REFLECTED IN OUR PRODUCT PORTFOLIO, WHICH INCLUDES BOTH HARDWARE AND SOFTWARE SOLUTIONS. AT THE HEART OF THIS PORTFOLIO ARE OUR WORLD-LEADING BMS, DESIGNED TO DRIVE THE TRANSITION TO A MORE SUSTAINABLE FUTURE.

Our core offerings focus on BMS, essential **components of battery packs.** These systems are used in both commercial and passenger vehicle powertrains, as well as in **energy storage systems** (ESS) that integrate with renewable energy sources such as solar and wind power. The BMS acts as the central measurement and control unit within the battery packs, ensuring safe, secure, efficient, and long-lasting performance.

In addition to our core BMS technology, we provide a range of **complementary products** that enhance the integration of BMS within battery architectures. These include cell monitoring boards (CMB), electro-mechanical devices (such as disconnection or switching devices), and current and voltage sense modules. Together, these products help ensure an efficient, safe and secure battery management, driving innovation across the industry.



GENERAL INFORMATION

MARKETS & CUSTOMER GROUPS

THE COMPANY'S MARKET AND CUSTOMER BASE ARE STRATEGICALLY DIVERSIFIED, ALLOWING US TO SERVE A WIDE RANGE OF INDUSTRIES AND REGIONS WITH OUR PLATFORM BASED PRODUCTS.

Our primary customer segments span two key sectors: the automotive industry, which includes commercial vehicles, passenger cars, sports cars, and off-highway vehicles, as well as large stationary energy storage systems. Following the acquisition of several new customers in 2024, ME is expanding its reach and impact.

Of particular note is the **growing focus on the commercial vehicle market and stationary battery systems,** both of which are being driven by economic viability and a strong emphasis on sustainability.

Geographically, we continue to strengthen our position in Europe, where we have a well-established presence, alongside a significant footprint in the United States. In addition, we have made strategic inroads into the emerging markets of Asia such as India since 2023, opening up exciting growth opportunities. These regions offer immense potential for advancing vehicle electrification and supporting the global energy transition.

GENERAL INFORMATION

GOVERNANCE

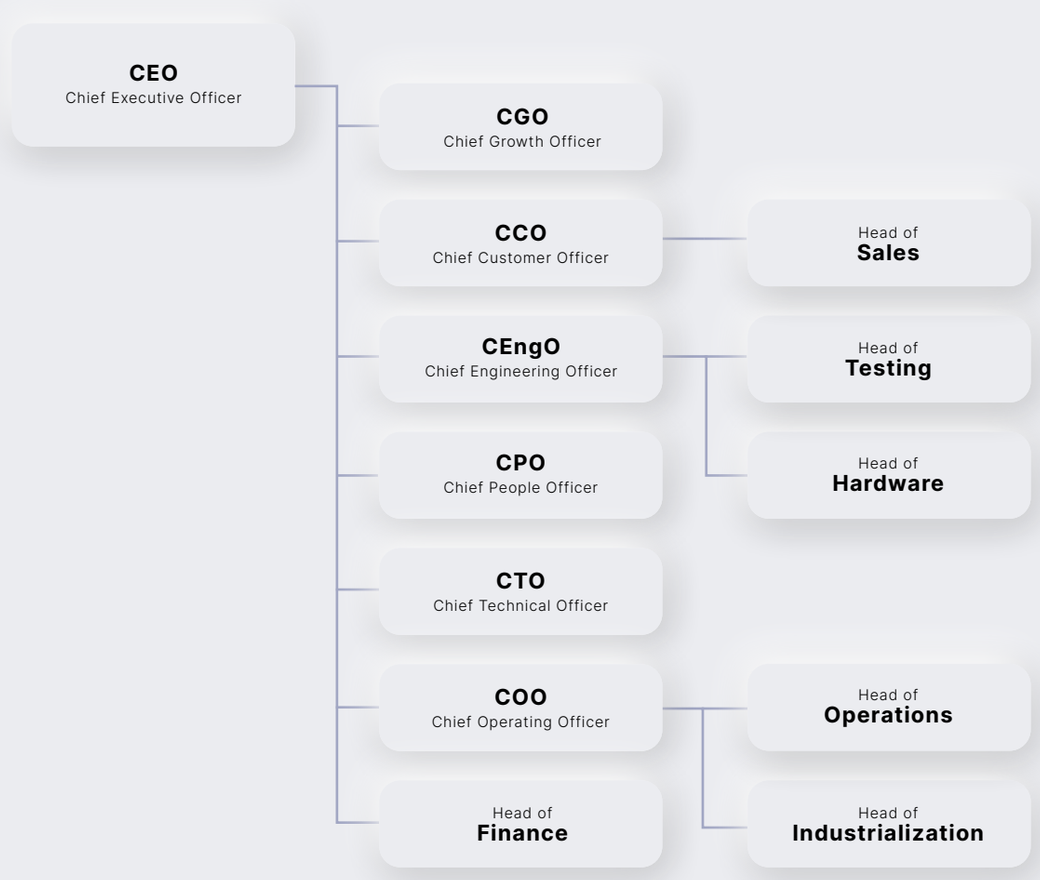
AS ANNOUNCED IN LAST YEAR'S SUSTAINABILITY REPORT, ME EXPERIENCED AN ORGANIZATIONAL RESTRUCTURING IN THE MANAGEMENT LEVELS IN THE FIRST QUARTER OF 2024.

To enable further growth, a new top level structure has been put in place. In addition to the CEO and CGO, also acting as managing directors, the company has five other C-level executives who steer various departments.

One level below, there are six head positions, and additional team leader positions have been—and will be—added wherever efficient and necessary based on team size.

The sustainability team forms part of the People team reporting directly to the CPO. We foster interfaces to various other departments within the company due to the interdisciplinary nature of the profession.

At Munich Electrification, we are striving to balance economic, social, and environmental factors in order to build a more resilient and responsible organization. We take a **certified integrated management system** approach, combining the ISO 9001 quality standard with the ISO 14001 environmental standard and the ISO 45001 standard on occupational health and safety.



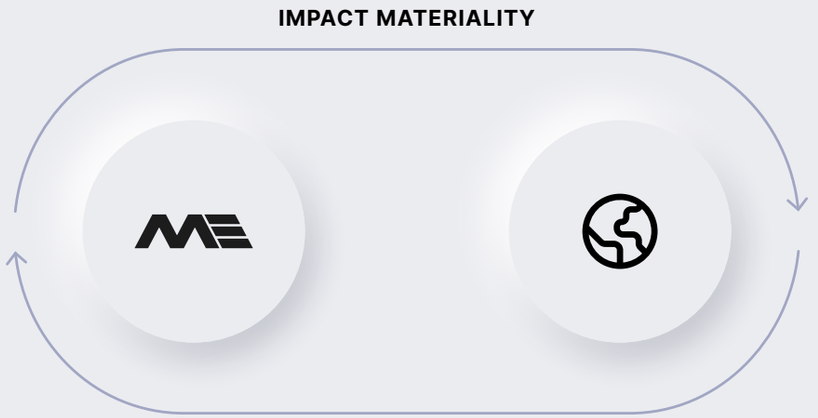
GENERAL INFORMATION

DOUBLE MATERIALITY ASSESSMENT (DMA)

THROUGHOUT 2024, A FIRST DOUBLE MATERIALITY ASSESSMENT WAS CONDUCTED AT ME. THE DOUBLE MATERIALITY ASSESSMENT IS A CORE COMPONENT OF THE ESRS, WHICH PROVIDES A COMPREHENSIVE FRAMEWORK FOR ORGANIZATIONS TO EVALUATE AND REPORT ON THEIR SUSTAINABILITY IMPACTS.

This approach considers two dimensions of materiality: financial materiality, which focuses on how sustainability matters affect the company's financial performance; and impact materiality, which examines the company activities' impact on the environment, society, and stakeholders. By adopting this dual perspective, companies can better understand the risks and opportunities they face, ensuring they contribute positively to both people and the planet.

The double materiality assessment encourages transparency and accountability, helping businesses align with regulatory requirements and build long-term value in a sustainable manner.



GENERAL INFORMATION

PROCESS

INSPIRED BY THE PROPOSED PROCESS OF THE IMPLEMENTATION GUIDANCE FOR THE MATERIALITY ASSESSMENT FROM THE EUROPEAN FINANCIAL REPORTING ADVISORY GROUP (EFRAG), THE FOLLOWING STEPS WERE CARRIED OUT:

The first step includes a comprehensive **research on contextual information** of the organization and its surroundings. Besides a competitive analysis and a status quo analysis to understand the business environment ME operates in and what has happened so far in terms of sustainability, a stakeholder analysis was also performed. This is a crucial step since the inclusion of affected stakeholders' perspectives is a cornerstone of the DMA. Aside from the identification of stakeholders, the topics, sub-topics and sub-sub-topics from AR16 in ESRS1 Appendix A have been consolidated resulting in 14 sustainability matters.

These are the main input for step two - the **identification of impacts, risks and opportunities (IRO).** It has been decided to proceed with internal stakeholders as proxies for external stakeholders due to practicability reasons. In this group of nine people, potential and actual negative and positive impacts that ME has on the outside have been analyzed. For the financial materiality perspective, potential and actual risks and opportunities were gathered during the work as well.

GENERAL INFORMATION

PROCESS

In the third step of the DMA process, the defined **IROs were quantified.**

Impact materiality is based on:

- the scale: how grave the impact is,
- the scope: how widespread the impact is,
- the irremediability: can the impact be reversed (in case of negative impacts),
- the likelihood of occurrence (in case of potential impacts).

Financial materiality is based on a combination of:

- the risk's or opportunity's likelihood of occurrence, and
- the potential magnitude of its financial effects.

Additionally, the determination of the materiality thresholds is decisive for the final outcome and needs to be set in a most objective manner - can be both on a quantitative or qualitative basis.

The final step of our DMA process is the **conclusion of the material topics.** That contains the discussion and validation of the evaluation results within the project group and potentially reasonable modifications.

3 **EVALUATION OF IROs**

4 **CONCLUSION OF MATERIAL TOPICS**

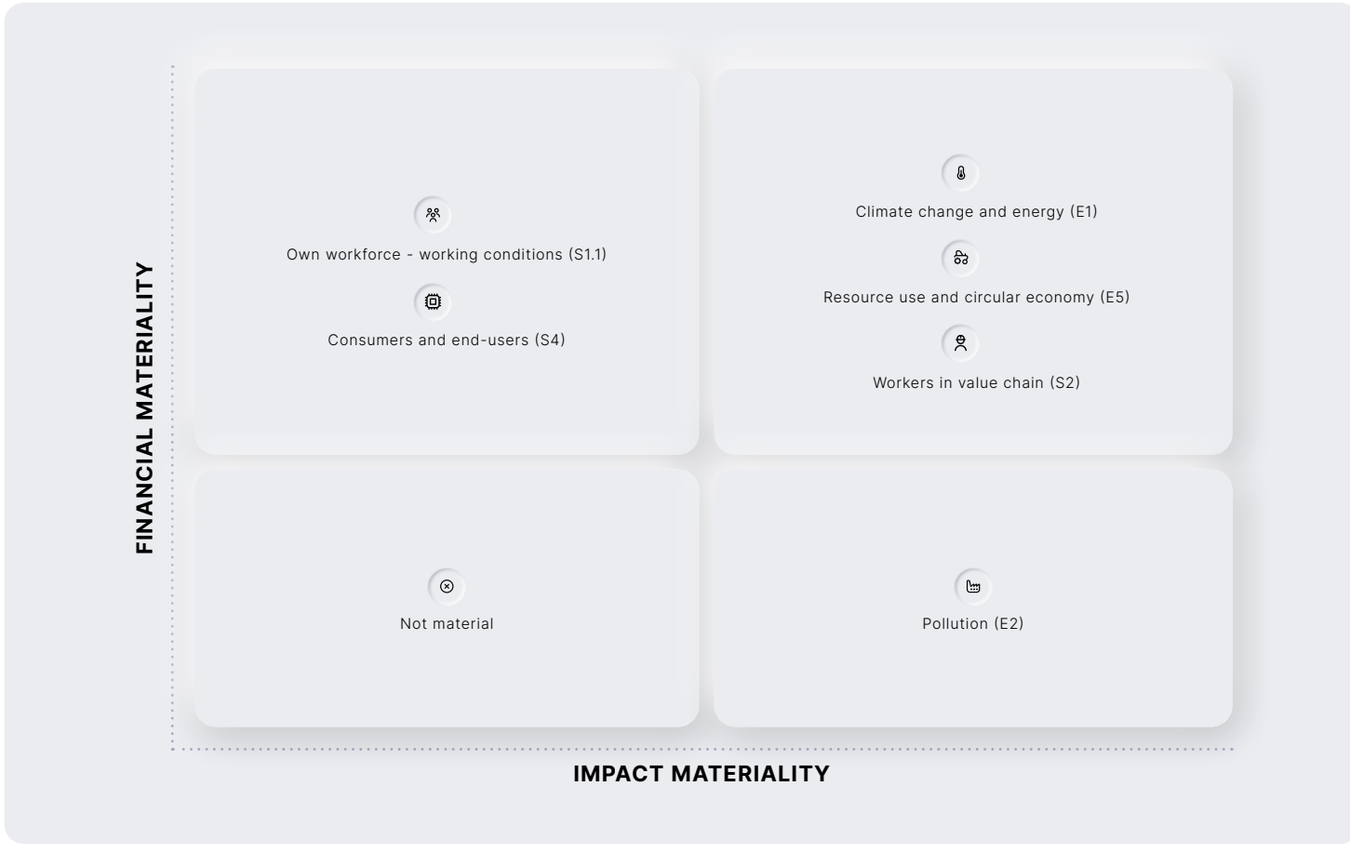
GENERAL INFORMATION

RESULTS

In total, we received **six material topics** whose adequate management is prioritized in our future business making:

- Material from both perspectives:
  - Climate change and energy (E1)
  - Resource use and circular economy (E5)
  - Workers in value chain (S2)
- Material from impact perspective:
  - Pollution (E2)
- Material from financial perspective:
  - Own workforce - working conditions (S1.1)
  - Consumers and end-users (S4)

For a better understanding of the big picture, the concrete (negative) **impacts and risks** associated with the material sustainability matters are **matched with its respective location across ME's full value chain** (page 16).



GENERAL INFORMATION

VALUE CHAIN

UPSTREAM

RAW MATERIAL EXTRACTION
EXTRACTION SITE (TIER X)

PRODUCTION OF (SUB)-COMPONENTS
COMPONENT MANUFACTURER

ME-PRODUCT MANUFACTURING
EMS (TIER 1)

OWN OPERATIONS

PRODUCT DEVELOPMENT
MUNICH ELECTRIFICATION

DOWNSTREAM

RECYCLING AND DISPOSAL
END-OF-LIFE

USE PHASE
END USER

PRODUCT ASSEMBLY
CUSTOMER

RISKS

1. Supply chain disruptions due to physical climate risks (E1)
2. Risks associated with meeting customer requirements regarding circular economy (E5)
3. Employee fluctuation (S1)
4. Financial and reputational risk concerning possible child/forced labor (S2)
5. Safety and security risks in case of quality issues (S4)

NEGATIVE IMPACTS:

1. GHG emissions along our value chain incl. our own operations (E1)
2. Air, soil and water pollution at the mining sites (E2)
3. Use and depletion of virgin materials (E5)
4. Potential child/forced labor (S2)

GENERAL INFORMATION

SUSTAINABILITY STRATEGY 2025

The outcomes of the DMA determine what data points must be disclosed when reporting according to the CSRD. However, since this directive will not be applicable to ME for the following years, the focus is not laid upon reporting when it comes to the DMA results at the moment.

In order to structure the measures to adequately address the material IROs, **a sustainability strategy for the year 2025 has been derived from the six material matters.** In a participative approach based on management talks and workshops, a company-wide sustainability strategy consisting of four fields of action was developed. For each field of action, several goals and subsequent measures were elaborated. The top goals are included in the following table (page 18).

GENERAL INFORMATION

SUSTAINABILITY STRATEGY 2025

FIELD OF ACTION	DESCRIPTION	MAIN GOALS FOR 2025
Climate Protection	This includes both climate change mitigation and adaptation efforts. We lay our main focus on the decarbonization of our business activities. Acknowledged units of measurement for it are corporate and product carbon footprints (CCF and PCF) including aspects like energy consumption and energy sources, transportation or business travels.	**Establish decarbonization strategy**
Responsible supply chain	Suppliers (Tier 1 and beyond), constituting a crucial stakeholder for Munich Electrification, are the object of this field of action. In detail, it contains understanding their sustainability status quo and strategy, agreeing on a common Code of Conduct and establishing / maintaining a good partnership to improve ESG performance on both sides. Also, the human rights and environmental due diligence consisting of risk analysis and preventive / remedial actions if necessary are included here.	**Integration of sustainability into sourcing** **Integration of sustainability into supply chain management**
Sustainable product development	During product development, there are plenty of possibilities to improve the products' sustainability performance that is intended with this field of action. This includes not only more sustainable materials, recycling or longevity opportunities from both hardware and software side but also consumer-facing topics like high quality and safe products.	**Improve material selection** **Integrate sustainability criteria into component selection**
Employee attraction and retention	Regarding ME's own workforce, material topics like securing a manageable workload and consequently a good work-life balance and mental health are covered here with the ultimate goal of a high employee satisfaction. This supports keeping the employee fluctuation low. Also, actions to foster our ME culture are part of this field of action.	**Improve leadership culture**

GENERAL INFORMATION

SUSTAINABILITY STRATEGY 2025

The projects listed in the right column and several more will be **implemented by different teams** of Munich Electrification like for example the Purchasing, Hardware Engineering, Industrialization or the People department with support from the Sustainability team. In addition to that, there are also some general topics on the agenda of the sustainability team itself like optimizing the internal data collection processes and data quality for the next reporting cycles, project management of the sustainability strategy or corporate events for increasing the awareness amongst employees.

The **overall accountability** for the implementation of measures and consequently the achievement of goals lies with the **C-level management.** After all, various employees contribute to the fulfillment of the tasks as sustainability is considered to be an interdisciplinary collaborative topic at Munich Electrification.

On a **quarterly** basis, the status quo of the projects and the progress towards achieving the goals and measures are being **reviewed** with the respective managers.

PLANET

PLANET

CARBON ACCOUNTING

ENVIRONMENTAL RISKS CONTINUE TO LEAD THE RANKING OF THE WORLD ECONOMIC FORUM'S GLOBAL RISKS[1] SURVEY OF 2025 OVER THE LONG TERM OF 10 YEARS. EXTREME WEATHER EVENTS, BIODIVERSITY LOSS, CRITICAL CHANGE OF EARTH SYSTEMS AND NATURAL RESOURCE SHORTAGES ARE THE TOP 4 RISKS BY SEVERITY. IN GENERAL, ENVIRONMENTAL CHALLENGES ARE EXPECTED TO DETERIORATE MOST SIGNIFICANTLY FROM THE SHORT TERM OF TWO YEARS TO THE LONG TERM TIME HORIZON.

It is ME's responsibility to positively contribute to those pressing global issues. That is why we are strengthening our commitment to climate action through concrete measures. Recognizing that we cannot manage what we cannot measure, carbon accounting is a crucial initial step.

Carbon accounting is one of the major annual tasks in the sustainability team. 2024 is the second year that we calculate our Corporate Carbon Footprint (CCF) with the help of Normative's software[2]. Same as for 2023, we conducted a comprehensive measurement of all direct and indirect emissions, i.e. Scope 1 to 3, according to the GHG Protocol as the dominating standard on carbon accounting. All seven greenhouse gases are considered and translated into CO_2 equivalents or in short CO_2e. The emission factors have been chosen as accurately as possible based on the available data for 2024. The steady goal is to enhance the quality of input data by transitioning from spend-based to activity data, or ideally supplier-specific data, and thereby improving the accuracy of emission factors in future reporting periods. The following values include both emissions from ME and its subsidiaries. Also, if not mentioned otherwise, market-based values are presented in this report.

1 World Economic Forum, Global Risks Perception Survey 2024-2025

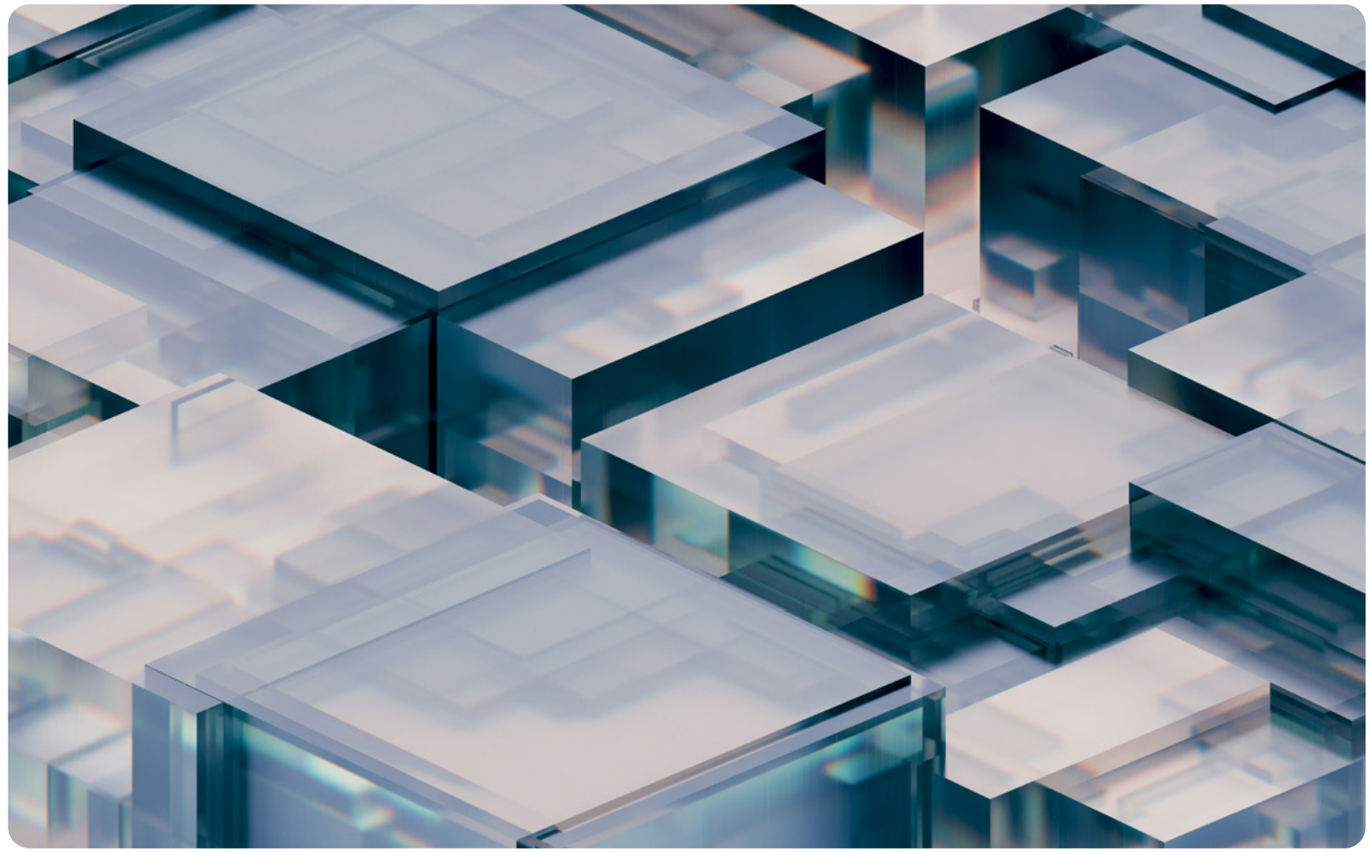
2 Normative is an enterprise carbon platform providing a foundation of reliable emissions data for companies to plan, implement, and verify the impact of sustainability initiatives. With a carbon accounting engine built on science, a carbon network of supplier data sources, and a team of climate experts, Normative empowers companies to take control of their emissions.

PLANET

DATA ADJUSTMENT FOR 2023

It came to light that the **Scope 2 emissions** stemming from electricity consumption for the base year of 2023 needed some adjustment.

One electricity meter needed to be added to ME's system boundaries of carbon accounting. **The values were corrected** to higher values of 14.2 tons CO_2e (marked-based) or 55.06 tons CO_2e (location-based) resulting in a total Scope 2 of 38 or respectively 79 tons CO_2e. The updated value is used from now on.



PLANET

WATER

The water withdrawal at Munich Electrification in 2024 has been estimated by extrapolating the 2023 data based on the average headcount. This results in an **approximate withdrawal of 768 m³,** covering usage in sanitary facilities, the kitchen for meal preparation, and drinking water - so both water consumption and water discharge.

PLANET

ENERGY AND GREENHOUSE GAS EMISSIONS

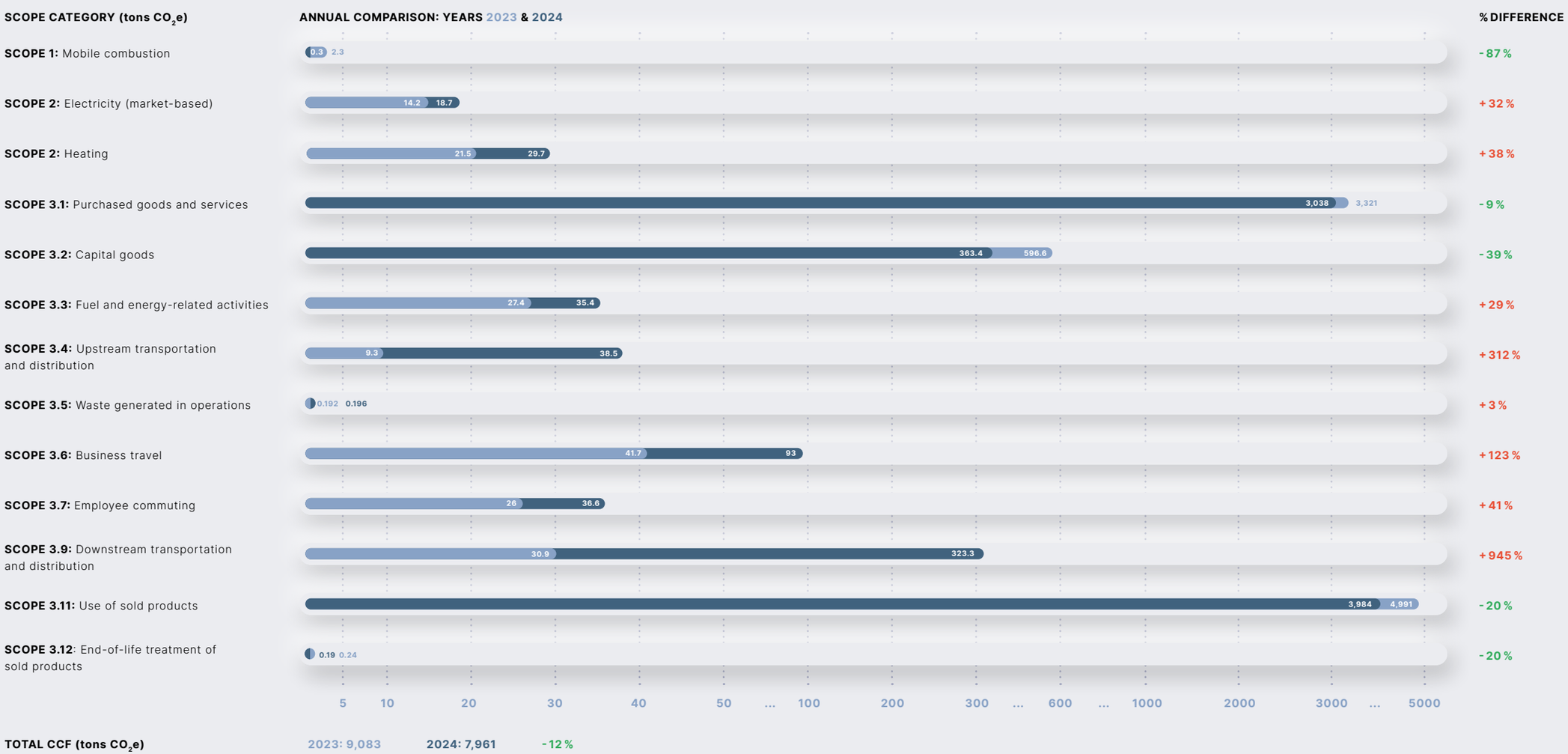
THE OVERALL CORPORATE CARBON FOOTPRINT FOR 2024 AMOUNTED TO 7,961 TONS CO_2E. THIS IS A DECREASE OF AROUND 12 % COMPARED TO 9,083 TONS CO_2E IN THE PREVIOUS REPORTING PERIOD.

Again, the vast majority of emissions (99.4 %) stemmed from indirect emissions from our value chain - Scope 3 emissions. Consequently, Scopes 1 and 2 that represent direct emissions from mobile combustion respectively emissions from purchased energy accounted for only 0.6 %. Similar to the previous reporting year, the emissions from the use of sold products accounted for approximately half of all Scope 3 emissions followed by purchased goods and services and capital goods with 43 % of Scope 3. The remaining percent are split between the other Scope 3 categories. The **table on page 25** gives you an overview of emissions and a year-to-year comparison across all three Scopes.

As for 2023, we again calculated two different emission intensities - per employee and per one million of revenue in Euros. This helps to understand the changes in emissions in relation to changes in company growth. The overall **employee intensity shrank by 47 %** to 41 tons CO_2e per employee (FTE) and the **revenue intensity value also declined by 40 %** to 173 tons CO_2e per 1m revenue compared to 2023. Achieving substantial growth in both revenues and team size while maintaining a clear decoupling from GHG emissions represents a significant success for ME.

PLANET

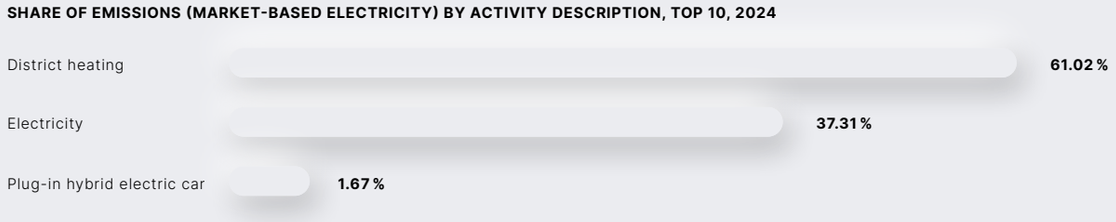
ENERGY AND GREENHOUSE GAS EMISSIONS



PLANET

SCOPE 1 AND 2

TOTAL SCOPE 1 AND 2 EMISSIONS RESULTS IN 48.7 TONS CO_2E. THIS MEANS AN INCREASE OF 28 % COMPARED TO 2023. THE EMISSIONS ARE SPLIT INTO THE THREE SUB-CATEGORIES AS FOLLOWS:



Despite the absolute increase, the employee **emission intensity shrunk** for the total of Scope 1 and 2. This means that irrespective of our significant team growth, the energy consumption per person was reduced.

The main contributor for Scope 1 emissions from mobile combustion is a PHEV company car. ME's car pool consumed in total 1.2 MWh mounting to **0.3 tons CO_2e** in 2024. This represents a **reduction of 87 % in Scope 1 emissions** compared to 2023. The PHEV was sold in November 2024 and replaced by a fully-electric vehicle.

Scope 2 contains both emissions from purchased electricity and heating. The GHG Protocol suggests two assessment methods for the electricity emissions. The market-based approach reflects company-specific contracts, such as green tariffs. In contrast, the location-based approach uses the average emissions intensity of the local electricity grid. Munich Electrification does not have any self-generated electricity.

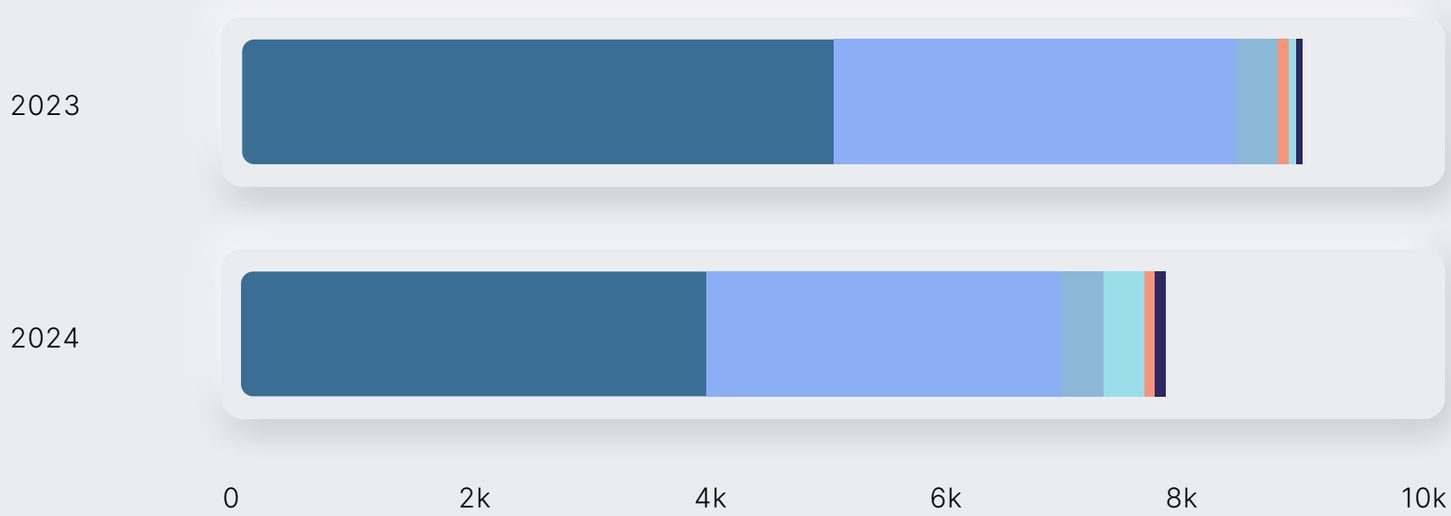
The **market-based electricity emissions rose by close to 32 % to 18.7 t CO_2e** based on a consumption of 220 MWh whereas the location-based emissions result in 72.1 tons CO_2e in 2024. This rise can be attributed to the additional electricity meter in scope which ran with a conventional tariff. This is also the reason for the **decrease in renewable electricity ratio from 82.6 % to 70.3 %.** The tariff has been changed to a 100 % renewable one.

Our office areas are provided with district heating. When comparing the values of 2024 to the previous reporting year, the **emissions from heating energy rose by 38 % to 29.7 tons CO_2e.**

PLANET

SCOPE 3

The **overall Scope 3 emissions decreased in 2024 by nearly 13 %** in comparison to the previous period.
This amounts to in total 7,913 tons CO_2e for all indirect upstream and downstream value chain emissions.
A more detailed breakdown is given in the following graphic and pages:

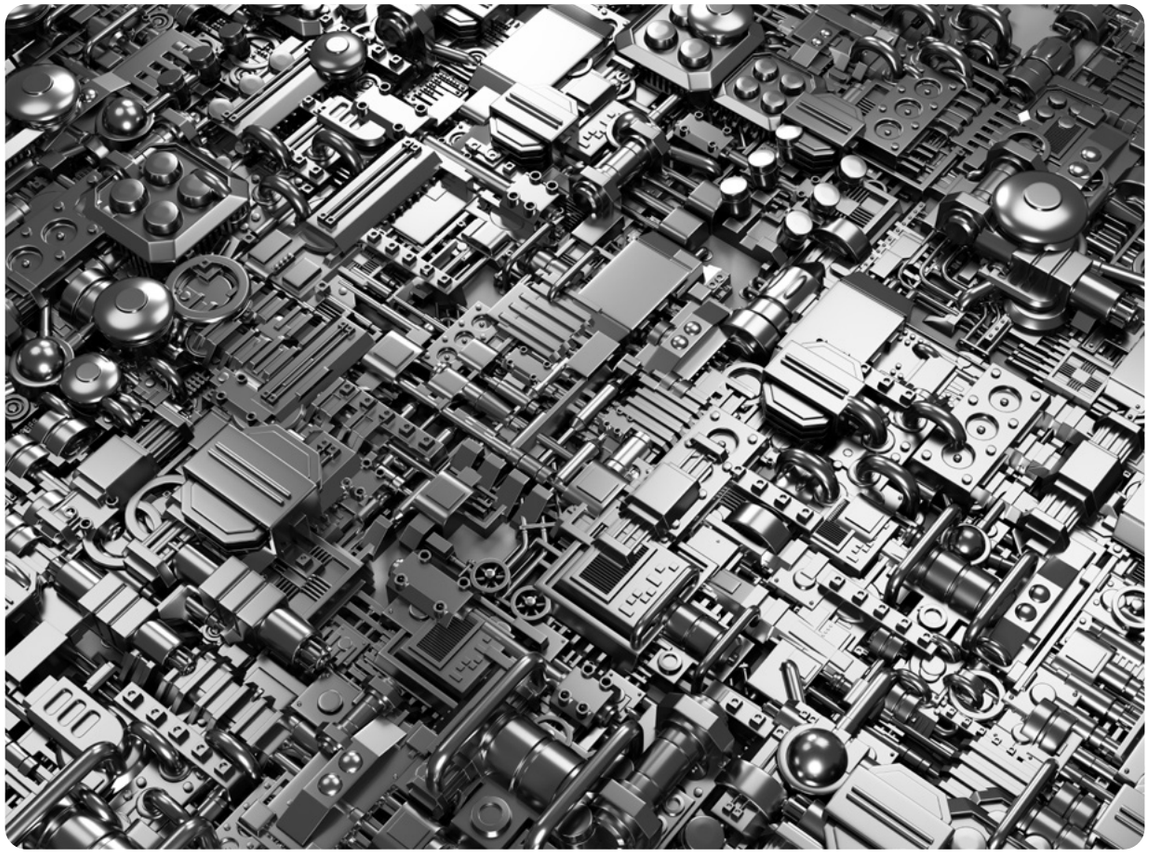


PLANET

PURCHASED GOODS AND SERVICES AND CAPITAL GOODS

The category 3.1 purchased goods and services, in our case, includes also all our products as they are being manufactured by a contract manufacturer falling in our upstream value chain. These emissions **declined by 8.5 %** from 3,321 tons CO_2e to **3,038 tons CO_2e**. This is partly due to a change in the product mix compared to the prior year.

Another reduction was recorded in the capital goods category where emissions came **down by 39 %** from 597 tons CO_2e to **363 tons CO_2e** for 2024.



PLANET

FUEL- AND ENERGY-RELATED ACTIVITIES

This emission category encompasses indirect emissions from the production of purchased fuels and energy consumed by the reporting company during the reporting year, which are not accounted for under Scope 1 or Scope 2. It covers the Well to Tank (WTT) part of transportation emissions and transmission and distribution losses of energy. In 2024, this amounted to **35.4 tons CO_2e** which is **around 29 %** more than in the previous year. This is directly correlated to the increase in Scope 2 emissions.

PLANET

UPSTREAM AND DOWNSTREAM TRANSPORTATION AND DISTRIBUTION

Two increasing emission categories are the upstream and downstream transportation and distribution. Such upstream emissions include all of Munich Electrification's logistic activities whereas downstream transportation emissions are those covered by our customers. These emissions **rose by 312 % to 38.5 tons CO_2e and respectively by 945 % to 323.3 tons CO_2e** in 2024.

The transported weight which is a decisive factor for transportation emissions was 6 tons higher than in 2023. The upstream transportation was for the first time based on activity data (weight and distances transported) meaning the data quality increased and had an impact on the results. The significant increase of downstream transportation emissions can be traced back to the high air freight ratio of 72 % of all products shipped compared to 6 % in the previous year. The airplane emissions account for over 99 % of these Scope 3.9 emissions.

PLANET

WASTE GENERATED IN OPERATIONS

The waste generated at Munich Electrification consists solely of typical daily waste from the canteen, office spaces, and sanitation facilities. As the waste management company does not provide data on the volumes or masses of waste from our headquarters, we conducted a two-week bin survey to extrapolate the information for the full reporting year.

At our office building, the available waste separation is limited to paper/cardboard and general waste. Additionally, the facility management team brings the glass and metal waste to public recycling points. For the first time, we incorporate the emissions stemming from the wastewater treatment in this Scope 3 category, too. Based on our extrapolation for 2024, total waste amounted to 776.5 tons and **0.197 tons CO_2e** being **3 % higher than in the prior year.** In the table on the right, the split into different waste types is shown.

WASTE TYPE	WASTE TREATMENT	WEIGHT (TONS)	EMISSIONS (tCO_2e)
Paper / Cardboard	Closed-loop recycling	1.6	0.01
General waste	Incineration	6.3	0.041
Metal	Closed-loop recycling	0.4	0.003
Glass	Closed-loop recycling	0.2	<0.001
Wastewater	Sewage treatment	768	0.143
Total		**776.5**	**0.197**

PLANET

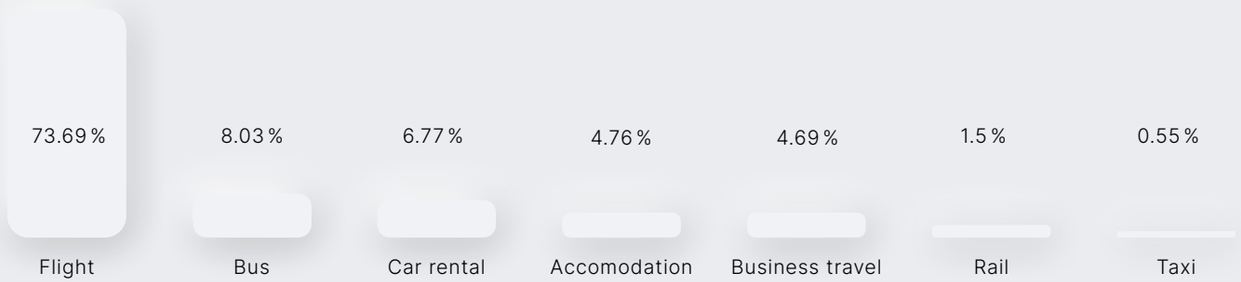
BUSINESS TRAVELS AND EMPLOYEE COMMUTING

Scope 3.6 **business travels** emissions **increased by 123 % to 93 tons CO_2e** in 2024. In total, 31,170 km were travelled. The breakdown in different modes of transport are displayed in the graphic on the right.

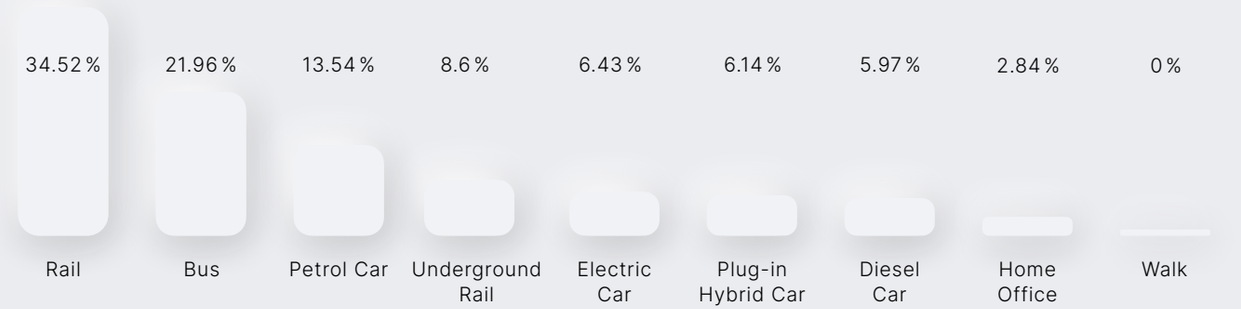
As our company grew both in terms of headcount and revenue, business travel activities also increased. Also, another European contract manufacturer was onboarded which does not lie in train distance. The fact that, in contrast to 2023, we were only able to provide spend-based data for the 2024 business travel calculations, means a lower data accuracy.

Absolute emissions in **Scope 3.7 also rose by almost 41 %.** This category comprises emissions from commuting to and from work and also from working from home or from anywhere (WFA). Despite the absolute increase, the emission intensity per employee was lower than in 2023. Thus, more employees at ME are opting for environmentally conscious commuting methods. See the share of emissions by commuting type also on the right.

SHARE OF EMISSIONS BY TRAVEL MODE, 2024



SHARE OF EMISSIONS BY COMMUTING TYPE, 2024

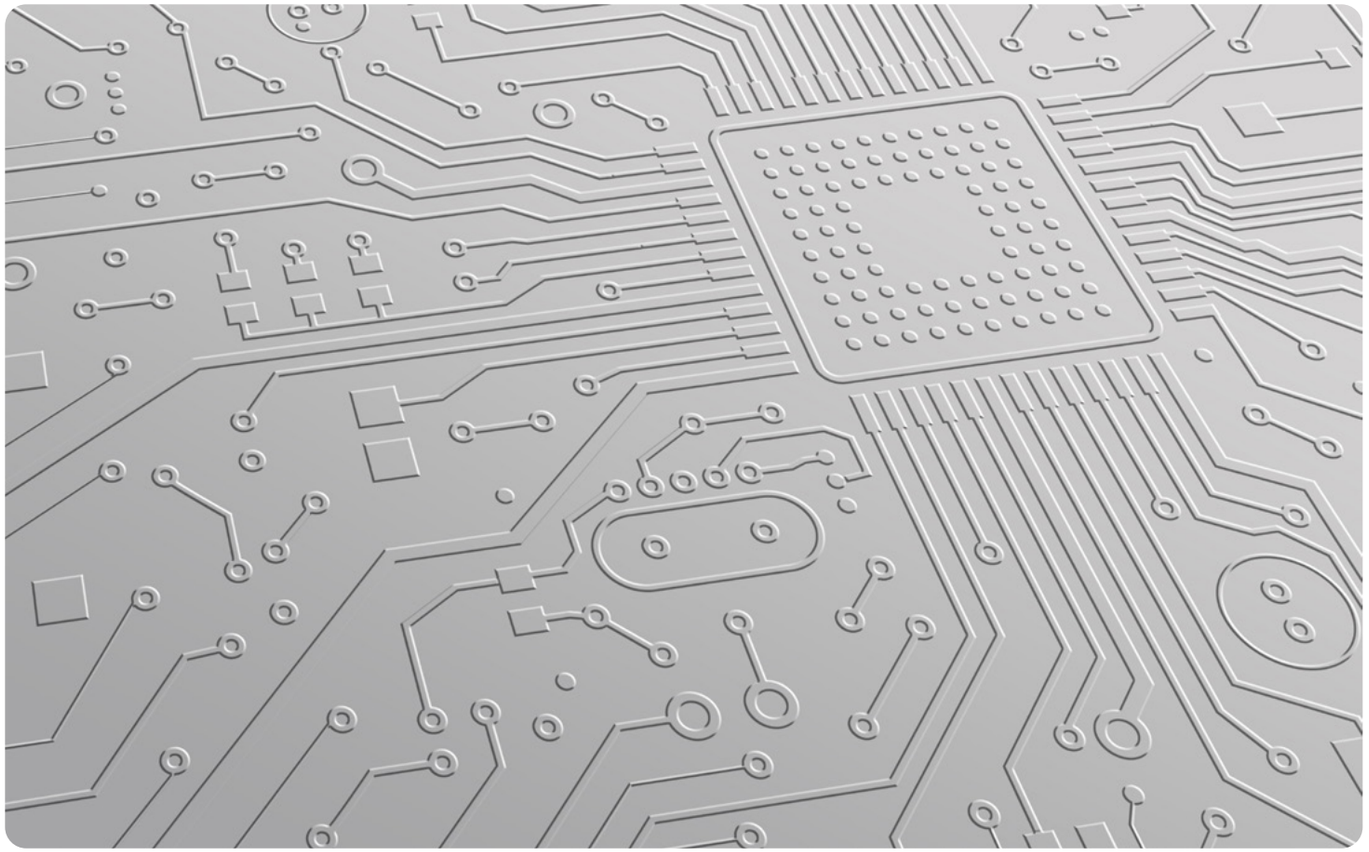


PLANET

USE OF SOLD PRODUCTS AND END-OF-LIFE TREATMENT OF SOLD PRODUCTS

The extensive lifespans of our products mainly define the height of the emissions of this Scope 3 category. Compared to 2023, it **declined by around 20 % to 3,984 tons CO_2e** in 2024. The main driver in this Scope 3.11 is series customers from the USA. In the reporting year, more sample products in contrast to series products were sold, the former having lower expected operating hours and therefore lower energy consumption over its total lifetime.

The change in our product mix also impacts Scope 3.12 end-of-life treatment of sold products. Emissions here also **decreased by about 20 % to 0.2 tons CO_2e** for the year 2024.

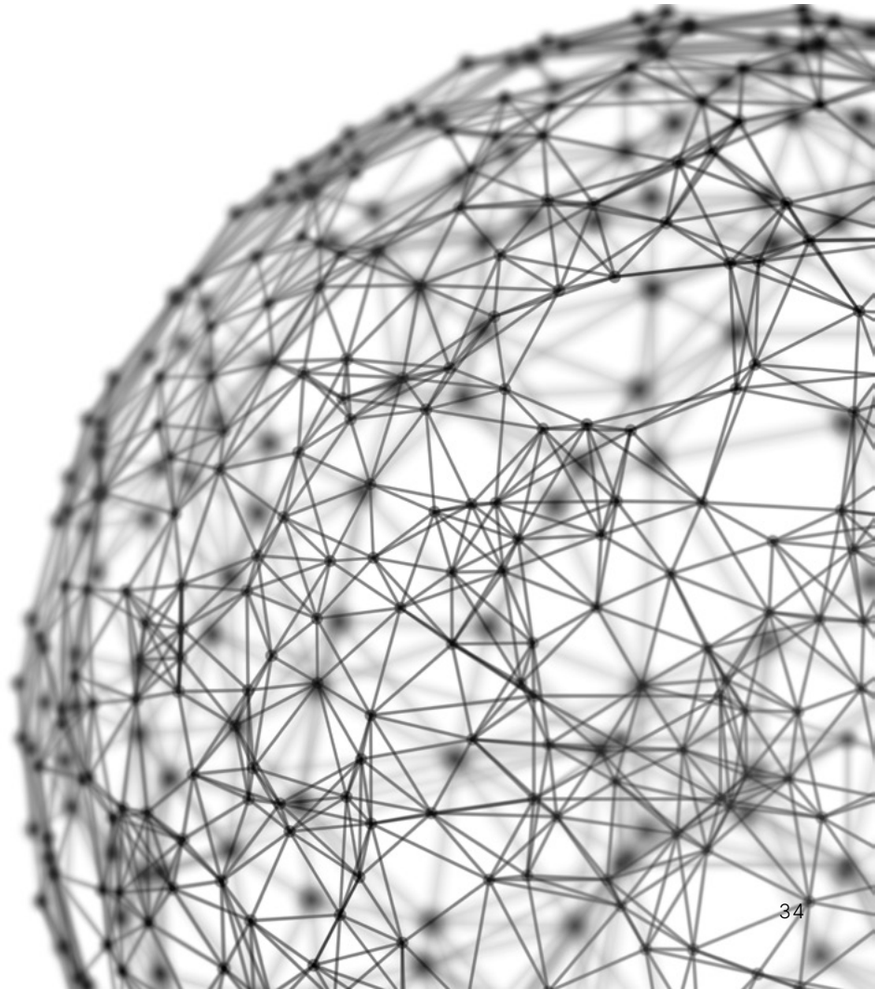


PLANET

EMISSION INTENSITIES AND REDUCTION GOALS

To better understand the increases and decreases in emissions across different categories and their correlation with company growth, we analyzed emission intensities. These figures indicate a **reduction in emissions per employee for the great majority of categories,** with the exception of the two transportation categories and business travel. While Munich Electrification is moving forward on the right path, opportunities for further enhancement undoubtedly exist.

Collecting carbon data and being able to measure the corporate carbon footprint is one thing. Taking climate action is another. We are determined to act on the status quo by setting carbon reduction targets.The 2025 sustainability strategy includes **submitting goals to the Science-based Target initiative** (SBTi). To then achieve these targets, a decarbonization strategy is planned. Additionally, as mentioned earlier, we plan to further improve the data quality across all Scopes to achieve a greater accuracy of results.



PLANET

CARBON HIERARCHY AND CREDITS

AVOID - REDUCE - OFFSET.

This is the carbon management hierarchy we strictly follow. Purchasing carbon credits to support mitigation projects, therefore, is the last resort when emissions have been avoided and reduced through the implementation of reduction measures. To reach net zero emissions in the long-term, the neutralization of unabatable emissions is necessary. Until then, the SBTi recommends Beyond Value Chain Mitigation (BVCM) in addition to corporate climate targets.

At Munich Electrification, we decided to support mitigation projects by acquiring **voluntary carbon credits** from outside our value chain. As last year, we bought credits amounting to emissions from Scope 1 and 2, plus Scope 3.5 (waste), 3.6 (business travel) and 3.7 (commuting) which are (rounded) **180 tons CO_2e** for 2024 via the platform of First Climate. These categories are chosen since we already have avoidance and reduction measures established and implemented for these emissions. The credits are not accounted for in regards to ME's corporate decarbonization journey.

This year we decided to choose projects with relation to our business model - enabling energy transition. Therefore, we distribute half of the credits on a **wind energy project** in Turkey and the other half on a **solar energy project** in India. Both climate protection projects are Gold Standard certified and have several co-benefits in terms of the Sustainable Development Goals (SDGs). The projects contribute among others to the SDG of "Affordable and clean energy", "Decent work and economic growth" or also "Climate action".

PLANET

LIFE CYCLE ASSESSMENTS

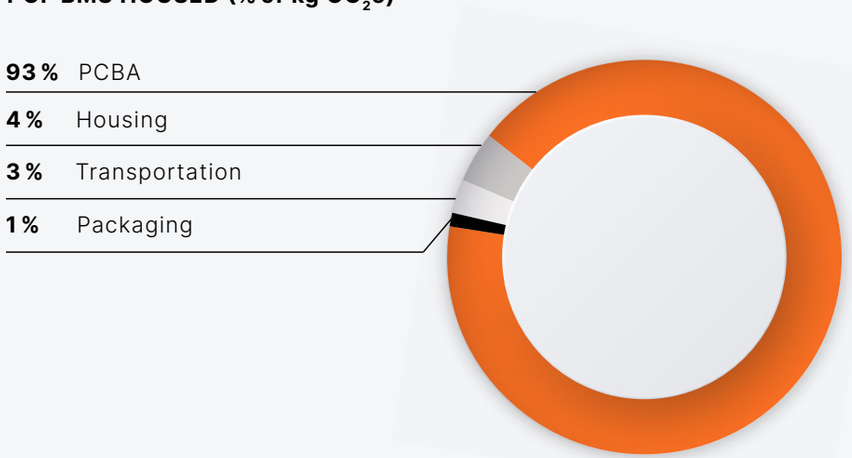
Life cycle assessments (LCA) are a valuable instrument to obtain details about the product's negative impacts on the environment. At Munich Electrification, we currently focus on the impact category of **Global Warming Potential (GWP)** using the Environmental Footprint 3.1 impact assessment method in the calculation software from Sphera[3]. This is the product carbon footprint (PCF) then, for which we use **cradle-to-gate** system boundaries. We also share the results with our customers since we regularly receive requests to provide respective preliminary PCFs with them for their carbon footprinting. It is to mention that these calculations are based on assumptions and secondary data and are not reviewed by third parties.

During 2024, we further improved and simplified our LCA model with support from our external expert from Sphera. Also, a comparative life cycle analysis for two different PCB finishings has been conducted to understand its disparities in terms of various impact categories like acidification and human or eco toxicity. This was completed by considerations regarding social sustainability.

The sum of the PCFs of all products delivered throughout the year is incorporated into the CCF in the Scope 3.1 category of purchased goods and services as the manufacturing happens at our supplier, not within ME's own company borders.

To give some insights into ME's product carbon footprints and consequently its hotspots, the exemplary PCF for a series BMS of one customer project is visualized in the following graphics, one on product level and one deep dive into the PCBA.

PCF BMS HOUSED (% of kg CO_2e)

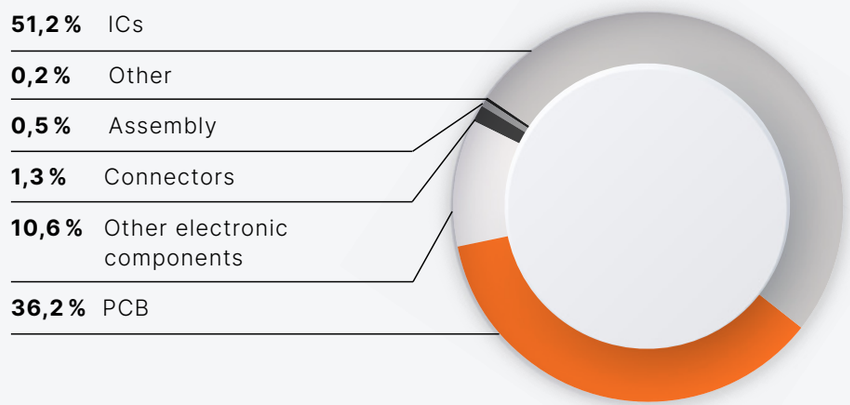


3 LCA for Experts Software System (LCA FE) for Life Cycle Engineering version 10.9.0.31, Sphera Solutions GmbH, 2024.2

PLANET

LIFE CYCLE ASSESSMENTS

The PCBA, particularly the **PCB and integrated circuits (ICs), significantly determines the product's overall carbon footprint.** This understanding allows for the efficient allocation of financial and human resources, maximizing the impact of sustainability initiatives in product development. Such initiatives to reduce the products' environmental impacts are part of the sustainability strategy for 2025 within the field of action of "Sustainable product development".



PEOPLE AT MUNICH ELECTRIFICATION

PEOPLE AT MUNICH ELECTRIFICATION

OWN WORKFORCE

Munich Electrification’s success is driven by its talented workforce, which is integral to a holistic approach to sustainability. Ethical practices, sustainability, and economic success are strongly fostered by staff members.

PEOPLE AT MUNICH ELECTRIFICATION

TEAM GROWTH AND GENDER DISTRIBUTION

In 2023, a plus of approximately 50 permanent team members was forecasted. The actual growth in headcounts was even greater. In total **76 permanent employees, 18 students and 20 persons in supporting office functions** (i.e. cleaning and kitchen staff) were actually hired throughout 2024. This means the **workforce grew by around 43 %** when looking at each end of year headcount number compared to +50 % in the previous year. Thus, ME continues to grow the team significantly in order to provide sufficient resources especially for the customer projects. A break down of employee headcount by contract type split by gender is shown in the table on the right.

Besides the significant number of new hires, there were also 11 permanent employees leaving the company resulting in an **employee fluctuation of roughly 5 %.** This value excludes students and employees working in supporting functions, but includes employees who switched to our joint venture.

The **gender distribution** among the entire workforce is almost **unchanged** with 66.1 % identifying as male, 33.5 % as female and 0.4 %, i.e. one person, did not report their gender.

ME continues to have no employees who have disclosed any disabilities, and the company is not aware of any employee disabilities at this time.

HEADCOUNT	MALE	FEMALE	OTHER	NOT REPORTED	TOTAL
Employees	156	79	0	1	**236**
Permanent Employees	137	70	0	1	**208**
Temporary* Employees	19	9	0	0	**28**
Full-time Employees	136	46	0	1	**183**
Part-time Employees	20	33	0	0	**53**

*temporary: incl. interns and working students

PEOPLE AT MUNICH ELECTRIFICATION

DIVERSITY IN THE TEAM AND MANAGEMENT

The age distribution in the ME team remained fairly constant over the past year. The **majority of the team (71 %) is under 35 years old,** while 27 % are between 35 and 55. Approximately 2 % of the team is over 55 years old.

Munich Electrification employs a diverse workforce comprising individuals from **49 distinct nationalities.** This rich multicultural composition fosters a vibrant and inclusive work environment, bringing together a wide array of perspectives, experiences, and skills.

The top management of Munich Electrification is defined for this report as the C-level executives as well as Head of functions. **12 out of 13 top managers are male** resulting in a relative gender distribution of 92 % male and 8 % female. This ratio could not be balanced further in 2024.

PEOPLE AT MUNICH ELECTRIFICATION

TRAININGS AND SKILLS DEVELOPMENT

Besides the standard training as part of the onboarding of a new employee or also regularly mandatory online training, every employee can participate in up to two non-technical training courses per year. The employee can choose from an enhanced training catalogue with various topics like teamwork and collaboration, conflict management or productivity & time management . These and further training opportunities, e.g. department specific ones, reflect a commitment to continuous employee growth and a proactive approach to fostering employee well-being and a positive and productive work environment.
In 2024, the **average training duration per employee was 19.6 hours.**

In the yearly performance reviews of 2024, again, **84 % of eligible employees participated in self-reviews** whereas **94 % of employees received feedback from their manager.** In general, every employee, except those that were in the company less than three months at the time of the review and students, is eligible.

As announced in last year's report, a **new career development framework** has been introduced in the beginning of 2024. It shall ensure consistency, fairness and transparency among the workforce. The framework is based on four pillars of development: knowledge, ownership, impact and communication and leadership. The organization sticks with three hierarchical management levels. In 2024, several employees from various departments got a promotion to the next career step within ME.

PEOPLE AT MUNICH ELECTRIFICATION

HEALTH AND SAFETY AND SOCIAL PROTECTION

Munich Electrification has, as mentioned earlier, a **certified occupational health and safety management system** according to ISO 45001. All employees working in our Munich headquarters are covered by it.

During the year 2024, 12 recordable work-related accidents occurred whereof nine were commuting accidents. Commuting accidents led to a total of 21 days lost. There were **no lost working days due to accidents within the office.** The overall amount of accidents quadrupled compared to the previous year partially due to a further growth of the workforce. Responsibles will definitely work on increasing the safety of all employees further.

All employees of Munich Electrification are covered by social protection against loss of income, due to sickness, unemployment, employment injury and acquired disability, parental leave and retirement. The vast majority of the workforce is employed in Germany and consequently are protected according to German law. In total seven employees are protected by Austrian, Hungarian or Italian law.

PEOPLE AT MUNICH ELECTRIFICATION

WORK-LIFE BALANCE AND CORPORATE BENEFITS

One interesting ESRS metric concerning work-life balance is family-related leave. At ME, as prescribed by law, all employees are entitled to family-related leave. During 2024, **six male employees utilized a total of 17 months of parental leave** while **28.5 months were taken by four female employees.** This is a plus of two employees compared to the previous year.

Munich Electrification also offers a **great number of different corporate benefits** to its employees. These help to both increase employer attractiveness and to strengthen employee satisfaction. The benefits in 2024 include the following:

FREE OF CHARGE DAILY LUNCH, VARIOUS DRINKS AND SNACKS IN THE OFFICE

FITNESS MEMBERSHIP

EMPLOYER-FUNDED PENSION

REGULAR TEAM EVENTS

WORK FROM ANYWHERE

CLOTHING & EQUIPMENT

PUBLIC TRANSPORT TICKET

BIKE LEASING

ELECTRIC VEHICLE POOL

REFERRAL COMPENSATION

MENTAL HEALTH SUPPORT

EARLY SUMMER FRIDAYS

HUMAN RIGHTS POLICIES AND PROCESSES

EVERY EMPLOYEE COMMITS TO MUNICH ELECTRIFICATION'S CODE OF CONDUCT (COC) BY SIGNING THE DOCUMENT AT THE BEGINNING OF THE WORK RELATIONSHIP. THIS COC COVERS AMONG OTHERS ALSO THE TOPICS ON THE RIGHT.

The established **grievance mechanism** shall be used by both employees of ME and people in the value chain. See more information about our complaints-handling mechanism ensuing on page 47. In 2024, no negative human rights incidents were reported.

PEOPLE AT MUNICH ELECTRIFICATION

WORKERS IN VALUE CHAIN

As part of the materiality analysis carried out in 2024, we have identified the topic "Workers in the Value Chain" as a material sustainability matter for Munich Electrification. Ensuring fair and ethical working conditions along our supply chain is an essential part of our commitment to responsible business practices.

The electronics industry relies on highly complex and globally distributed supply chains. Many components and raw materials used in our products originate from multiple tiers of suppliers, often making full transparency difficult to achieve. A significant concern is the sourcing of minerals, some of which have been linked to human rights violations, such as child labor, forced labor, and unsafe working conditions. **Given these risks, we recognize the need for increased due diligence and responsibility in our procurement and supply chain management.**

Although we are a small and medium-sized enterprise (SME), we have voluntarily taken significant first steps to fulfill our due diligence obligations and enhance our supply chain transparency. Our approach includes the following key actions:

Strategic Alignment & Policy Development

We have integrated sustainability considerations into our procurement processes to ensure responsible sourcing.

We developed and published a Policy Statement on Human Rights and Environmental Due Diligence, outlining our commitment to ethical labor practices and human rights.

We developed a supply chain mapping of our first tier suppliers to better understand our value chain.

PEOPLE AT MUNICH ELECTRIFICATION

WORKERS IN VALUE CHAIN

Execution of a Risk Assessment

We conducted a risk analysis considering all upstream supply chain stages from raw material extraction to our own business activities.

We prioritized specific risks in relation to country of origin and product type for further monitoring and engagement.

Establishment of a Grievance Mechanism

To ensure that workers, both within our company and across our supply chain, have a channel to report concerns, we have implemented a grievance mechanism.

This mechanism allows individuals to anonymously report issues related to human rights violations, environmental concerns, and labor conditions.

Implementation of Initial Measures

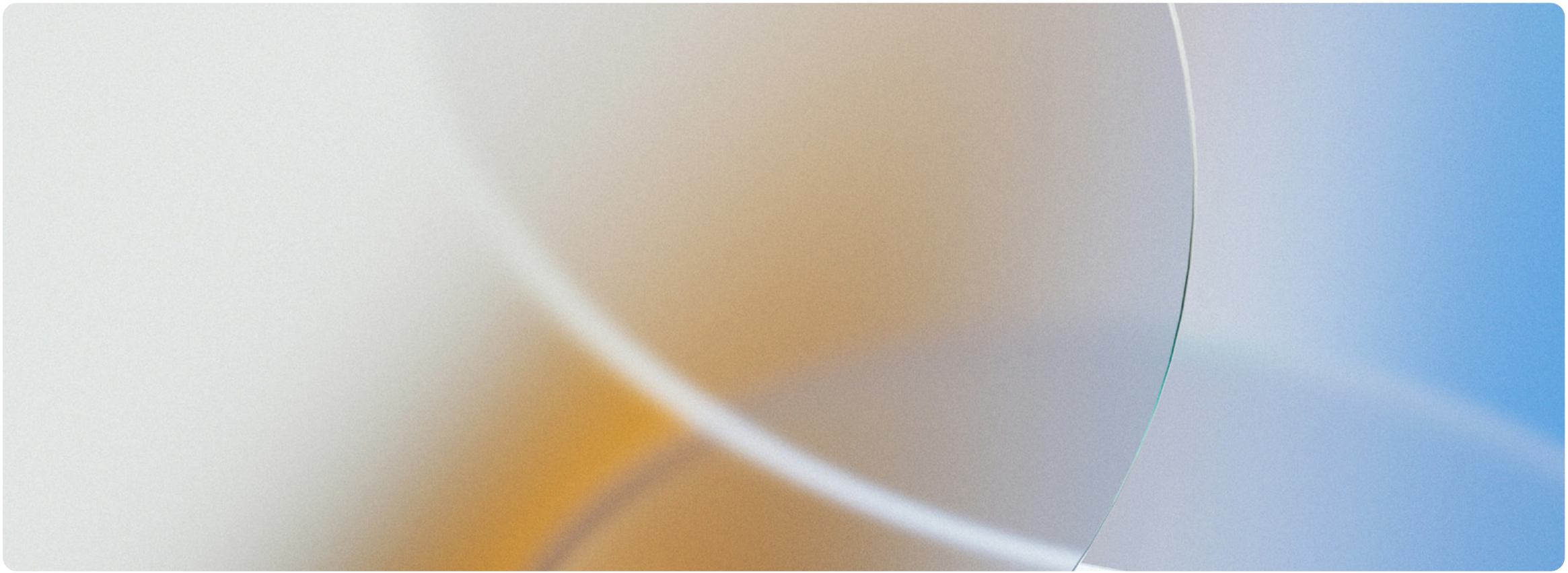
We developed a Supplier Code of Conduct to set clear expectations regarding ethical business practices, labor conditions and environmental protection.

We initiated supplier surveys and evaluations to assess their commitment to social and environmental standards.

We conducted a SMETA-4 pillar social and environmental compliance audit at our most important production site to ensure adherence to international labor and human rights standards.

BY TAKING THESE STEPS, WE RECOGNIZE THAT ACHIEVING A FULLY RESPONSIBLE AND TRANSPARENT SUPPLY CHAIN IS AN ONGOING CHALLENGE. WE REMAIN COMMITTED TO CONTINUOUSLY IMPROVING OUR APPROACH, COLLABORATING WITH STAKEHOLDERS, AND FOSTERING A SUSTAINABLE AND ETHICAL SUPPLY CHAIN.

OUTLOOK FOR 2025



OUTLOOK FOR 2025

MUNICH ELECTRIFICATION'S JOURNEY IS GATHERING MOMENTUM - 2025 IS SHAPING UP TO BE ONE OF OUR MOST DYNAMIC YEARS YET. WE WILL BE EXPANDING OUR RANKS, ESPECIALLY ACROSS OUR ENGINEERING DISCIPLINES, AGAIN BRINGING FRESH EXPERTISE INTO THE TEAM. TO SUPPORT THIS GROWTH, WE ARE FINE-TUNING OUR ORGANIZATIONAL STRUCTURE SO THAT IT SCALES SEAMLESSLY WITH OUR AMBITIONS. ALONGSIDE OUR TEAM EXPANSION, WE ARE ALSO PROJECTING SIGNIFICANT REVENUE GROWTH, FUELED BY STRONG CUSTOMER DEMAND AND GREAT PARTNERSHIPS.

In the realm of sustainability, 2025 is all about turning vision into reality. The comprehensive strategy outlined in this report will move from paper to practice, with each of the four fields of action driving concrete, measurable benefits for the planet, employees at Munich Electrification and workers in its value chain. Innovation will get an extra boost through the second edition of our Sustainathon, an employee-driven event where sustainability ideas are converted into actionable, company-wide initiatives.

Even as regulators ease off the compliance burdens for companies of our size, Munich Electrification refuses to coast. We will keep up the pace - voluntarily raising the bar for social and environmental stewardship because it is the right thing to do for people, for the planet, and for the long-term health of our business.

SUSTAINABILITY REPORT

ABBREVIATIONS

AR	Application requirement
BESS	Battery energy storage system
BMS	Battery management system
BVCM	Beyond value chain mitigation
C	Corporate
CCF	Corporate carbon footprint
CEO	Chief Executive Officer
CGO	Chief Growth Officer
CMB	Cell monitoring board
CO_2e	Carbon dioxide equivalents
CoC	Code of Conduct
CPO	Chief People Officer
CSRD	Corporate Sustainability Reporting Directive
DMA	Double materiality assessment
EFRAG	European Financial Reporting Advisory Group
EMS	Electronics Manufacturing Services
ESRS	European Sustainability Reporting Standard
ESS	Energy storage system
FTE	Full-time equivalent
GHG	Greenhouse gas
GWP	Global warming potential
IAA	Internationale Automobil-Ausstellung
IC	Integrated circuit
IRO	Impact, risk and opportunity
LCA	Life cycle assessment
ME	Munich Electrification
PCB	Printed circuit board
PCBA	Printed circuit board assembly
PHEV	Plug-in hybrid electric vehicle
PCF	Product carbon footprint
SAQ	Self-assessment questionnaire
SBTI	Science Based Targets initiative
SDG	Sustainable Development Goal
SME	Small and medium-sized enterprises
VC	Value chain
VSME	Voluntary reporting standard for SMEs
WFA	Work from anywhere
WTT	Well to Tank

MUNICH ELECTRIFICATION

CONTACT

ALL-CERT

DIN EN ISO 9001
DIN EN ISO 14001
DIN EN ISO 45001

Umwelt + Klimapakt Bayern

MUNICH ELECTRIFICATION GMBH
LANDAUBOGEN 1
81373 MUNICH, GERMANY

SUSTAINABILITY@MUNICHELECTRIFICATION.COM
WWW.MUNICHELECTRIFICATION.COM