Muehlhan
Wind Service

This GHG report is showcasing our commitment to sustainability and adressing the emerging challenges of tomorrow

Greenhouse Gas Report

2024

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Content

01.

A word from our CEO

Dear reader,

It is with great pride that I present to you the Muehlhan Wind Service Group Greenhouse Gas Emissions Report for FY2024. This year's report represents a significant leap forward—not only in scope but also in the depth and quality of the data we have been able to collect and consolidate across our growing organization.

For the first time, this report encompasses all entities within our group, including newly acquired subsidiaries and expanded operations across several continents. Achieving this level of completeness has been a major milestone in our sustainability journey. It reflects not only our strategic growth but also our dedication to maintaining transparency and accountability as we scale.

As a company firmly rooted in the renewable energy sector, we remain conscious of our dual role—being part of the climate solution while simultaneously taking ownership of our own environmental impact. This year's GHG inventory is our most comprehensive to date, thanks to the coordinated efforts across teams, improved internal processes, and a shared commitment to better data quality.

We recognize that with greater transparency comes a greater responsibility to act. That is why we have continued refining our methodology, enhancing our inventory management practices, and identifying opportunities for reducing emissions throughout our operations and value chain. By aligning with the Greenhouse Gas Protocol and preparing for the Corporate Sustainability Reporting Directive (CSRD), we are not just responding to regulatory expectations—we are proactively shaping our path forward.

While there is still progress to be made, the foundation laid this year positions us to continuously improve our environmental reporting and take informed, impactful action. I am deeply grateful for the dedication of our team, the trust of our partners, and the enthusiasm of our stakeholders who share in our vision.

Together, we are building a more resilient and responsible future—one where growth and sustainability go hand in hand.

Sincerely,

Søren Høffer
CEO, Muehlhan Wind Service

Introduction—A milestone in our sustainability journey

The GHG report 2024 is a voluntary disclosure of Muehlhan Wind Service´s greenhouse gas (GHG) emissions for the fiscal year of 2024, 1st of January 2024 to 31st of December 2024.

Last year we published our first voluntary GHG report for just MWS facilities and operations. This year we embrace all subsidiaries and acquisitions of the organization which explains the increase in emissions from 2023 to 2024. The report follows the principles of the Greenhouse Gas Protocol for GHG accounting of the emissions of our operations and value chain.

This report is designed to provide our stakeholders with consistent and transparent information regarding our environmental performance and our initiatives to reduce the carbon footprint from our operations. It also serves as a foundation for the whole group of companies to comply with the forthcoming EU Corporate Sustainability Reporting Directive (CSRD) and the European Sustainability Reporting Standards (ESRS), which we anticipate will enhance the quality, comparability, and relevance of sustainability reporting.

This year´s report marks a milestone in terms of the completeness of our reporting. This consolidated GHG report of Muehlhan Wind Service (MWS) covers all entities. We tackled the data collection challenge across all entities and had some important takes and discussions on how to move forward in our mutual sustainability journey. While we attempted to align our report as closely as possible with the core structure of the GHGP guidance documents, we recognize that there is room for improvement in data quality and methodologies in future reports. We are dedicated to refining our data collection and reporting processes to meet next year´s requirements and expectations of the CSRD and the ESRS.

We aim to be as transparent as possible in this report and are proud to present our results. We hope you find the information both useful and accessible.

Thank you for your interest in our report!

Organizational description

MWS Group offer comprehensive wind turbine services across Installation, Maintenance, and Specialty Services.

Our experienced teams are dedicated to tackling any challenge, delivering the solutions you need, ensuring long-term success. Our experience and knowledge enable us to act as a trusted and preferred business partner to leading players in the wind energy industry, by providing specialized project solutions of all sizes. Our business units and subsidiaries worldwide make it easy, convenient, and reliable to work with us.

Countries

35+

Back-office employees

350+

Wind turbine technicians

3000+

Projects executed

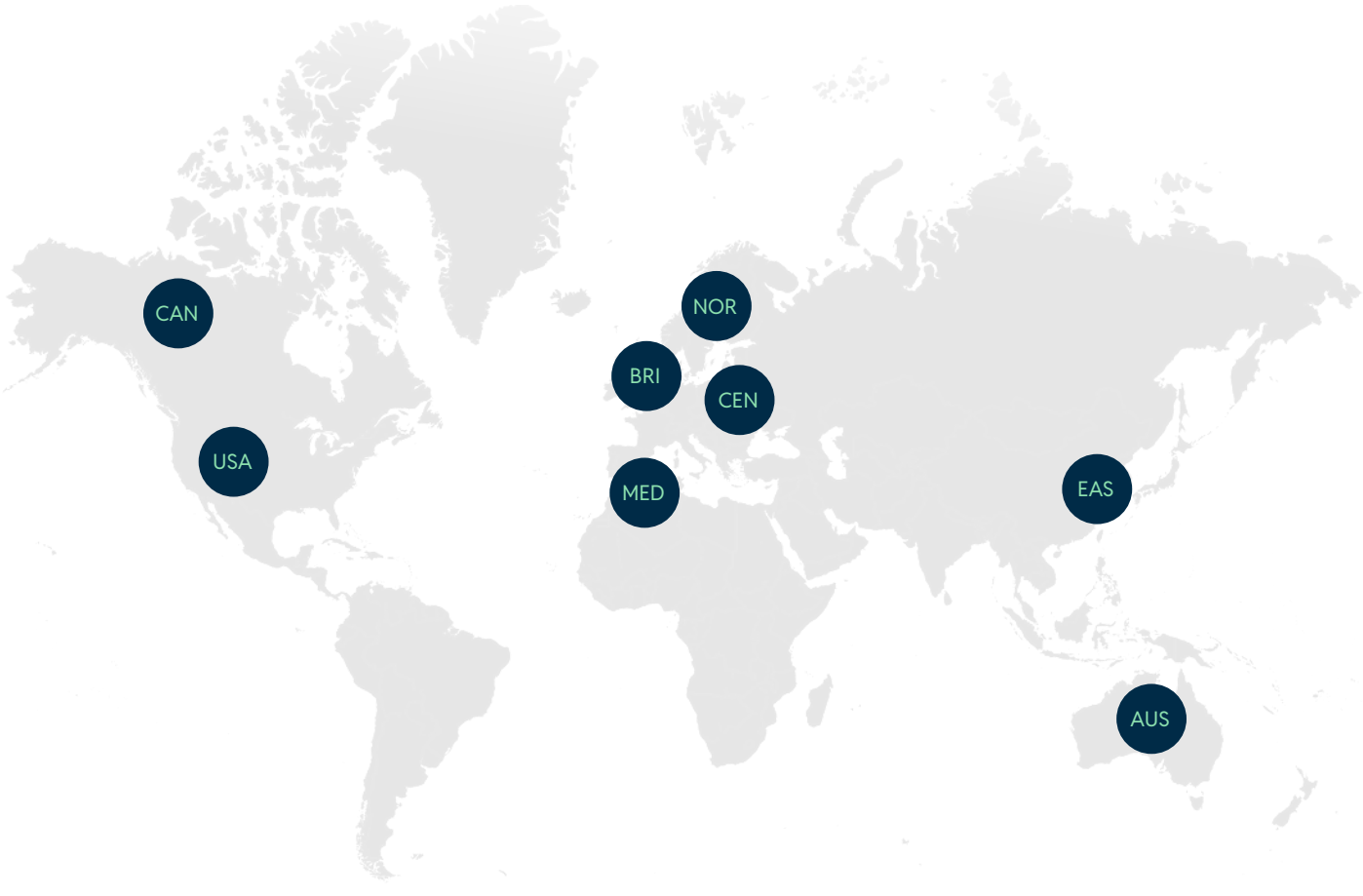
2000+

03.

Global presence

Our global presence is not only a matter of convenience, but also a testament to our commitment to quality and safety.

We operate in more than 35 countries across Europe, North America, Asia, and Africa, with a workforce of over 3000+ qualified professionals. We have local teams that understand the specific needs and regulations of each market, as well as a global network that ensures seamless coordination and delivery of our services.



Company values

At Muehlhan Wind Service, our operations are guided by a set of core values that shapes our decisions, strategies, and actions.

These values ensure we consistently meet and exceed customer expectations.

Integrity

We emphasize transparency in all actions, take responsibility for our outcomes, and are committed to ethical and socially responsible behavior.

Respect

We prioritize customer needs and satisfaction, uphold our promises, and value mutual respect among all stakeholders.

Excellence

We strive for high standards in all activities, ensuring efficiency, quality work, and the ability to adapt and respond to change.

Reliability

We ensure a safe working environment, are dedicated to fulfilling our obligations, and focus on sustainability and environmental care.

Certified to lead, united to reduce — this year, we counted it all

Inventory objectives

At MWS we recognize the urgent need to measure, manage, and reduce greenhouse gas (GHG) emissions as part of our commitment to environmental protection.

As part of our sustainability strategy, we have conducted a comprehensive GHG inventory to assess the impact of our operations and supply chain. This inventory follows globally recognized methodologies, ensuring accurate measurement of direct emissions (Scope 1), indirect emissions from purchased energy (Scope 2), and emissions associated with our broader value chain (Scope 3). By analyzing these data points, we gain valuable insights into our carbon footprint and identify the most significant areas for improvement.

Through this assessment, we have identified key opportunities for emissions reduction across our business. These include optimizing energy consumption, transitioning to renewable energy sources, improving logistics efficiency, and engaging suppliers to adopt more sustainable practices. Our commitment extends beyond compliance; we are actively working to integrate innovative solutions that drive meaningful reductions in our overall emissions profile. By prioritizing efficiency and sustainable sourcing, we aim to minimize our environmental impact while maintaining operational excellence.

In addition to monitoring emissions, the GHG report serves as a vital tool for identifying data gaps within our current reporting framework. By pinpointing these gaps, we can implement targeted solutions to enhance the quality and accuracy of our data. This continuous improvement in data quality ensures that our emissions reporting remains robust and reliable. To ensure credibility and transparency of our GHG inventory, we align with corporate standards such as the Greenhouse Gas Protocol (GHGP), reinforcing the accuracy and integrity of our reporting.

In alignment with our commitment to accountability, we publicly disclose our emissions data, fostering trust among stakeholders, investors, and customers. Building on these insights, we have developed a robust action plan to reduce our carbon footprint.

This strategy includes setting science-based targets, implementing energy efficiency initiatives, investing in carbon reduction projects, and exploring innovative technologies that drive sustainable growth. We continuously monitor our progress and refine our approach to ensure that we meet or exceed our sustainability commitments.

By taking decisive action today, we are paving the way for a more sustainable future, reinforcing our role as a responsible corporate leader in climate stewardship.

Inventory objectives for GHG management

Measure and analyse GHG impacts
Assessing current greenhouse gas emissions

Identify reduction opportunities
Finding areas to reduce emissions

Auditing and public disclosure
Verifying and sharing emissions data

Action plan and execution on reduction opportunities
Implementing strategies to reduce emissions

Organizational boundaries

Muehlhan Wind Service Group:

Muehlhan Wind Service A/S (MWS)

Welpaint A/S (WEP)

Renewable Oil Services Ltd. (ROS)

EPiK Energy and Renewables LLC (EPiK)

3WIS ApS (3WIS)

Professional Wind Service Pty Ltd. (PWS)

Energy Wind Renewables Ltd. (EWR)

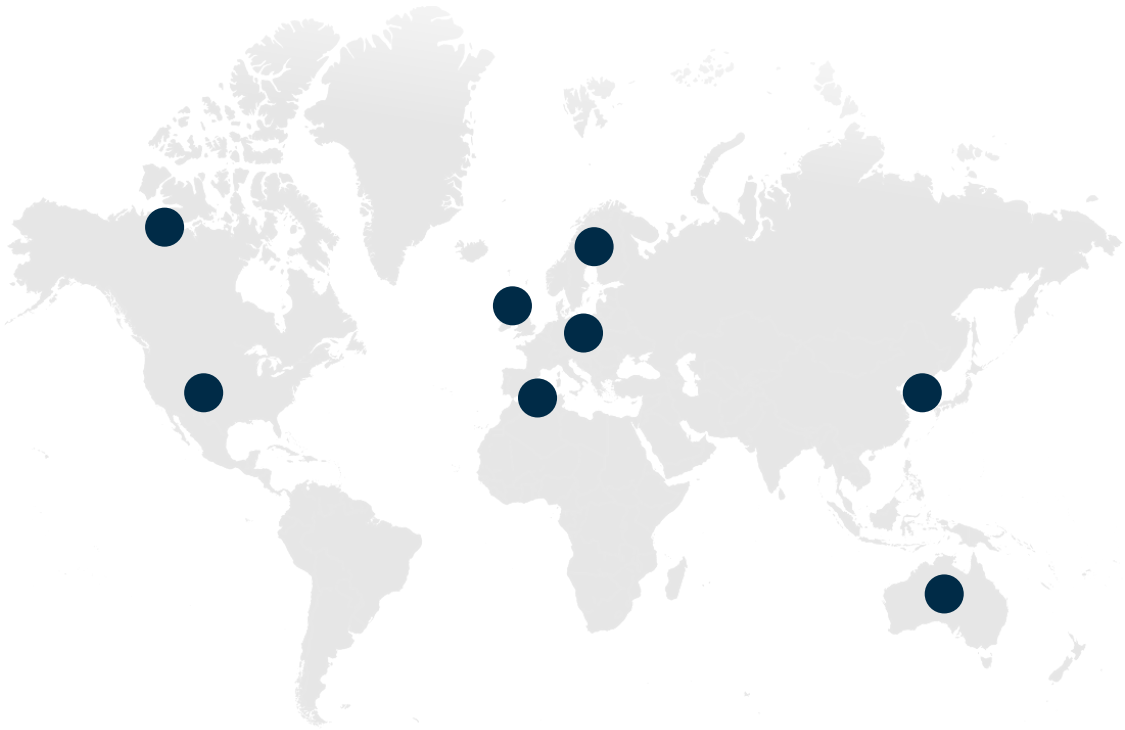
Endiprev Group S.A. (ENDP)

The organizational boundaries of this report are defined by the operational control approach. The operational control approach captures the GHG emissions from the company´s facilities that we have the authority to introduce and implement operating policies. This GHG emissions report covers all entities, namely: 8 Wind services entities.

The report captures the emissions data from work sites, offices and warehouses that we have operational control over throughout the year.

This year we put a strong emphasis on completeness in capturing all entities, and consistency across the GHG data consolidation and calculations. In FY2024, MWS expanded its operations with the establishment of a subsidiary in South Korea, Muehlhan Wind Service Korea Ltd.

Additionally, MWS broadened its organizational boundaries through two major acquisitions: the purchase of Energy Wind & Renewables Ltd. (EWR), a wind service company in Canada, and the acquisition of an 85% stake in Endiprev Group S.A. (ENDP).



Reporting boundaries

The GHG protocol

This report includes all of MWS Groups entities relevant Scope 1 and Scope 2 emissions categories, along with emissions from key categories within the non-mandatory Scope 3. The inventory accounting and reporting are conducted in accordance with the GHG Protocol standards.

Scope	Definition	Inclusion
Scope 1	Direct GHG emissions from owned or controlled sources	Yes
Scope 2	Indirect GHG emissions from purchased and acquired energy	Yes
Scope 3	Indirect GHG emissions from the value chain	Yes

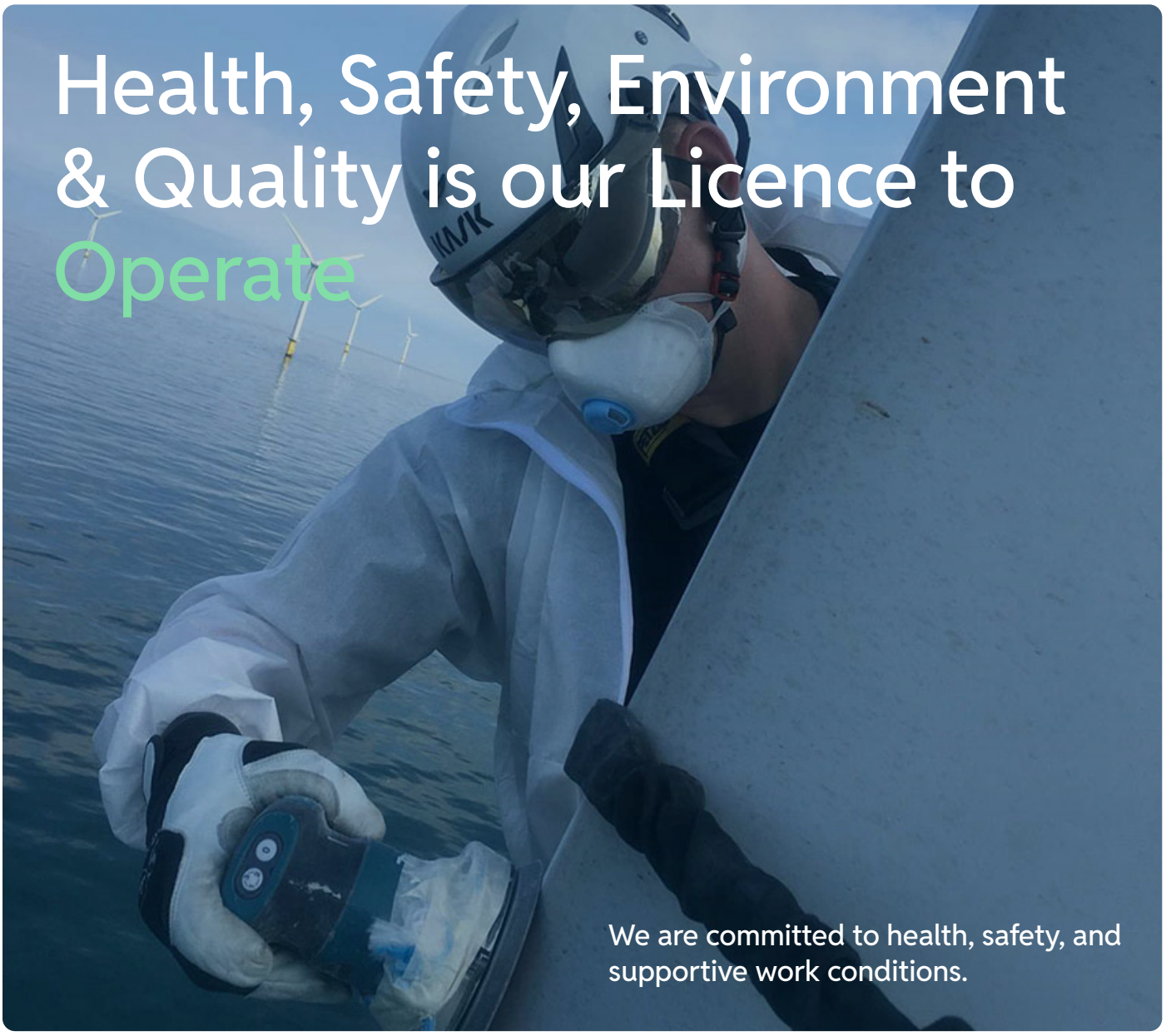
The GHG Protocol splits scope 3 emissions in 15 distinct categories that occur in the company's value chain.

The scope 3 emissions (on next page) from both upstream and downstream sources were accounted for and included in this report. Just like in the previous report of MWS (GHG report 2023), Upstream and downstream transportation and distribution (freight) is combined since the expenses on third-party logistics are not split into upstream and downstream and at times a purchased good can be shipped directly from the vendor to the work site without passing through a warehouse.

Fuel- and Energy-related activities are split into two: Well to tank (fuels) and Transmission losses. In this report we have included the emissions from capital goods. The other categories that are not included are irrelevant to the operations of every single entity and are therefore out of scope and not included.

Scope 3 categories	Details	Inclusion
Purchased goods and services	Direct GHG emissions from owned or controlled sources	Yes
Capital goods	Emissions from the production of capital goods purchased by the company	Yes
Fuel- and Energy-related activities	Upstream emissions from purchased and acquired energy	Yes
Upstream and downstream transportation and distribution	Upstream and downstream emissions from transportation and distribution of purchased goods	Yes
Waste and wastewater generated in operations	Emissions from disposal and treatment of waste and waste-water generated by the company	Yes
Business travel	Emissions from employee travel for business purposes	Yes
Employee commuting	Emissions from employees commuting to and from work	Yes
Leased assets (upstream)	Emissions from leased assets not included in Scope 1 or 2	No
Processing of sold product	Emissions from processing of sold products by third parties	No
Use of sold products	Emissions from the use phase of products sold by the company	No

End-of-life treatment	Emissions from waste treatment/ disposal of sold products	No
Leased assets (downstream)	Emissions from leased assets not included in Scope 1 or 2	No
Franchises	Emissions from franchise operations not included in Scope 1	No
Investments	Emissions from investments and financial activities	No



Inventory of emissions

Reporting period, accounting policies

Reporting period

This report covers the period from 01/01/2024 to 31/12/2024. In accordance with the GHGP recommendations, the dates align with the annual consolidated financial report.

Accounting policies

Direct GHG emissions (scope 1) and indirect GHG emissions (scope 2 and 3).

Scope 1, 2 and 3 emissions are reported based on the GHG Protocol and cover all direct and indirect emissions of greenhouse gases from MWS Group in CO2 equivalents (CO2e). Each respective method of calculation is explained in detail in the section: Activity data, emission factors and methodology per emission type.

Base year

The year 2024 has been chosen as a baseline year since it captures all relevant emission categories of every entity in the MWS Group. These entities have been comprehensively integrated into our calculations. This thorough approach provides us with an dilligent representation of our emissions, instilling confidence in our ability to monitor and manage future emissions effectively.

Utilizing 2024 as our base year will enable us to track our emissions over time accurately. Additionally, it will help us identify areas where data quality can be enhanced. By pinpointing specific data gaps, we can implement targeted improvements to ensure the integrity and reliability of our emissions data.

Methodology of calculation of total emissions

The Sustainability department of MWS gathered primary and secondary data for the GHG emissions inventory. The data quality and emission factors followed documented sources.

The inventory used four calculation methods based on the GHG Protocol, European Environment Agency (EEA) and the United States Environmental Protection Agency (US EPA) guidelines:

Spend-based method:

This gave a rough estimate of CO2e emissions when only fiscal expenditure data was available. The spend-based method is used when only monetary data is available. This method used spend-based emission factors.

Average-data method:

This method used industry-average, country-average or global emission factors from the GHG protocol or other officially recognized, publicly available sources.

Supplier-specific method:

This method used process specific data from suppliers, and process- and country specific emission factors from officially recognized, publicly available sources.

Distance-Based Method:

This method used distance travelled and vehicle-specific emission factors.

Further details about each emission type, activity data, emission factors, methodology applied, and methodology details can be found in the Appendix.

Data collection process

The ESG department of MWS collected all data for both inventory activity and emission factors using the centralized consolidation method. The activity data was requested in a standardized activity data form from each entity. Each entity has filled out also an inventory management plan (IMP) to document their organization´s GHG emissions inventory process. The IMP served as an internal process for each entity in MWS Group to institutionalize the completion of high-quality inventory.

Consolidated CO2e statement

μ	Welpaint A/S (WP)	Renewable Oil (ROS)	EPiK Energy and Renewables (EPiK)	3WIS MWS WIS	Muehlhan Wind Service (MWS)	Professional Wind Services (PWS)	Energy Wind and Renewables (EWR)	Endiprev (ENDP)	Total emissions across entities
Emissions scope 1 - unit (tCO2e)									
Stationary Combustion - Fuels	26,97	12,67	0,02	0,00	0,00	4,95	7,30	36,15	**88,05**
Refrigerants	0,00	0,00	0,22	0,01	4,4	0,00	0,26	2,17	**6,71**
Mobile Combustion (Controlled Vehicles)	99,06	128,94	751,89	34,23	3197,14	2094,42	250,36	1196,53	**7752,58**
Support Vehicles and Generators	0,00	15,97	0,00	0,00	194,99	0,00	2187,28	0,00	**2398,24**
Total scope 1	**126,03**	**157,58**	**752,13**	**34,24**	**3396,17**	**2099,37**	**2445,20**	**1235,85**	**10245,58**
Emissions scope 2 - unit (tCO2e)									
Electricity	4963,86	6,02	6,62	0,00	34,59	8,95	25,85	19,15	**5065,04**
Electric Vehicles	0,00	0,00	0,00	0,00	0,45	0,00	0,00	1,74	**2,19**
Heat and Steam	302,74	0,00	0,00	0,00	0,52	0,00	0,00	0,00	**303,26**
Total scope 2	**5266,60**	**6,02**	**6,62**	**0,00**	**35,56**	**8,95**	**25,85**	**20,89**	5370,49
Emissions scope 3 - unit (tCO2e)									
Purchased Goods and Services	5003,98	659,50	0,00	19,94	1244,80	85,85	192,07	267,55	**7473,69**
Capital Goods	2332,70	108,27	0,00	9,33	127,87	33,55	176,14	38,31	**2826,17**
Water	0,00	0,01	0,04	0,01	0,10	0,00	0,02	0,08	**0,26**
Fuel and energy related activities	152,04	201,97	188,57	8,47	875,79	519,07	630,96	325,21	**2902,08**
Transportation and Distribution	20,66	89,84	0,00	8,23	81,34	0,00	2487,81	39,02	**2726,90**
Waste Generated in Operations	11,15	0,25	2,06	0,04	1,68	0,00	1,18	0,19	**16,55**
Business Travel	0,00	18,13	0,00	115,80	6268,03	460,04	52,38	3456,18	**10370,56**
Employee commute	49,24	3,96	251,77	4,94	267,41	205,22	246,60	118,13	**1147,26**
Total scope 3	**7569,76**	**1081,94**	**442,44**	**166,77**	**8867,02**	**1303,73**	**3787,16**	**4244,67**	27463,48
Total emissions (tCO2e)	**12962,39**	**1245,54**	**1201,19**	**201,01**	**12298,76**	**3412,05**	**6258,21**	**5500,41**	43079,55

Performance tracking and reduction projects

Enhancing Data Quality to Drive Emission Reductions

One of the key challenges in advancing our reduction initiatives has been the quality and accessibility of our emissions data. To address this, Muehlhan Wind Service has prioritized significant upgrades to our data management systems, ensuring greater accuracy, consistency, and transparency.

A major milestone in this journey is the implementation of a new ERP system, carefully selected to optimize workflows, improve collaboration, and integrate seamlessly with SharePoint and other IT platforms. This transition, alongside other digital upgrades, will enhance data tracking, streamline reporting, and provide the insights needed to drive meaningful emission reductions. By strengthening our data foundation, we are not only improving compliance and reporting but also empowering more effective decision-making toward a low-carbon future.

It is important to note that not all of these initiatives are done overnight, it is a continual process.

Hybrid Generators:

In 2024, our test projects on hybrid generators for MWS onshore operations yielded excellent results. Building on these successful outcomes, we plan to gradually adopt hybrid generators in suitable projects throughout 2025.

This initiative aligns with global efforts to enhance energy efficiency and reduce greenhouse gas emissions.

Our commitment to integrating hybrid generators reflects these broader sustainability objectives, aiming to reduce our environmental footprint and promote cleaner energy solutions.

V-Spoilers:

In 2024, we conducted pilot tests on V-spoilers across a selection of the MWS fleet of vans, anticipating fuel savings of 5–15%. However, these tests did not demonstrate measurable fuel savings, leading us to halt the project. Our results confirm similar findings that suggest that the effectiveness of such devices lead to negligible or no fuel savings. We remain committed to exploring and implementing cost-effective solutions that enhance fuel efficiency and reduce emissions across our fleet.

Active GPS Tracking:

We continued the rollout of GPS tracking devices across the MWS fleet, building on the success of our initial tests with MapOn systems. These devices have proven valuable in monitoring CO2 emissions, mileage, driving behaviour, and fuel consumption, contributing to more efficient and sustainable operations.

As our fleet expands, we will continue implementing GPS tracking on all new and leased vehicles to enhance oversight and optimize performance.

Fuel consumption, particularly from the vehicle fleet, remains a significant source of emissions within the organization.

An ongoing assessment is evaluating which parts of the fleet can be transitioned to hybrid or battery electric vehicles (BEVs) for optimal sustainability and operational efficiency.

Local workforce:

Business travel emissions, including air travel and accommodation, represent a significant portion of our Scope 3 emissions. To minimize our environmental impact, we prioritize engaging local expertise whenever possible.

This approach not only reduces travel and accommodation needs but also supports local economies.

By integrating sustainability into our workforce strategy, we aim to lower emissions while maintaining operational efficiency.

Circular computing:

MWS successfully tested and purchased laptops from Circular Computing, leading to the decision to source all future laptops from them. This transition is expected to reduce costs by up to 40% while significantly benefiting the environment by minimizing e-waste, conserving raw materials, and lowering carbon emissions.

Circular Computing's refurbished laptops meet high-performance standards, ensuring reliable technology without compromising sustainability. This initiative aligns with MWS's commitment to adopting eco-friendly practices and supporting the circular economy.

By integrating refurbished technology, MWS is reducing its environmental impact while maintaining operational excellence.

Waste reduction through circular partnerships

As part of Renewable Oil Services (ROS) participation in the Net Zero Accelerator programme launched in July 2023, ROS established a partnership with a Scottish company that repurposes plastics and lifting slings into new products. ROS now divert suitable materials—such as lifting bags and straps—from landfill and sends them for recycling, significantly reducing waste and supporting circular economy practices.

Conclusion

The 2024 Greenhouse Gas (GHG) Report marks a pivotal step forward in Muehlhan Wind Service Group sustainability journey.

For the first time, this consolidated report encompasses all entities within the Muehlhan Wind Service Group, reflecting a comprehensive and transparent assessment of our carbon footprint across global operations.

By aligning our data collection and reporting processes with the Greenhouse Gas Protocol (GHGP), and preparing for compliance with the forthcoming EU Corporate Sustainability Reporting Directive (CSRD) and the European Sustainability Reporting Standards (ESRS), we have established a strong foundation for future climate action and corporate responsibility.

The total GHG emissions amount to **43079,55 tCO2e** for the fiscal year 2024.

These emissions are categorized as follows:

Scope 1 emissions account for

10245,58 tCO_2e

Scope 2 emissions account for

5370,49 tCO_2e

Scope 3 emissions account for

27463,48 tCO_2e

This breakdown highlights the critical importance of addressing not only direct emissions but also those embedded across upstream and downstream activities in our operations.

Throughout this year, we achieved a significant expansion in our organizational boundaries with the integration of new subsidiaries across South Korea, Canada, and Portugal.

This growth has understandably led to a substantial increase in reported emissions. However, it also provided valuable insight into the diverse operational footprints within our group and the key areas in which we can implement targeted emission reduction strategies.

We have made tangible progress on several sustainability initiatives, including piloting hybrid generators, adopting circular computing practices, enhancing GPS-based fleet monitoring, and advancing the use of renewable

electricity and logistics offsetting programs. While some projects such as the V-spoiler fuel-saving initiative yielded limited results, our willingness to test innovative solutions reflects a proactive approach to sustainability.

Despite challenges in data completeness and varying levels of uncertainty, particularly in Scope 3 emissions, we have maintained transparency by disclosing our methodologies and data quality limitations. Our approach enables continuous improvement and prepares us for more refined and verifiable reporting in the years ahead.

Looking forward, we are committed to reducing our emissions through the implementation of science-based targets, increased operational efficiency, and supplier engagement. This report not only provides a baseline yearfor consistent future comparisons but also represents our collective dedication to meaningful climate action.

By embedding sustainability into every layer of our business, Muehlhan Wind Service Group reinforces its role as a responsible leader in the renewable energy sector and an active contributor to a low-carbon future.

Appendix: Accounting methodology

Scope 1

Emission type	Activity data	Emission factors	Methodology	Methodology details
Stationary combustion	Fuel volume	United Kingdom´s Department for Environmental, Food & Rural Affairs (DEFRA); Australian Government´s Department of Climate Change, Energy, the Environment and Water (DCCEEW)	Fuel volume usage multiplied by an emission factor.	The volume of purchased fuels is multiplied by an emission factor from DEFRA and DCCEEW.
Bioenergy	Biofuel volume	DEFRA	Biofuel consumption multiplied by an emission factor.	The biofuel component blended into diesel is not accounted separately. It is accounted for in mobile combustion. Biofuel consumption does not yet represent a large category and therefore it is accounted for in mobile combustion with the rest of the fuel purchases data.
Refrigerants	Secondary data	DEFRA	Average refrigerant leak multiplied by the average fleet number; and the number of stationary A/C units.	The exact quantity of refrigerants is multiplied by an emissionfactor from DEFRA According to Directive 2006/40/EC all cars in the EU use refrigerants with GWP lower than 150. the most widely used is R1234fy and therefore we assume that it is the one used in our fleet

Emission type	Activity data	Emission factors	Methodology	Methodology details
Mobile combustions	Fuel volume; or expenditure on fuel when the exact fuel volume is too costly to extract.	DEFRA; spend-based factor	Fuel volume usage multi-plied by an emission factor. Expenditure multiplied by a spend-based factor.	The exact fuel volume is multiplied by emission factors from DEFRA. The fuel volume and transaction data from the two main fuel providers of MWS are used to calculate a spend-based emissions factor for the remaining fuel transactions of vehicles that do not have fuel cards or subcontractors that are reimbursed for their fuel purchases.
Support vehicles/ vessels and generators	Fuel volume	DEFRA	Fuel volume usage multi-plied by an emission factor.	The volume of marine gas oil (MGO) consumed throughout the year is multi-plied by an emission factor from DEFRA. The same applies to the volume of diesel for generators.

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Scope 2

Emission type	Activity data	Emission factors	Methodology	Methodology details
Electricity	Predominantly supplier data. Estimates (based on employee count, office space or monthly average) when there is not a separate electricity meter in a shared office.	Country-specific grid factor	Electricity usage multiplied by an emission factor. Activity data.	**Activity-based:** A location-based method is applied, where the total kWh consumed is multiplied by a country-specific emission factor. If a renewable energy certificate is obtained, the market-based method is used instead, where the CO2e emissions are essentially zero. **Monthly average:** The monthly average is extrapolated to estimate full-year usage. **Employee number:** An estimate is calculated based on the number of full-time employees. **Office space:** An estimate is calculated based on square meters of rented office space.
Electric vehicles	Supplier data – charging in kWh	Country-specific grid factor	Consumption in kWh is multiplied by an emission factor.	The aggregated total kWh consumption is multiplied by the corresponding country's electricity grid emissions factor.
Heat and steam	Supplier data	Supplier-specific factor or DEFRA	Consumption in MWh is multiplied by an emission factor.	The district heating consumption is multiplied by supplier-specific emission factors. If a supplier-specific factor is not available, a country-specific emission factor is used instead.

13.

Scope 3

Emission type	Activity data	Emission factors	Methodology	Methodology details
3.1 Purchased goods and services	Financial data	US EPA NAICS category spend-based factor.	Spend-based method	The total expenditure on purchased goods and services categorized by their industrial classification is multiplied by the relevant spend-based emission factor associated to the corresponding NAICS code.
3.1 Water consumption	Supplier data; estimated consumption	DEFRA	Activity based and estimation	Emissions are calculated by multiplying the total consumption of water by the DEFRA emission factor.
3.2 Capital goods	Financial data	US EPA NAICS category spend-based factor.	Spend-based method	The capital goods are categorized by their industrial classification. The total expenditure on each category of capital goods is multiplied by the relevant spend-based emission factor associated to the corresponding NAICS code.
3.3 Fuel- and energy-related activities: Well to tank emissions (WTT)	Based on Scope 1 data.	DEFRA	Activity based and spend-based	The total amount of fuel purchased (either by exact volume or spend-based volume) is multiplied by the fuel-specific WTT emission factor from DEFRA.
3.3 Fuel- and energy-related activities: Transmission and distribution losses	Based on Scope 2 data.	Country-specific factor, International Energy Agency (IEA)	Activity-based	The electricity consumption in Scope 2 is multiplied by an emission factor for electricity grid losses. The heat consumption in Scope 2 is multiplied by an emission factor for the supplier-specific or country-specific loss rate.

Emission type	Activity data	Emission factors	Methodology	Methodology details
3.4 and 3.9 Transportation and distribution	Supplier data and financial (expenditure) data	Supplier-specific; average spend-based; US EPA NAICS spend-based factor	Activity based and spend-based	The main freight providers of MWS reported CO_2 emissions from their services. A spend-based factor is calculated using data from the three primary freight providers to estimate emissions from the secondary freight providers. Emissions from transportation where the main freight providers could not provide a CO2 report are based on expenditure multiplied by the NAICS general freight trucking emission factors.
3.5 Waste generated in operations	Supplier data; estimate	Global factor, DEFRA 2023	Activity based and estimation	The total generated waste is multiplied by emission factors from DEFRA. The emission factor considers a gate-to-gate approach, where it accounts only for the collection of waste from a company´s facility and its transport to the facility of the waste management company. Only one of the waste management providers can currently produce a report of how much of the waste goes to open-loop, closed-loop recycling, combustion, composting, landfill and therefore this method cannot be applied consistently across all facilities. Some offices are shared with other companies; therefore, an estimate is made based on the number of employees.

Emission type	Activity data	Emission factors	Methodology	Methodology details
3.6 Business travel	Activity data; financial data	DEFRA distance-based factor; activity data (room per night) US EPA NAICS spend-based factor Travel agent´s distance-based factor	Distance-based, activity based and spend-based method.	A mixture of methods is used in this Scope 3 category due to the quality of the data. A fraction of the employees´ air travel is booked through a travel agent, where a distance-based method was applied. All other air travel, along with land transport, public transport, taxis, rented vehicles, sea transport, and accommodation, used the spend-based method with NAICS-specific spend-based emission factors. The DEFRA emission factors are applied for distance-based and activity-based methods (e.g. room nights).
3.7 Employee commuting	Survey data of full-time employees	DEFRA	Distance-based method	The commuting distance from the survey is multiplied by the number of workdays per week (minus the average number of remote workdays per week) and then scaled to 46 workweeks per year. The total distance traveled over 46 workweeks is multiplied by the emission factor associated with the respondent's chosen mode of transportation, based on DEFRA factors. The average CO_2e emissions per employee are then extrapolated to the average number of employees in 2024.

Appendix: Uncertainty in GHG emissions inventory

This section outlines the key sources of uncertainty in the greenhouse gas (GHG) emissions inventory presented in this report.

The uncertainty assessment considers two primary factors: variations in emission factors and the reliability of financial and activity data used for calculations. Given that the report aggregates data from multiple companies, differences in data collection methods and reporting structures introduce additional variability.

Emission Factors

The emission factors applied in this report are sourced from publicly recognized authorities and are considered the most reliable references available. These externally published factors are assumed to have minimal uncertainty, as they are developed based on extensive scientific methodologies and regulatory standards and are beyond the control of the reporting companies.

Spend-based emission factors, while useful for estimating emissions from financial data, carry inherent uncertainties due to price fluctuations and market differences. However, these factors are also derived from established external sources and remain outside the direct influence of the companies.

A notable exception is the MWS spend-based emission factor for fuel, which was calculated internally. This factor was calculated using procurement data from the primary fuel suppliers of the reporting companies, combined with emission factors published by regulatory authorities. While efforts were made to ensure accuracy, uncertainties arise due to potential variations in fuel composition and supplier reporting practices. A spend-based emission factor for MWS Scope 3 transportation and distribution was also calculated internally.

Activity Data

Scope 1 – Direct Emissions

Scope 1 emissions data is primarily collected from utility invoices and financial records related to fuel and energy expenditures. Variability in fuel prices over time, differences in fuel types used across business operations, and potential cost misallocation and data gaps all contribute to this uncertainty.

Scope 2 – Indirect Emissions from Energy Use

Scope 2 emissions calculations are based mainly on electricity and energy bills. In most cases, exact consumption values are available, allowing for precise calculations. However, in some instances, only monetary costs, number of employees or area of rented space were reported, requiring estimations based on average energy prices, number of employees or area of office space.

Scope 3 – Other Indirect Emissions

The greatest level of uncertainty lies in Scope 3 emissions, which encompass a broad range of indirect activities. These estimates rely on commercial invoices recorded in the general ledgers of the reporting companies, requiring significant data processing and standardization.

The complexity of supply chains, diverse purchasing patterns, and the necessity of assumption-based calculations introduce challenges in ensuring precision. While reasonable methodologies are applied to generate CO_2e estimates, the inherent variability in supplier-reported data and the need for extrapolation result in the highest degree of uncertainty within the inventory.

Emission type	Uncertainty description
3.1 Purchased goods and services	This category carries a high level of uncertainty, as emissions estimates rely on broad classifications of purchased goods rather than item-specific data. Goods have been grouped into general categories such as office supplies, workwear, and tools, making it difficult to assign precise emission factors. Additionally, the calculations are based on the monetary value of purchases, applying an average emission factor for each category. While this approach provides a practical estimation, it does not account for variations in product composition, sourcing, or supplier-specific emissions.
3.2 Capital goods	The emissions estimates for capital goods have a high level of uncertainty due to reliance on financial data rather than supplier specific data. Capital assets—categorized into buildings, machinery, and vehicles—are assessed based on their monetary value, with emissions calculated using global average CO_2 emission factors. This method does not capture regional variations in production emissions or supplier-specific manufacturing processes. While this provides a standardized approach, the accuracy could be improved with more granular asset-level emissions data.
3.3 Fuel- and energy- related activities	The emissions estimates for fuel- and energy-related activities are associated with a moderate level of uncertainty. One key challenge lies in determining the exact emissions for each type of fuel, as the specific refineries producing the fuel used by the reporting companies are not known. Since refinery processes can differ significantly in terms of efficiency and carbon intensity, this introduces some variability into the emissions calculations. Additionally, there is uncertainty related to region-specific grid loss factors. Electricity losses in transmission and distribution vary not only between countries but also between different regions within the same country. The use of average grid loss factors helps provide a reasonable estimate, but actual losses could be higher or lower depending on infrastructure quality, climate conditions, and energy distribution efficiency in each location.
3.4 and 3.9 Transportation and distribution	The emissions estimates for transportation and distribution are subject to a moderate to high level of uncertainty due to the use of generalized data rather than detailed transport records. A more precise approach would involve categorizing emissions by specific transport modes, such as upstream logistics, downstream distribution, and shipping, as well as incorporating local emission factors. However, obtaining direct emissions data from transportation providers remains challenging. Until more detailed data becomes available, the spend-based method remains the most feasible approach. Future refinements will focus on incorporating better emission factors and improving data granularity.

Emission type	Uncertainty description
3.5 Waste generated in operations	The emissions estimates for waste disposal are associated with a moderate level of uncertainty. While the volume of waste is well-documented, the applied emission factors are global rather than region-specific. The calculations use DEFRA's 2023 emission factors instead of the 2024 update, as a significant discrepancy between the two datasets raised concerns about year-over-year consistency. Additionally, the emission factors do not differentiate between disposal methods (e.g., recycling, hazardous, or general waste), which may introduce minor variations in results. Continuous monitoring of updated emission factors will help refine future assessments.
3.6 Business travel	The emissions estimates for business travel are subject to a high level of uncertainty due to the reliance on financial expenditure rather than direct travel data. The spend-based method, while practical, is affected by fluctuations in transportation and accommodation costs, which can lead to variable emissions estimates. Additionally, differences in travel mode, distance, and class of service further contribute to potential variations. Future improvements could include collecting more detailed travel activity data to enhance accuracy.
3.7 Employee commuting	The uncertainty level for employee commuting emissions is moderate to low, as the data is based on direct employee input. The accuracy of the estimates depends on the number of survey responses received, with higher participation rates improving reliability. While the methodology effectively captures commuting trends and transportation modes, ongoing efforts to increase survey response rates will further enhance data quality and precision.

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