

ENERGY MANAGEMENT ACTION PLAN & PROGRESS REPORT 2024 Q1&Q2



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Reference documents

Reference	Title
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CBF_2024_(GROUP MACRO-MANUAL-OPERATIONAL)	Carbon footprint database containing all emission and energy data for 2024.
Financial year report 2023	Financial boundary and year report of 2023, verified by Grant Thornton.
JDN.QP.13.01	Bevindingenbeheer
JDN.GF.01.40	Gedragcode (Code of conduct)
Sustainability report 2023	Sustainability report 2023

Standards

ISO 14064 - 1	Greenhouse gases — Part 1: Specification with guidance at the organization level for quantification and reporting of greenhouse gas emissions and removals
ISO 50001	Energy management systems – Requirements with guidance for use §6.2.3
CO ₂ Performance ladder	CO ₂ Performance Ladder Handbook 3.1

Definitions

Definition	Meaning
Carbon dioxide equivalent	Unit for comparing the radiative forcing of a GHG to that of a carbon dioxide.
GHG emission	Greenhouse gas emission. Release of a GHG into the atmosphere.
GHG emission factor	Greenhouse gas emission factor. Coefficient relating GHG activity data with the GHG emission.
GHG removal	Greenhouse gas removal. Withdrawal of a GHG from the atmosphere by GHG Sinks.
GHG removal factor	Greenhouse gas removal. Coefficient relating GHG activity data with the GHG removal.
GHG Source	Greenhouse gas source. Process that releases a GHG in the atmosphere.
Global warming potential	Index, based on radiative properties of greenhouse gases, measuring the radiative forcing following a pulse emission of a unit mass of a given GHG in the present-day atmosphere integrated over a chosen time horizon, relative to that of carbon dioxide.

Abbreviations

Abbreviation	Meaning
CO _{2e}	Carbon dioxide equivalent
GHG	Greenhouse gas Gaseous constituent of the atmosphere, both natural and anthropogenic, that absorbs and emits radiation at specific wavelengths within the spectrum of infrared radiation emitted by the earth's surface, the atmosphere and clouds.
SBTi	Science Based Targets initiative
TTW	Tank To Wheel
WTT	Well To Tank
WTW	Well To Wheel

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Preface

Jan De Nul is a modern and innovative company that takes on today's complex challenges. Our talented people develop sustainable solutions that contribute to the energy transition and secure the future of the next generation.

Our expertise lies in five main activities: offshore energy, dredging and maritime services, civil construction, environmental projects and project development. We enable the production of offshore energy and keep waterways at depth. We are building new ports and creating additional land. We realize complex infrastructure works and install any type of building. We tackle pollution, in whatever form. From design and engineering to implementation and maintenance, we unburden our customers with total solutions that combine one, several or even all activities.

Our values as a cornerstone for sustainability

Challenge, Connect, Focus, Respect. Based on our values, Jan De Nul resolutely opts for a sustainable future. We are committed to people and the environment. We work as a team and share our knowledge and expertise. We are committed to the most sustainable solution for all parties involved. We take up the challenge to help build a better future.

Environment

As a civil, maritime and offshore contractor, Jan De Nul is in the perfect position to make a difference for a better environment. We actively contribute to the energy transition, clean up polluted sites and protect coasts from erosion. At the same time, we actively reduce our emissions, reuse as much material as possible and introduce sustainable solutions into our projects.

Energy management action plan

This periodic report contains the energy management Action Plan (EMAP) in accordance with ISO 50001 and CO₂ Performance Ladder.

ISO 50001	CO ₂ -Prestatieladder	Deming	Jan De Nul
§6.3 Energy audit	2A3	Plan	The emission inventory is included in the Greenhouse gas report and the and progress reports. New savings opportunities are examined following the (external) energy audits and (external) energy assessment, discussed in respective steering and working groups, discussed and established in the management review and the Energy Management Action Plan (EMAP)
§6.2 Energy targets, targets and action plans	B, 2C2	Plan/Do	JDN QHSSE policy statement, JDN CSR strategy as described in the sustainability report, JDN code of conduct, Energy Management Action Plan, List of measures Website SKAO
§6.3 Monitoring, measurement and analysis	3C1, 4B2, 5B2 in 5C3	Check	Semi-annual update of the CO ₂ footprint and the and progress reports. Performing Internal and external

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			(energy) audit, self-assessment, work and steering committee consultation, management review.
§6.3 Deviations, corrections, corrective and preventive measures	Continuous improvement	Act	If deviations are detected, the CO2PL advisor will coordinate adjustments through: - organized steering and working group meetings by coordinating the actions described in the action list; - drafting finding within the internal audit process; - the annual management review. If required, adjustments are made to <> and/or <> or relevant system documents of the CO2PL management system.

In this report, we also describe how Jan De Nul Group achieves CO₂ reduction targets and measures, as set by the management, as part of its CO₂ performance ladder certification.

1 Energy policy

Jan De Nul Group has sustainable ambitions. But how do we put this into practice? Our **Code Zero** business program unites all sustainability initiatives under four pillars: zero emissions, zero accidents, zero waste, zero breaches. The introduction of this program is a milestone, rather than a starting point.

Zero emissions

Global climate change threatens our way of life. By keeping our ecological footprint to an absolute minimum and setting clear goals, we want to contribute to a more sustainable world. At Jan De Nul, this is not a distant goal: we are fully committed to the use of bio- and other fuels and with our ULEv ships with extremely low emissions, we are an absolute trendsetter in our sector.

The ambitions of Jan De Nul Group were validated by the **Science Based Targets initiative** (SBTi). The SBTi encourages the private sector to both set climate ambitions and take climate action. They are the first NGO to examine and validate business climate ambitions. In this way, it is independently verified that business ambitions and actions are in line with the targets of the Paris climate agreement. The Science Based Targets initiative is a collaboration between CDP, the United Nations Global Compact, the World Resources Institute (WRI) and the World Wildlife Fund (WWF).

Through, among other things, the CO₂ performance ladder, we focus on "**Zero emissions**" in which we reduce our ecological footprint. All **dredging, civil and environmental works of Jan De Nul Group in the Benelux** are certified according to the **CO₂ performance ladder**, an instrument to stimulate CO₂ reductions. We still achieve the highest level 5.

As part of our **QHSSE policy statement**, signed by management, we are committed to protecting the environment and climate and preventing pollution. We constantly strive to **use less energy and emit fewer greenhouse gases**. Where possible, we opt for **green energy**.

The signed [QHSSE Policy Statement](#), the [sustainability report 2023](#) and the [annual report 2023](#) can be read via the website.

2 Boundary

Figure 1: Boundary CO₂ Performance Ladder Certificate 2024₂ Performance Ladder management system. This boundary includes all dredging, civil and environmental activities in the Benelux.

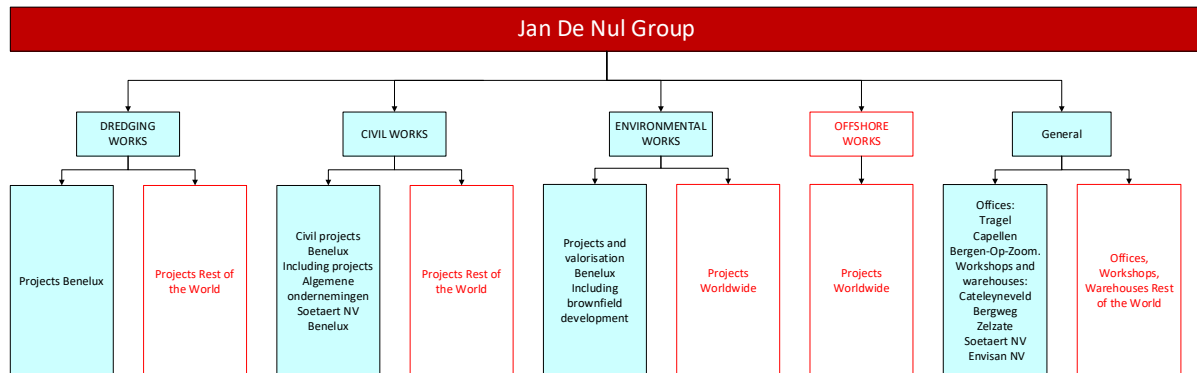


Figure 1: Boundary CO₂ Performance Ladder Certificate 2024

3 Energy audit

The actions resulting from the energy audits and energy assessments shall be monitored in the relevant working and steering groups. These assessments and audits include:

- The energy audit for large non-energy-intensive companies dated 22/11/2023
- Energy assessment of the projects with award advantage.
- Energy assessment conducted on permanent offices, warehouses, ...
- Drafting EPC - NR for the Tragel, Bergweg Zelzate and Hulsdonk sites during 2024
- Heating audits on combustion plants conducted during 2018;

4 Targets and measures

Our ambitions are focused on both direct (scope 1) and indirect (scope 2 and 3) emissions and have been validated by SBTi. Jan De Nul Group is committed to:

- Reduce absolute Scope 1 and 2 greenhouse gases by 40% by 2035 compared to base year 2019.
- Reduce the absolute Scope 3 greenhouse gases from purchased goods and services and fuel and energy-related activities by 20% within the same timeframe.

These validated climate ambitions are translated into 4 concrete targets for the activities within the boundary of the CO₂ Performance Ladder certificate. These targets are formulated on the basis of possible reductions that are determined in internal and external energy audits and determined in the management review.

For projects with an award advantage, project-specific targets and measures may be formulated within the respective project. These are documented at project level and bundled in the project file.

4.1 Targets, measures and progress Q1 & Q2 2024

4.1.1 Target 1: CO_{2e} -reduction of fuel vessels during project realization (Scope 1)

Target:

30% absolute reduction of CO_{2e}-emissions from dredgers in the Benelux in the period 2022-2030 compared to base year 2019.

The target is to achieve an absolute 30% CO₂-reduction in the period 2022-2030 compared to the emissions of base year 2019. For the annual monitoring of this reduction target, a carbon budget is calculated, this is divided linearly over the period in which the reduction is to be realised. At the annual review, the remaining part of the carbon budget is determined, after which the remaining budget is redistributed over the upcoming years until 2030.

In the base year 2019, emissions from vessel fuel amount to 28.004 tonnes of CO_{2e}.

In 2024, the maximum emissions from vessel fuel combustion amount to 24.803 tonnes of CO_{2e}. This means that in the first half of 2024, there is a maximum of 12.401 tonnes CO_{2e} emissions from vessel fuel combustion.

Share of emissions in relation to the CO₂ footprint:

Emissions from ships account for 50% of all scope 1 and 2 emissions in the Benelux for the first half of 2024.

The main reduction measures taken to achieve this target:

The measure with the greatest GHG emission reduction potential is the use of renewable fuels, which can achieve emission reductions of up to 90% per tonne of fossil fuel replaced. However, the market for renewable fuels remains volatile, with the result that both price and availability fluctuate widely and cannot be guaranteed. For this reason, the Jan De Nul Group takes into account possible decreased

use of biofuels. In the future, we will aim to use alternative renewable fuels, such as methanol, or use hybrid vessels. We also remain committed to optimise energy efficiency through continuous monitoring of operational measures. The impact of operational energy efficiency is highly dependent on project type and weather conditions, and therefore difficult to quantify. It is estimated that for new build ships a maximum optimisation in energy efficiency of 10% can be realised through design optimisation. For existing ships, this is estimated at a maximum of 5%. A Ship Energy Efficiency Management Plan (SEEMP) is prepared for each ship deployed by JDN.

Evaluation of the target:

In the first half of 2024, 13.840 tonnes of CO₂e were emitted as a result of vessel fuel consumption in the Benelux. This means that we did not achieve the target for the first half of the year. To make conclusions and take any measures, we are awaiting the full year's result.

4.1.2 Target 2: Reduction of fuel consumption of company cars personnel (Scope 1)

Target:

50% reduction in emissions per kilometre from the car fleet (employees) by 2030 compared to the base year 2019.

In base year 2019, the average emissions per kilometre of the cars in the fleet is 145 gCO₂/km. In 2030, the maximum average emissions per kilometre may not exceed 73 gCO₂/km.

Intermediate targets:

- 2023: Maximum 119 gCO₂/km
- 2024: Maximum 112 gCO₂/km
- 2025: Maximum 106 gCO₂/km

Share of emissions in relation to the CO₂ footprint:

In 2024, emissions from company cars accounted for 2.5% of all scope 1 and 2 emissions in the Benelux.

The main reduction measures taken to achieve this target:

Replacing fossil-fuelled vehicles with electric cars causes the biggest reduction in emissions. Electric driving can reduce emissions by up to 100%, although it remains important to consider the energy source used to charge the cars. If fossil-fuel vehicles are still purchased, fuel-efficient cars with emissions below 80 gCO₂/km are chosen. This is about 45% less than the average emissions (145 gCO₂/km) of our fleet in 2019. We also encourage the use of bicycles and are committed to raising awareness and changing behaviour through sensitisation. However, the exact impact of this is difficult to quantify.

Evaluation of the target:

The average emission per kilometer from the fleet is 88 gCO₂/km in 2024. Consequently, we are still well on track to achieve the target in 2030.

4.1.3 Target 3: Renewable electricity in offices, workshops and warehouses

Target:

100% renewable electricity of local origin with at least 10% self-generated energy used in all offices, workshops and warehouses. This target remains in place until 2030.

Share of emissions in relation to the CO₂ footprint:

Electricity emissions from offices, workshops and warehouses account for 0% of all scope 1 and 2 emissions in the Benelux. The emissions are 0 Tons CO_{2e} because local renewable electricity has an emission of 0 Tons CO_{2e} in the use phase. The electricity consumption of offices, workshops and warehouses accounts for 33% of all electricity consumption in the Benelux.

The main reduction measures taken to achieve this target:

Purchasing green energy from local sources contributes to a 100% reduction in greenhouse gas (GHG) emissions. Demand for locally generated energy is increasing and availability from energy suppliers cannot be guaranteed until 2030. To ensure the long-term goal, Jan De Nul is therefore investigating alternative options such as its own energy generation, energy storage and energy sharing. Jan De Nul is investing in its own production of renewable energy, including installation of solar panels and wind turbines. To further reduce energy consumption, optimisations are being made in the field of energy efficiency. For example, a building management system will be installed in the new building office that detects peak consumption and prevents peak loads. Since 2024, a pilot project has also started whereby generated renewable energy is stored in batteries. These batteries are discharged when the availability of renewable energy is insufficient.

Evaluation of the target:

In 2024, 100% of all electricity purchased for offices, workshops and warehouses in the Benelux is green and of local origin. And 14% of the electricity consumption of offices, workshops and warehouses comes from own generated energy. We are also on track to meet our target for renewable electricity.

4.1.4 Target 4: Reduction of emissions in DBFM projects

Target

Minimum 30% reduction on ECI* and 10% reduction on CO_{2e} impact for one infrastructure and one building project respectively compared to standard design by 2025, with corresponding interim targets:

- Minimum 30% reduction on the ECI value* compared to standard design on 1 infrastructure project awarded or implemented in 2023
- Minimum 10% reduction on the CO₂ impact** compared to standard design on 1 building project awarded or carried out in 2024
- Minimum 30% reduction on the ECI value* on 1 infrastructure project and minimum 10% reduction on the CO₂ impact** on 1 building project compared to standard design awarded or carried out in 2025

* Minimum 30% reduction on ECI value of concrete and steel used to carry out infrastructure works.

** Minimum 10% reduction on the CO₂ impact of the materials used for the exterior structure of the building will be realized, excluding the interior finish.

**The main reduction measures taken to achieve this target:**

To reduce emissions in DBFM projects, we rely on design optimisation. Smarter design allows using less steel and concrete, which reduces the amount of energy-intensive materials. The energy intensity of materials can also be reduced by relying on low-carbon variants, such as low-carbon concrete and steel. In addition, transport-related emissions are reduced by using local materials and services that minimise transport distances, as well as by using alternative transport modes. However, the full reduction potential of these measures is difficult to quantify because it depends heavily on project-specific characteristics such as location, opportunities for project optimisation, use of low-carbon materials and related legislation or requirements, among others.

Evaluation of the target:

The final/execution design of the building project, awarded in 2024, has an ECI - value which is 44% lower compared to the standard/reference design. Consequently, the second interim target was achieved. The detailed implementation of this project is described in the action plan.

5 Evolution of CO_{2e} emissions

The table below shows the evolution of CO₂ e-emissions for the activities in the Benelux of Jan De Nul. Previous years are recalculated annually under the influence of changing emission factors.

Table 1: Evolution of CO_{2e} emissions (Ton CO_{2e}) Scope 1 and 2

		2019	2022	2023	2024 H1
Scope 1	Main floating equipment	28,004	10,823	12,765	13,840
	Land equipment	6,530	14,811	11,705	6,701
	Heating	1,278	1,182	1,145	682
	Company cars	2,805	3,598	3,432	555
Scope 1 Total		38,609	30,432	29,049	21,778
Scope 2	Electricity*	1,576	297	357	261
	Heat recovery	23	18	23	11
	Company cars	/	/	78	43
Scope 2 Total		1,599	315	458	315
Grand Total (s1+s2)		40,216	30,729	29,507	22,408

* For the calculation of emissions from electricity, emission factors are adjusted to Belgian emission factors instead of Dutch emission factors. A retroactive calculation has been done up until and including the reference year 2019.

Table 2: Evolution of CO_{2e} emissions (Ton CO_{2e}) Scope 3

		2019	2022	2023	2024 H1
Scope 3	Business Travel	1,076	1,809	2,152	845
	Purchased goods and services	/	36,487	64,095	32,048
	Fuel and energy related activities	/	472	532	266
	Employee commuting	1,016	780	565	283
	Fuel private vehicles	56	/	/	/
	Concrete	10,581	/	/	/
	Steel	4,687	/	/	/
	Earthmoving	4,208	/	/	/
Scope 3 Total		21,624	39,548	67,344	33,478
Grand Total (s1+s2+s3)		61,840	70,277	96,851	55,886

6 Findings, corrective and preventive measures

If deviations are identified, the focus group will coordinate energy, emissions and climate adjustment through:

- The periodically organized steering and working groups by coordinating specific actions
- Finding management (JDN.QP.13.01)
- The annual management review

If required, adjustments are made to the system documents of the CO₂ Performance Ladder Management System.

7 Emission-related initiatives

Jan De Nul actively participates in working groups and CO₂-related initiatives within the sector and thus stays informed of reduction possibilities. On the one hand, the company participates in initiatives, and on the other hand also initiates initiatives itself. Participation is described in "Overview of initiatives and reduction programs".

In addition, Jan De Nul has also subscribed to various professional literature and social media in order to stay informed about CO₂-related initiatives. The status of the ongoing initiatives is discussed within the relevant operational steering and working groups. Decisions are also taken within these groups about possible new initiatives.