WASMUËL WATER TREATMENT PLANT– RENOVATION – PHASE 1

PROJECT FILE – CO2 PERFORMANCE LADDER

JANDENUL.COM

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3173 | Wasmuël Water Treatment Plant– Renovation – Phase 1

Document management

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Review and approval

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Reference documents

Reference	Title
Documents managed by JDN	
	CO2-PL certificate
Standards	
CO2 Performance ladder	Manual version 3.1

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1 Introduction

Short description of the works to be performed:

- Site set-up
- Renovation and modification of the concrete of the entrance structure
- Replacement of electromechanical equipment: wall valves, screen rakes, bridges, sand traps, boosters
- Construction of a utility room
- Construction of a hangar above the sand traps
- Creation of a wide access to the underground galleries
- Installation of new electrical panels
- Dismantling of old electromechanical equipment and electrical cabinets

1.1 Project details

ID data	
Description	Wasmuël Water Treatment Plant– Renovation – Phase 1
Specification N°	N° ABT-151 - 4
Client	IDEA – Intercommunale de Développement Economique et d'Aménagement du Cœur du Hainaut
Tender date	1/12/2022
Award date	23/06/2023
Implementation period	June 2023 – December 2024
Role of the certificate in the award procedure	In their offer, the tenderer could commit to reaching a certain CO2 target level. Setting a CO2 target level in the tender provides a fictitious award advantage. Applying this fictitious advantage level to the tender price produces the assessment price. This price is assessed on the basis of the "Price" award criterion. Fr this contract, the tenderer could only choose one of the following target levels: None - 0% / Level 1 - 2% / Level 2 - 4% / Level 3, 4, 5 - 6%. In their offer, the tenderers make the commitment to reach the following CO2 target levels: Level 3

1.2 Stakeholders

The stakeholders are:

1) The client: IDEA
2) JC Balteau being the partner in the general contractor's consortium. This is a non-integrated consortium, and therefore Jan De Nul only take into account their own CO2 consumption of their own activities on the construction site.
3) The neighbouring residential and industrial estates of the water treatment plant that use it.
4) The environment and any humans whose health and quality of life directly depend on the CO2 pollution level.

2 Inventory

2.1 Identification of energy and emission flows

List of the major energy and emission flows (material).

Scope 1 (Fuel consumption)	
# Cranes	Tracked excavator <20T : Hitachi Zaxis 80SB – 39kW – 8T – 0.3m³ Tracked excavator 20T < 50T : Hitachi Zaxis 210LC – 69kW – 14T – 0.6m³ Tracked excavator 20T < 50T : Hitachi Zaxis 350LC – 184kW – 33,8T – 1,6m³(GPS) Wheeled telescopic crane: Grove RT650E – 129kW – 40T Tracked telescopic crane: Sennebogen 630R – 150kW – 30T Self-erecting crane: T33C
# Wheelloaders	Compactor – Bomag Bw75Hs – 1T Compactor – Bomag Bw214Hs – 14T
Others	Transport / dumper truck: 4x4 – 18T – 10m³ (ZETROS-01 road transport) Montabert V32 (4kNm) Pumps: Grindex – 200m³/h (submersible pump – on IDEA power supply

Scope 2 (Electrical consumption, heating)	
#shacks (eco-shacks)	Living base client – 12 months Living base general contractor – 12 months Living base labourers – 12 months Warehouse – 12 months

Scope 3	
Concrete (HOLCIM Ghlin)	
Prefab concrete	
Steel (Armasteel – Wavre)	
Building materials (geotextile, tar, drainage, prefab elements, metallic structures, etc.)	
Landfill	

List of excluded energy and emission flows:

Energy flow	Reason
Electrical consumption of the project	All electricity is generated on site with generator sets or connected to the IDEA network.
Electrical consumption in the support departments (e.g. Aalst office)	Is managed at Jan De Nul Group corporate level and included in the communal parts.
Natural gas	Limitation of natural gas consumption by Jan De Nul Group on the project (only for site plant and for the generator set, which we try and use as little as possible).
Natural gas consumption in the support departments (e.g. Aalst office)	Is managed at Jan De Nul Group corporate level and included in the communal parts.
Air Miles Crew	No airmiles flown for this project.
Air Miles Staff	Is managed at Jan De Nul Group corporate level and included in the communal parts.
Trade vehicles	Is managed at Jan De Nul Group corporate level and included in the communal parts.

2.2 Carbon footprint and trends

2.2.1 Reference carbon footprint

No reference carbon footprint is available.

2.2.2 Comparison between the emission profiles of organisation and project

2.2.2.1 Project emission profile

The total carbon footprint of the project amounts to 5.5 tonnes of CO_{2e} in 2023. 89% of the total emissions originates from heavy equipment usage (scope 1). Only 11% originates from electricity consumption.

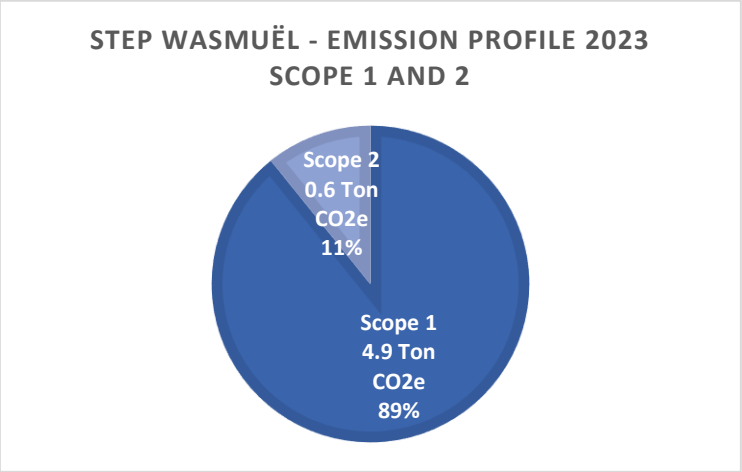

Figure 1: Emission profile of the project

2.2.2.2 Organisation emission profile

The project emission profile resembles the emission profile of the organisation (civil projects). Electricity consumption on the project is higher compared to the electricity consumption of the organisation, due to the deployment of electrical equipment.

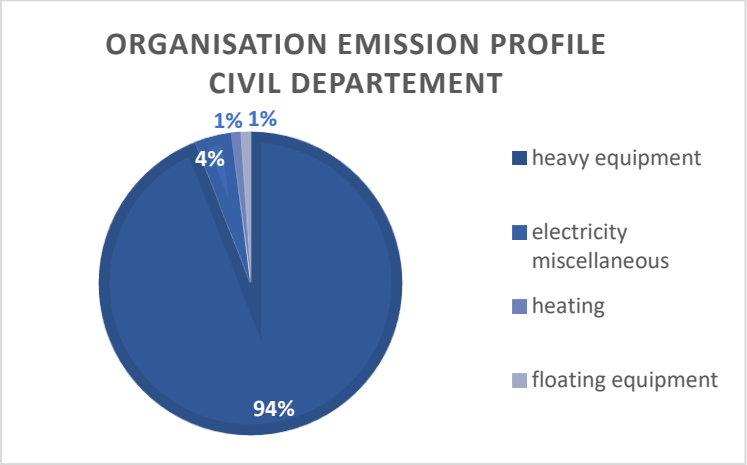

Figure 2: Organisation emission profile - Civil department

3 Reduction

3.1 List of reduction measures for the project

Title	SKAO measure
Use of road mats or other temporary surfacing to reduce ground resistance	On the construction sites and their non-tarred supply routes, access roads are always covered with temporary surfacing. *This measure is applied regularly but is not standard. On some construction sites, it cannot be implemented.*
Electrification of tools	Whenever possible, the company uses electric tools instead of petrol tools. *Whenever possible, and when available, electric equipment is bought / deployed.*
Energy savings in the site shacks	At least 20% of site shacks used meet the requirements of the construction decree 2012 for temporary buildings. *32% of our own shacks meet EPC 02/2023 requirements.*
Employee mobility	*Jan de Nul's workers come to the site by mini-bus to reduce the number of business trips.*
Applying durable concrete mortars	*Jan de Nul has a framework contract with Holcim to use their ECOPact concrete, which is a decarbonated cement that reduces CO2 emissions by 30 to 50% per 100 m^3 of cement.*

4 Transparency

As regards communication about CO2 performances for the Benelux as a whole, please refer to the global communication plan « Communication plan and analysis of stakeholders ».

Specifically for this project, there is also internal and external communication about the CO_2 performance. The form of communication, stakeholders, person responsible and frequencies are summarised in the tables below.

4.1 Internal

Form of communication	Stakeholders	Person responsible	Frequency
Poster of targets	Project team	Project manager / site manager	6-monthly
Project induction	Project team	Operator	At the start of each campaign
Toolbox	Project team	Operator	Annual
Monthly report	Project team	Operator	6-monthly

4.2 External

Form of communication	Stakeholders	Person responsible	Frequency
6-monthly project report	Client	Project manager	6-monthly
Publication of this project report on the JDN website	Interested stakeholders	QHSSE Advisor Energy and emissions	6-monthly *

* Note: The 6-monthly frequency is kept insofar as there are activities to be reported. If no activities take place during a 6-month period, there will be no reporting.