Giurgiulesti International Free Port

Report on Carbon Footprint 2022

April 2023

DANUBE LOGISTICS

Contents

I. INTRODUCTION

Since 2016, Danube Logistics SRL (Danube Logistics) has been promoting sustainable business practices by developing annual Carbon Footprint Reports for its operations at the Giurgiulesti International Free Port (GIFP). The current inventory, covering the period from 1st January to 31st December 2022, is an integral part of Danube Logistics' commitment to environmental stewardship. To ensure transparency and credibility, the Carbon Footprint Report has been prepared in accordance with the widely accepted Greenhouse Gas (GHG) Protocol. This internationally recognized carbon calculation methodology is compatible with other GHG standards, such as ISO 14064, which can be integrated into national and international GHG registries.

The Carbon Footprint Report analyzes a range of data related to energy production and consumption from both stationary and mobile emission sources. The carbon footprint emission sources are related to CO2 emissions generated and emissions equivalent to CO2. Danube Logistics' use of fossil fuels in port and transport equipment combustion, heating, and electricity consumption for port operations results in emissions of Carbon Dioxide (CO2), Methane (CH4), and Nitrous Oxide (N2O). Emissions of technical gases resulting from combustion by-products and F-gas emissions from cooling installations are not included in the footprint calculation.

II. BOUNDARIES OF THE CO2 FOOTPRINTING

Greenhouse gas accounting involves the selection of the following two types of boundaries:

1. Organizational boundaries

Danube Logistics adopts an audit approach to consolidate and report greenhouse gas emissions, which includes all emissions that the company can control and influence. The approach applies to all activities carried out by Danube Logistics at Giurgiulesti International Free Port.

It is important to note that the calculation of the carbon footprint does not cover residential companies operating on the premises of GIFP, as their activities are not under the control of Danube Logistics and access to accurate information is not guaranteed.

2. Operational boundaries

The total territory of GIFP currently under development comprises 55 ha.

The operational activities conducted within the following areas are included in the scope of this report (fig.1):

- General cargo and container terminal, dry bulk storage area;
- Oil terminal area including oil jetty, tank farm, auto loading facility and railway facility;
- Office park;
- Business park areas under control of Danube Logistics, e.g. workshop warehouse;
- Infrastructure at GIFP premises including roads and parking areas.

The following areas are excluded:

- Grain terminals with access to Danube and Prut rivers;
- Business park areas leased by third parties including grain storage facilities and vegetable oil reservoirs;

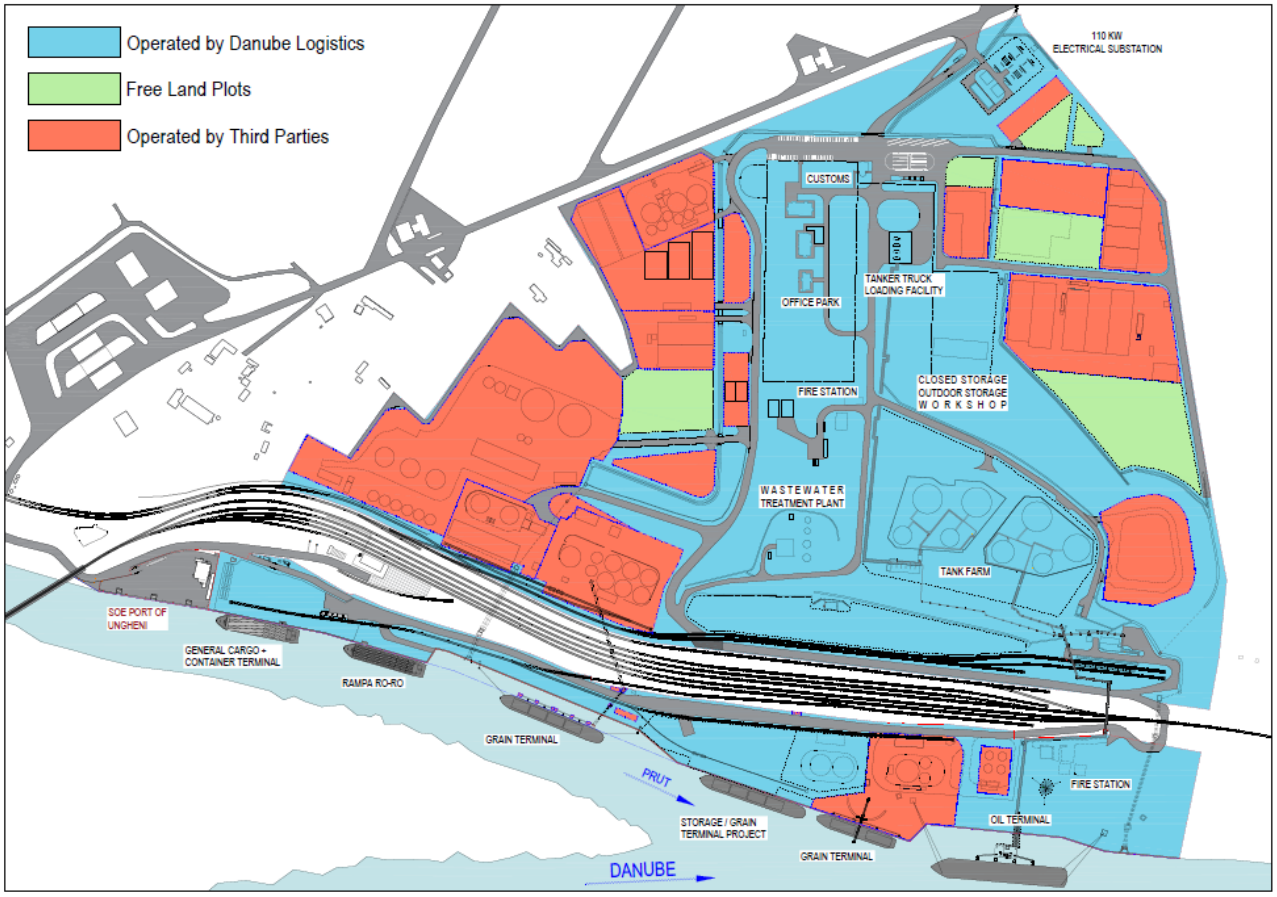

Figure 1. Port area that was taken into account for the calculation of CO2 emissions (shown in blue)

Following the recommendation of the Guidance Document "Carbon Footprinting for ports" issued by the World Ports Climate Initiative (WPCI) in 2010, the report focus is on emissions within scope 1 and scope 2:

a) Direct emissions (scope 1)

- Diesel and gasoline engines (kg CO2/liter);
  Fuel used by cargo handling equipment;
  Fuel used by on road and non-road vehicles;
  Fuel used by harbor crafts (tugboat) within the port waters;
  Fuel used by stationary sources;
  Fuel used by employee vehicles on the territory of GIFP;
- Burning of natural gas (kg CO2/m3)
  Natural gas used for heating of buildings in GIFP's office park;

b) Indirect emissions (scope 2)

- Consumption of electricity imported to GIFP (kg CO2/kWh);
  Electricity used by the pumps for the oil terminal auto loading facility;

Electricity used for the office park, the workshop, outside lighting and railway facility pump;
Electricity used for the terminal area including lighting;

III. CALCULATION OF GHG EMISSIONS

1. Activity-based approach

Danube Logistics has adopted an activity-based approach to calculate its greenhouse gas (GHG) emissions, which involves determining the total emissions for each type of fuel or energy used. To calculate diesel emissions, Danube Logistics records the amount of fuel consumed by each appliance used at GIFP and measures the fuel supply for each piece of equipment using a meter installed on the pump of the bunkering truck. Danube Logistics utilizes calibrated and certified meters to measure the consumption of natural gas and electricity, which enables precise and dependable tracking of energy usage at GIFP.

By relying on measured fuel and energy consumption data for more than 95% of the emissions calculations, Danube Logistics ensures a high degree of accuracy in its reporting. This approach enables Danube Logistics to identify areas of high emissions intensity and develop targeted measures to reduce its carbon footprint impact.

Through its commitment to accurately measuring and reporting GHG emissions, Danube Logistics is taking proactive steps towards promoting sustainable business practices. By focusing on precise measurements, Danube Logistics can develop effective strategies to minimize the carbon footprint impact of its operations on the environment.

2. Selection of GHG emission factors

To convert energy consumption quantities into GHG emissions, Danube Logistics multiplied the former by emission factors that align with national and international emissions standards for the selected resource types. The emission factors used were specific to each energy source, and facilitated the conversion of energy consumption quantities into corresponding GHG emissions. Table 1 shows the emission factors used for the calculation of the carbon footprint.

Table 1. Emission factors

Item	Emission factors (EF)	Units
EF diesel	2.68	kg CO2/litre
EF natural gas	1.87	kg CO2/m^3
EF electricity	0.521	kg CO2/kWh

IV. RESULTS

In 2022 the total estimated GHG emissions at the premises of Giurgiulesti International Free Port of activities generated by Danube Logistics amount to 1,386.8 t CO2e increasing by 19.1% compared to 2021 (table 2). As in previous years the majority of emissions in 2022 results from scope 1 - diesel and gas combustion (table 3). Emissions from CH4 and N2O are negligible with an accumulated share of 0.4% of total CO2e emissions.

Table 2. Total estimated GHG emissions

CO2e in tons	Factor	2016	2017	2018	2019	2020 *	2021	2022
CO2	1	858.1	851.3	942.1	906.7	864.3	1,160.4	1,381.0
CH4	25	1.7	1.5	1.9	2.0	1.9	2.6	3.2
N2O	298	1.2	1.0	1.3	1.4	1.3	1.8	2.3
Total CO2e		**861.0**	**853.9**	**945.3**	**910.1**	**867.6**	**1,164.8**	**1,386.8**

* In order to ensure consistency, adjustments were made to the data for 2020.

Table 3. Share of CO2 Emissions by Scope

Scope	CO2 emissions in tons	2022
Scope 1: Fuel and gas consumption	810.3	66%
Scope 2: Electricity consumption	411.4	34%
Total CO2	**1,386.8**	**100%**

a) Fuel consumption (scope 1)

The total fuel consumption amounted to 309,008 liters, resulting in CO2 emissions of 926.7 tons. This represents a 23% increase compared to the previous year and is primarily due to the significant rise in transshipment volumes at the cargo terminal in particular caused by the redirection of regional cargo supply chains since the beginning of the war in Ukraine. Overall, fuel consumption contributed to 66% of the total CO2 emissions in 2022 (as shown in figure 2).

The fuel consumption of vessels, which includes the tugboat operated by Danube Logistics to ensure safe navigation of maritime vessels, amounted to 32,862 tons of fuel, representing almost 6.5% of the total fuel consumption. It should be noted that the fuel consumption of vessels can vary from year to year, depending on various factors such as the number and size of vessels serviced at the port and the distance traveled.

As in previous years, the overwhelming majority (96%) of the CO2 emissions within scope 1 were attributable to the consumption of fuel. The remaining 4% of scope 1 emissions were due to the consumption of gas. The gas consumption came from the use of natural gas for heating purposes at the port.

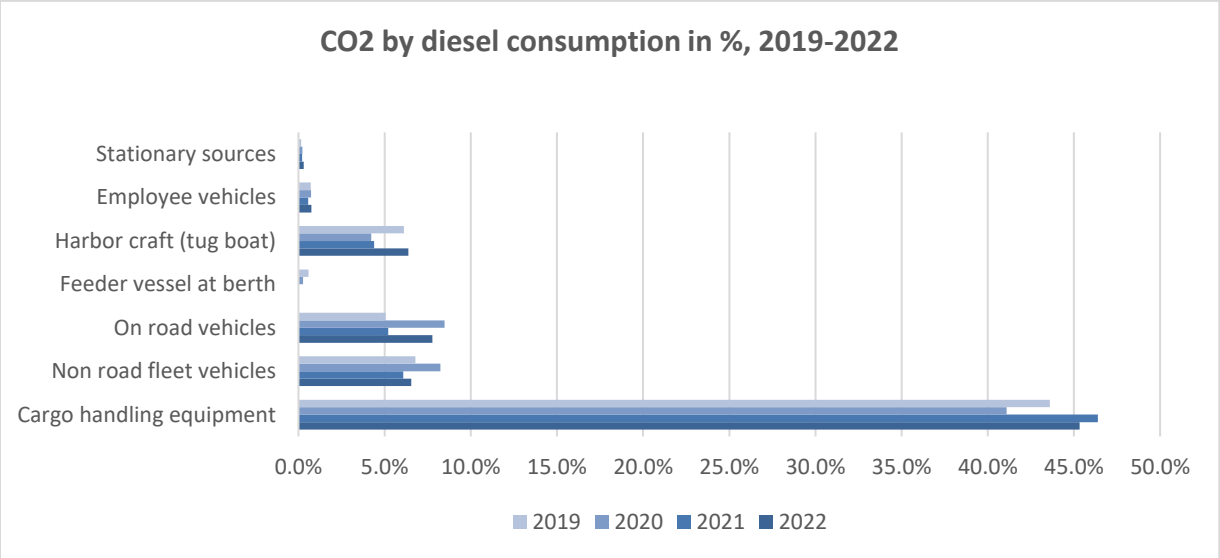

Figure 2. Share of diesel consumption of total CO2 emissions of Danube Logistics in 2019 - 2022

b) Natural gas consumption (scope 1)

In 2022, the natural gas consumption for heating the buildings in the GIFP Business Park was 22,991 m^3. This was a 16.2% decrease from the gas consumption in 2021, which can be attributed to the milder winter temperatures experienced during that period.

c) Electricity imported (scope 2)

The calculation of electricity consumption and CO2 emissions only included units owned and controlled by Danube Logistics. In 2022, the electricity consumption for these units reached 789,652 kWh, resulting in 411.4 tons of CO2 emissions. The increase of 8.54% in electricity consumption from the previous year is mainly attributed to the growth of truck loading activities at the oil terminal, which was similar to the growth observed in 2021.

d) CO2 emission indicator

In order to better understanding the impact of operational activities on CO2 emissions and to establish a benchmark for further GHG emissions the following CO2 emission indicator was calculated (table 4):

Table 4. CO2 Emissions indicator

CO2e indicator	2016	2017	2018	2019	2020 *	2021	2022
t CO2e	858.1	853.9	945.3	911.9	867.6	1,164.8	1,386.8
t DL transshipments	437.142	473.404	567.106	556.082	609.350	962.620	1,220.281
kg CO2e/ t transshipped	**1.9**	**1.8**	**1.7**	**1.6**	**1.4**	**1.2**	**1.1**

* 2020 was adjusted in order to ensure consistency

The transshipments carried out by Danube Logistics do not take into account the transshipments of grain conducted by other terminal residents or the transshipment of vegetable oil. As the increase of transshipment volumes over the last years have increased stronger than the associated emissions, the

emission indicator has shown a steady decline, reducing from 1.9 kg CO2e per ton of transshipped cargo in 2016 to 1.1 kg CO2e per ton in 2022.

V. CONCLUSIONS

The report reveals a significant increase in GHG emissions generated by Danube Logistics activities at Giurgiulesti International Free Port in 2022, with a rise of 19.2% from the previous year. This increase can mainly be attributed to the surge in transshipment activities at the cargo terminal by 26.8%. In consequence the CO2e emissions per ton of transshipped cargo continued to decrease.

Based on the findings of the report, it is evident that Danube Logistics is committed to managing its environmental impact by tracking and monitoring its GHG emissions and implementing measures to reduce its carbon footprint. The report shows that the company has made progress in reducing emissions per ton of cargo transshipped, primarily through increased use of more fuel-efficient material handlers and newer lighting technology. However, as the report indicates, fossil fuels used for internal combustion engines continue to be the major source of CO2 emissions, and the company must continue to prioritize the control and optimization of diesel use for port equipment.

To achieve significant reductions in its carbon footprint, Danube Logistics seeks to implement a range of measures that promote sustainability and energy efficiency. These include the adoption of an Energy Management System (ISO 50001) to assess and identify sources of CO2 emissions, the procurement of electricity powered equipment, and an installation of renewable energy sources such as solar panels, wind parks, and hydro-powered turbines. The optimization of logistics operations and engagement with stakeholders, including port residents, will also play an important role in achieving long-term sustainability goals. As a step into this direction is to integrate the CO2e emissions generated by port residents into the next year's report.

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