OUTPUT FACT SHEET

Pilot actions (including investment, if applicable)

Version 3

Project index number and acronym	CE1444 InterGreen-Nodes
Output number and title	Output O.T3.2 “Highly visible and practical development and demonstration of technical solutions” for Deliverable D.T3.2.3: Electric Ship Pilot in Berlin
Investment number and title (if applicable)	N/A
Responsible partner (PP name and number)	PP4 BEHALA
Project website	https://www.interreg-central.eu/Content.Node/InterGreen-Nodes.html
Delivery date	30.06.2022

Summary description of the pilot action (including investment, if applicable) explaining its experimental nature, demonstration character and transnational added value

Main Challenge: Providing green last mile transport, on inland waterways.

The ELEKTRA is an inland waterway pusher boat. The ELEKTRA is a hybrid-electric test vehicle for use in the Berlin-Brandenburg region and between Berlin and Hamburg, with electrical energy being provided by batteries, as well as hydrogen fuel cells, thus testing the viability of hydrogen and electricity for local, inland waterway transport.
Transnational value: As all pilot actions in the project, the demonstrator is easily transferable to any city with a transshipment point in or close to the city. The transnational value is raised through the common development and discussion of demonstrators, allowing ports in other countries to easily adapt the demonstrator.

The use of electric batteries and hydrogen is a novel and innovative approach.

NUTS region(s) concerned by the pilot action (relevant NUTS level)

DE300, Berlin

Investment costs (EUR), if applicable

N/A

Expected impact and benefits of the pilot action for the concerned territory and target groups and leverage of additional funds (if applicable)

Regarding the environmental effects, first estimations can be made and the KPIs calculated.

GHG-emissions in kgCO2e/km			
Before		**After**	
2020	15,32	2020	14,95
Difference 1:		-0,36 kgCO2e/km	
Difference 2:		-2%	

Benefactors: Cities and their citizens, as well as logistics operators who are being enabled to reduce their CO2 footprint.

No uptake on an institutional level, but not expected due to character of the protect. An uptake at policy or institutional level is not applicable for this demonstrator.

The demonstrator is already full scale, but uptake through other ports is possible and that could leverage additional funds.

Sustainability of the pilot action results and transferability to other territories and stakeholders

The demonstrator will be introduced into regular service at Westhafen port until 2023. Funding will be provided by the operator.
The demonstrator is easily transferable to any city with a transshipment point in or close to the city.

The following insights were gained from this first test phase:
After a few adjustments, ELEKTRA shows excellent handling in solo operation.
The interaction of the energy sources basically works very well and stably.
Pure battery operation has largely been tested to complete satisfaction.
The energy consumption for propulsion when driving solo has so far been below the forecast, i.e. longer ranges are currently possible.
Very extensive sensor technology installed on board has recorded a wide variety of data - extensive data is currently still being evaluated with new self-made tools
Pier (standby) operation can still be significantly improved in terms of energy consumption.

If applicable, contribution to/ compliance with:

- **relevant regulatory requirements**
- **sustainable development – environmental effects. In case of risk of negative effects, mitigation measures introduced**
- **horizontal principles such as equal opportunities and non-descrimination**

All relevant regulatory requirements for operating a commercial vessel in Germany have been met.

The contribution in regards to sustainable development is highly dependent on the total operational utilization of the vessel.
There is no risk of negative environmental effects, so no mitigation measures have been introduced.
“Sustainable Development” is the only horizontal principle integrated into the demonstrator.

References to relevant deliverables (e.g. pilot action report, studies), investment factsheet and web-links
If applicable, additional documentation, pictures or images to be provided as annex

Demonstrator has been reported as Deliverable D.T3.2.3: Electric Ship

Report:
https://www.interreg-central.eu/Content.Node/InterGreen-Nodes/CE1444-InterGreen-DT3.2.3-Report-(2022-06-16).pdf

Handbook Part 3 Vehicles:
https://www.interreg-central.eu/Content.Node/InterGreen-Nodes/CE1444-D.T3.3.3-Part3-Vehicles.pdf