

# 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.T3.2.7: Energy storage systems in ports
Investment number and title (if applicable)	N/A
Responsible partner (PP name and number)	PP1 TH Wildau
Project website	<a href="https://www.interreg-central.eu/Content.Node/InterGreen-Nodes.html">https://www.interreg-central.eu/Content.Node/InterGreen-Nodes.html</a>
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**

Reduction of peak demand at the grid connection point is a valuable application as of today. There are several options to reduce the peak demand. The first and most times most cost-efficient way is on-site load/demand management, the second is utilization of locally already available “storage” systems (e.g. production flexibility through product tanks) or heat/cooling storage units. A battery storage system can be seen as an additional add-on to reduce further costs. These costs can be either cost for the grid connection point itself (grid-extension costs) or network charges during operation.

In the future, transport (ships, vessels, trucks, cars, trains, cargo equipment) will be more and more electrified, which consequently effects the energy supply structure at ports. This is assumed because during logistical peak times with battery electrical equipment, the vehicles will need to be charged simultaneously at the harbour. Especially the last mile to the ports will be electrified and equipped with batteries.

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.

**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)**

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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 project. An uptake at policy or institutional level is not applicable for this demonstrator.

Intake through ports and other facility operators is possible and that could leverage additional funds.

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

The project did not demonstrate a full scale pilot in this case. The pilot was not planned when project funding began. Instead the idea to describe the elements of such a pilot was brought up, a year after the project started, by an associated partner. So the elements of the pilot and different measurements were introduced into the project, that were derived from different existing facilities operated by the associated partner ABO Wind.

The demonstrator is easily transferable to any city with a transshipment point in or close to the city.

The question when and if a battery storage system or a hydrogen generation with renewables on-site is suitable for a harbour strongly depends on the individual load profile of today and future plans. Harbours with a decisive emission reduction plan, that consider the movement of vehicle and ship producers to go more electric will have a benefit to investigate early their current load and start the planning for an integrative behind-the-meter micro-grid with battery energy storage system, Renewables and Electrolysers. ABO Wind can support in understanding the effects of those changes and can engineer a suitable system to ensure an economic operation in the future.

#### 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-discrimination

Regulatory requirements are subject to the national regulations, under which the facility would operate. The contribution to sustainable development lies mainly in the enabling effect of energy storage systems, to make sustainable energy production, economically and practically viable. No negative environmental effects are expected.

#### 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

Report:

[https://www.interreg-central.eu/Content.Node/InterGreen-Nodes/CE1444-InterGreen-DT3.2.7-Report-\(2022-06-16\).pdf](https://www.interreg-central.eu/Content.Node/InterGreen-Nodes/CE1444-InterGreen-DT3.2.7-Report-(2022-06-16).pdf)

Handbook Part 2 Energy Systems:

<https://www.interreg-central.eu/Content.Node/InterGreen-Nodes/CE1444-D.T3.3.3-Part2-Energy-systems.pdf>