



CROSS BOrder management of variable renewable energies
and storage units enabling a transnational Wholesale market

Coordinator:

etra | +D

Participants:



CRE
Centrul Român al Energiei



The University of Manchester



Končar - Power Plant and Electric
Traction Engineering Inc.



This project has received funding from the european union's horizon 2020 research and innovation programme under grant agreement n° 773430



CROSS BOrder management of variable renewable energies
and storage units enabling a transnational Wholesale market

PROJECT OVERVIEW

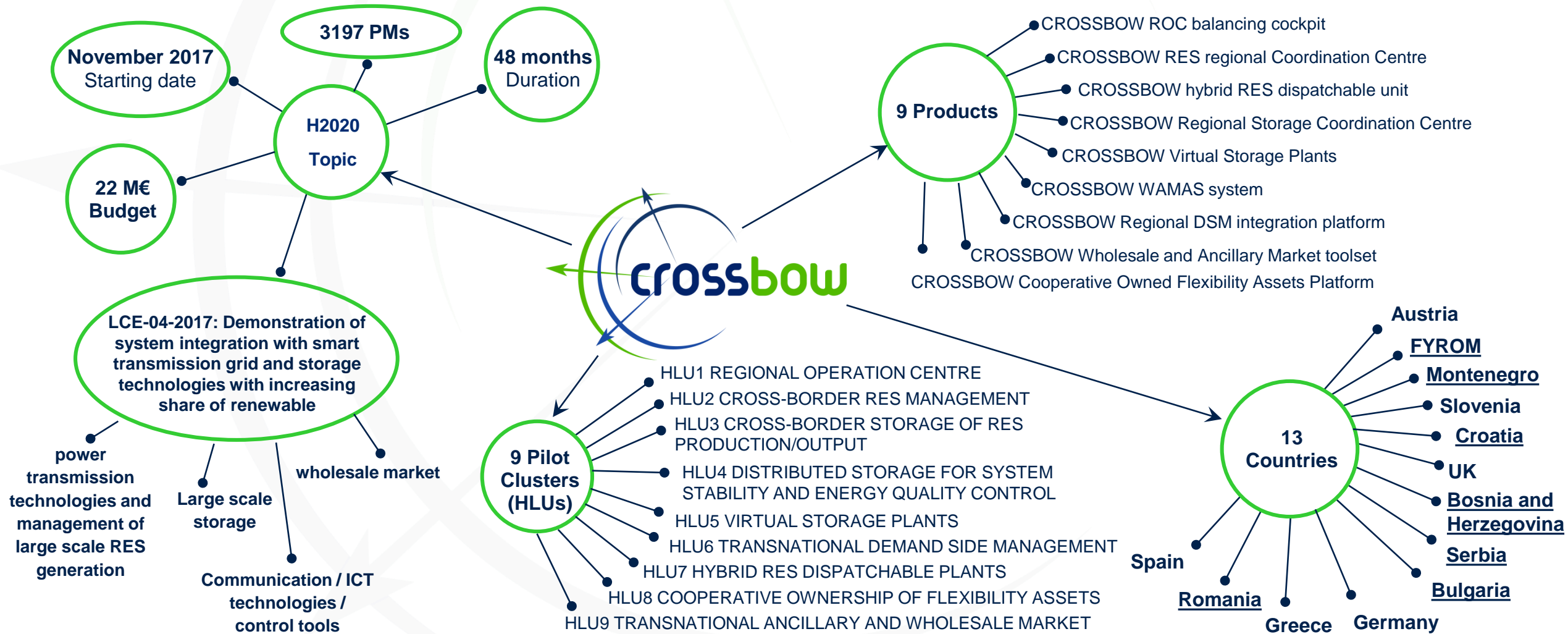
CROSSBOW
Regulatory and
Market Framework

31.5.2018

MANUEL SERRANO, ETRA

-
- The map illustrates the geographical distribution of the Crossbow project partners across Europe. A large green arrow labeled "Crossbow" points from the top right towards the center of the map. Orange arrows point from various logos to their respective locations on the map:
- United Kingdom:** The University of Manchester
 - Germany:** VARTA
 - Cyprus:** CYBERGRID
 - Croatia:** EMC, SCC
 - Slovenia:** University of Ljubljana, elpro
 - Hungary:** HOPS, KONCAR
 - Spain:** etra I+D, cobra
 - Italy:** NOSBIH, NOCEM
 - Montenegro:** CRNOGORSKI ELEKTROPRENOSNI SISTEM AD
 - Greece:** MENDO, ELEM
 - Bulgaria:** Transelectrica, CRE (Central Energy of Bulgaria)
 - Romania:** HEDNO
 - Serbia:** AAMHE

PROJECT AT A GLANCE

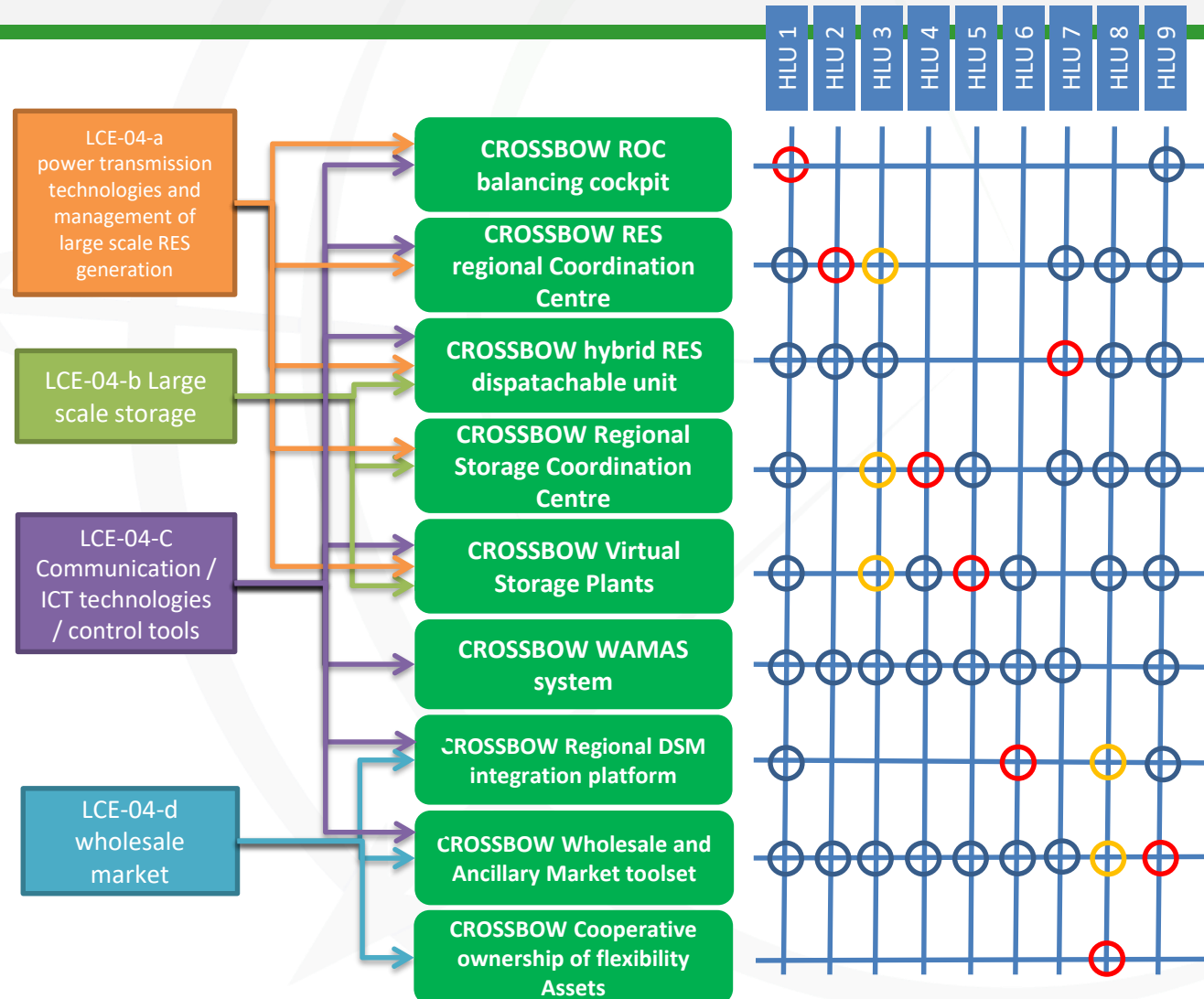


STRATEGIC GOAL



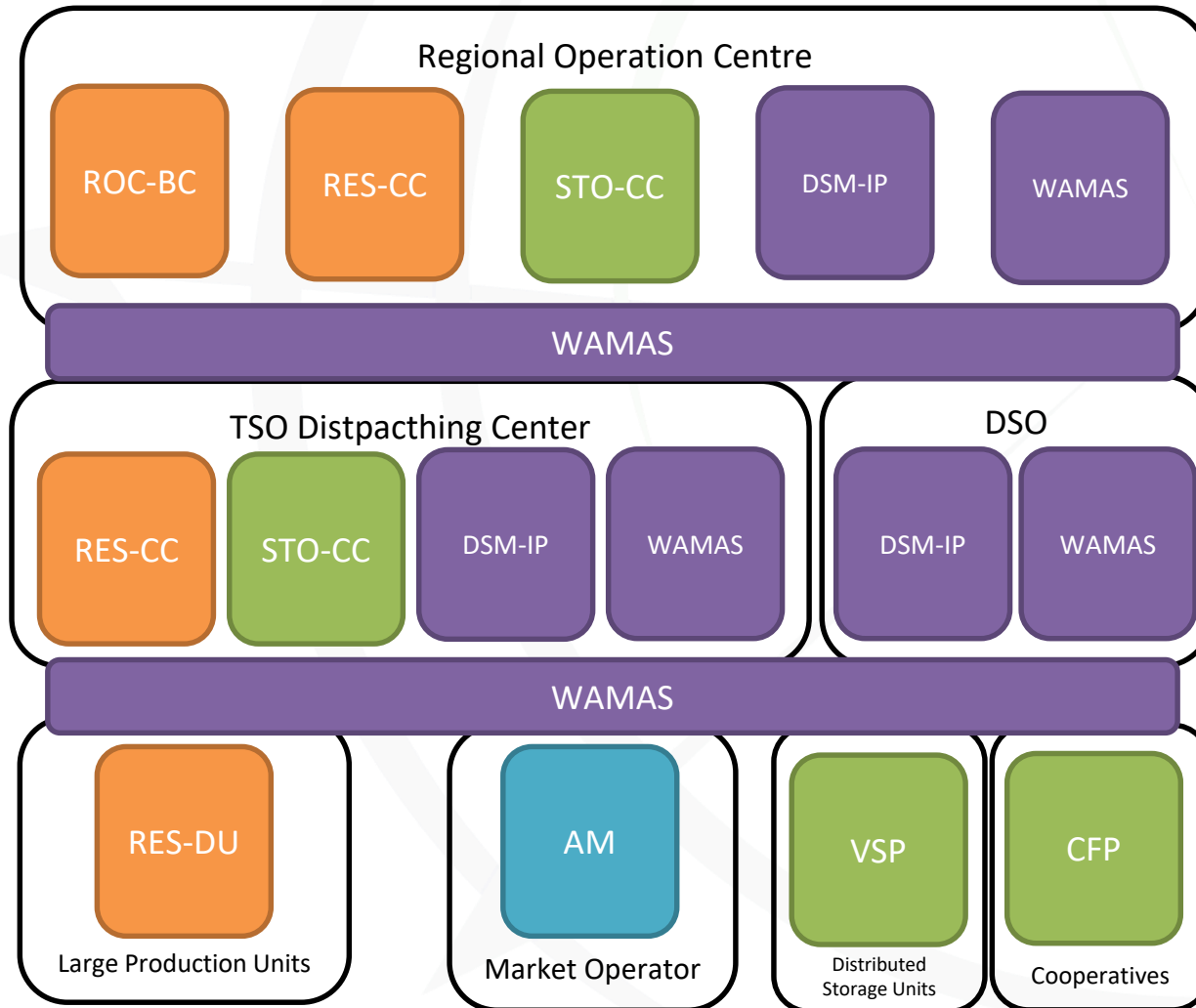
- CROSSBOW will propose the **shared use of resources** to foster cross-border management of variable **renewable** energies and **storage** units, enabling a higher penetration of clean energies whilst reducing network operational costs and improving economic benefits of RES and storage units.

PRODUCTS AND SCENARIOS



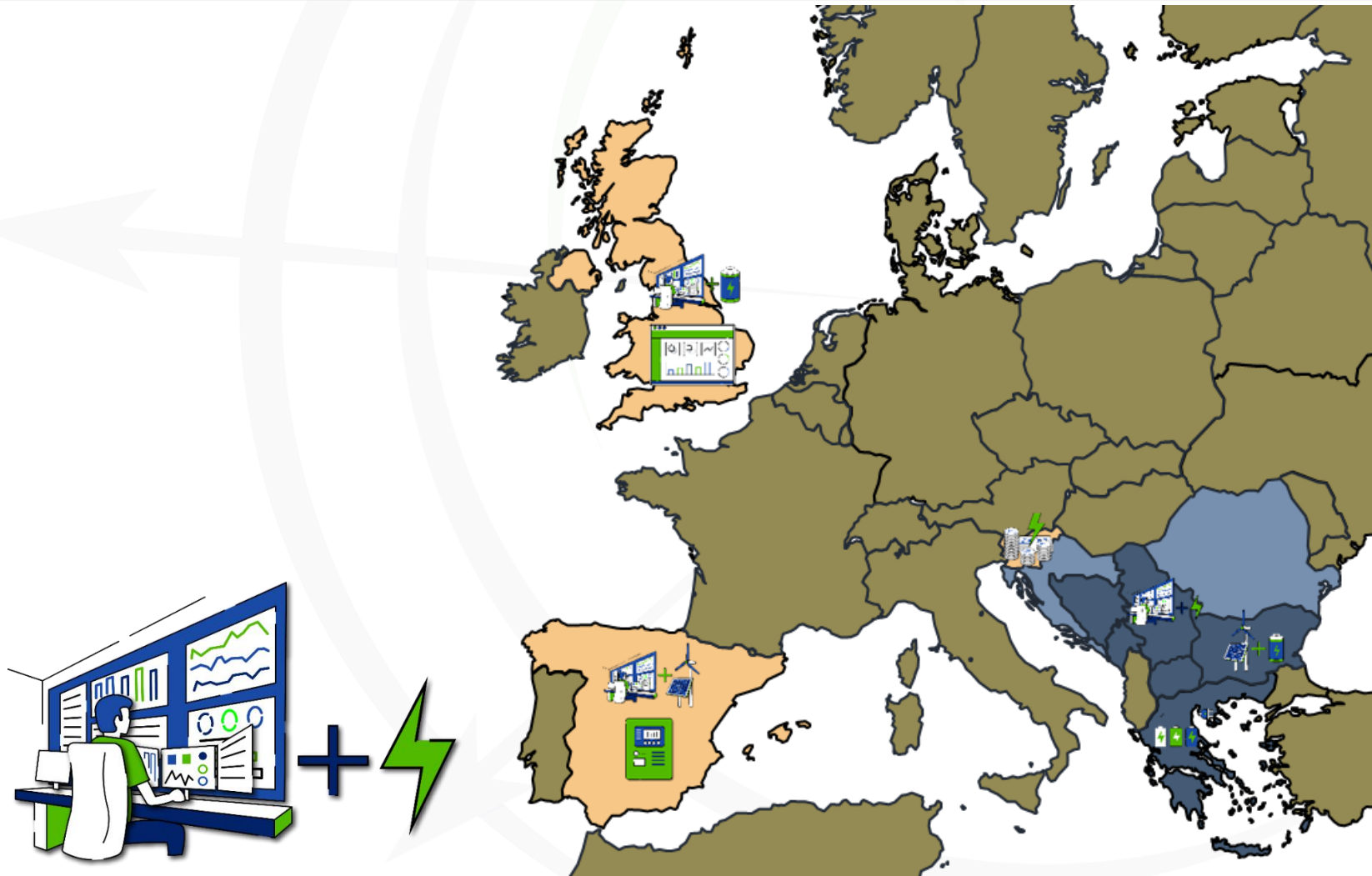
- Each product has a clear **leading role** in a specific scenario – i.e. High Level Use Case

PRODUCTS IN THE FIELD



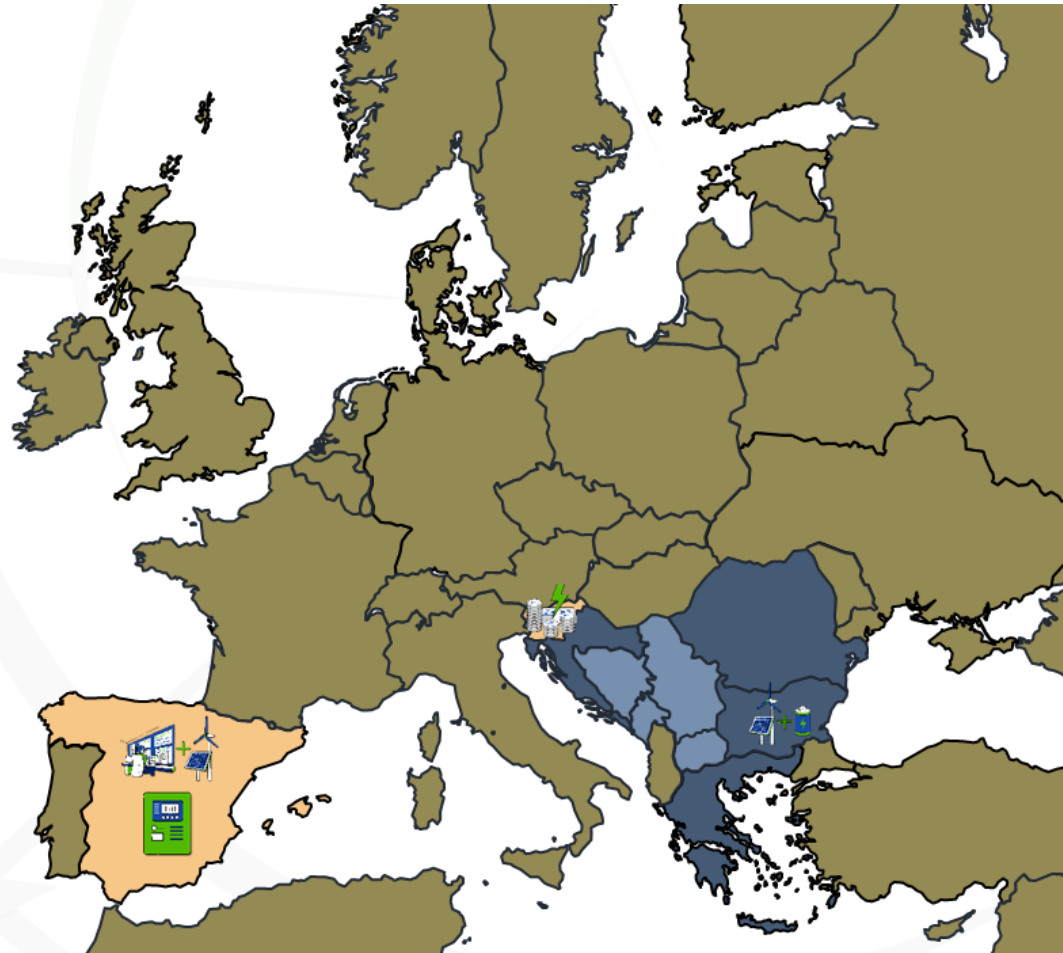
- Products can be instantiated by different actors and at different scale.
 - They will be designed to maximise their marketability
 - In the context of the Project it will not be possible to test their performance under all types of configurations.

HLU1-P1 DEMO COUNTRIES



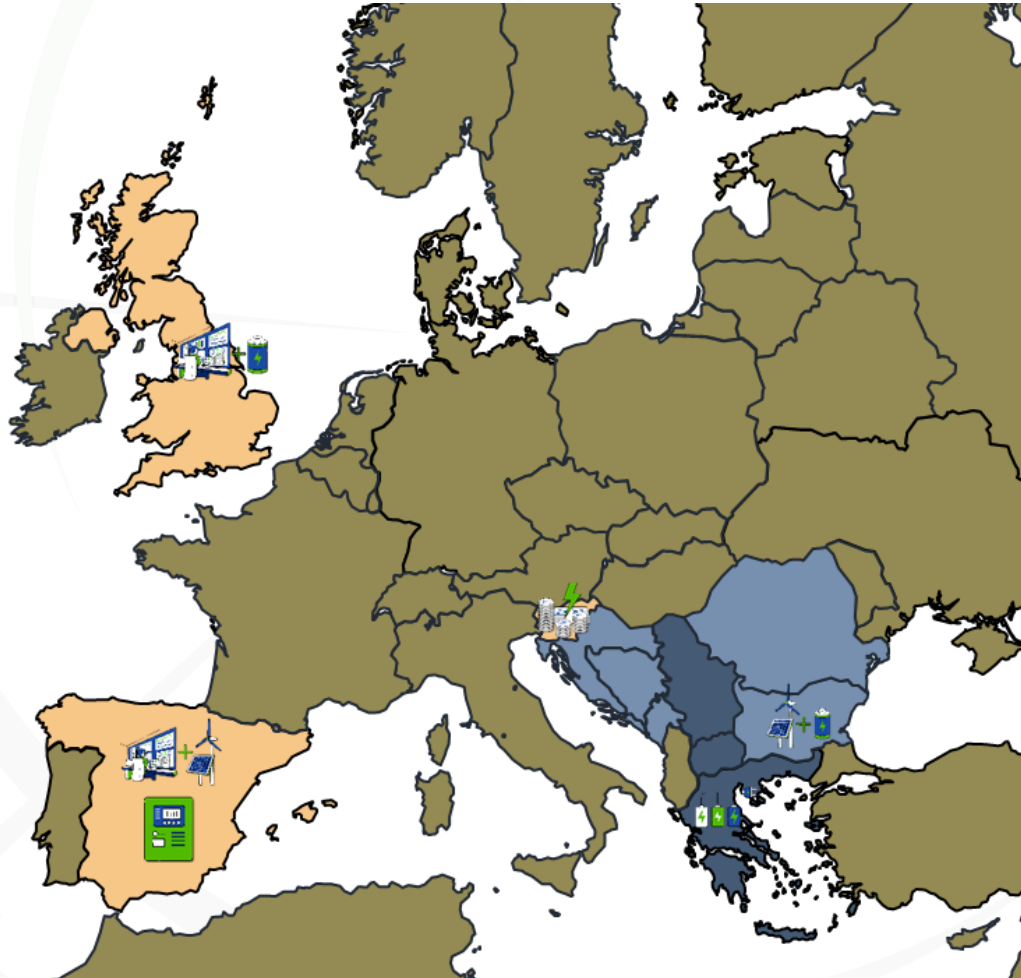
- Use as basis the list of service users of SCC.
- Other TSO can participate as observers/validators
- Not all products require a local instantiation
 - RES-CC
 - STO-CC
 - DSM
 - WAMAS
 - AM

HLU2-P2 DEMO COUNTRIES



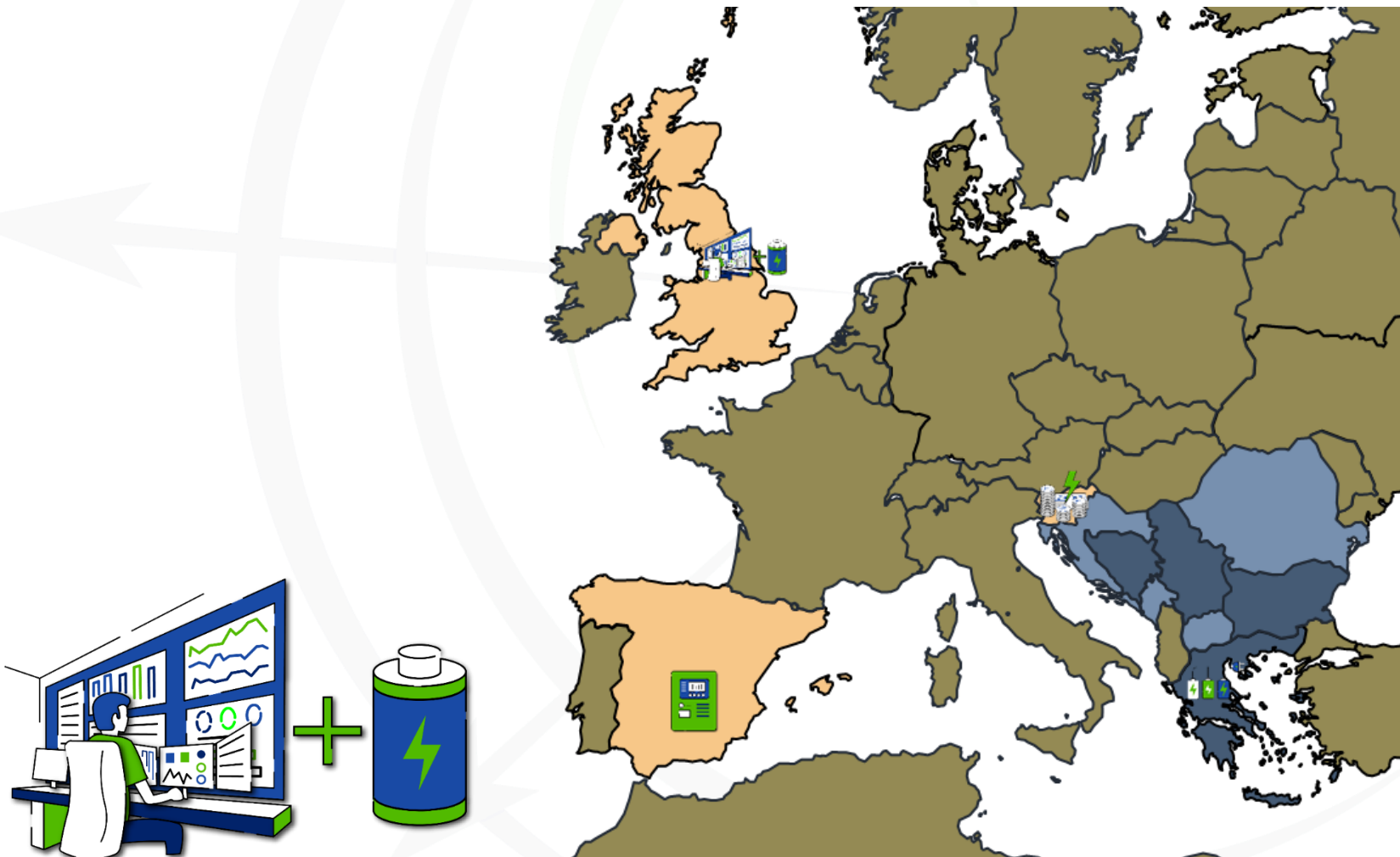
- Focus on the countries with existing RES.
- Other countries may join later.
- There is a special interest for countries with Energy producers in the consortium.
 - ELEM.
 - PPC.
 - EPS.
- HOPS interest of monitoring RES connected at DSO level and congestion problem with BiH frontier..

HLU3 DEMO COUNTRIES



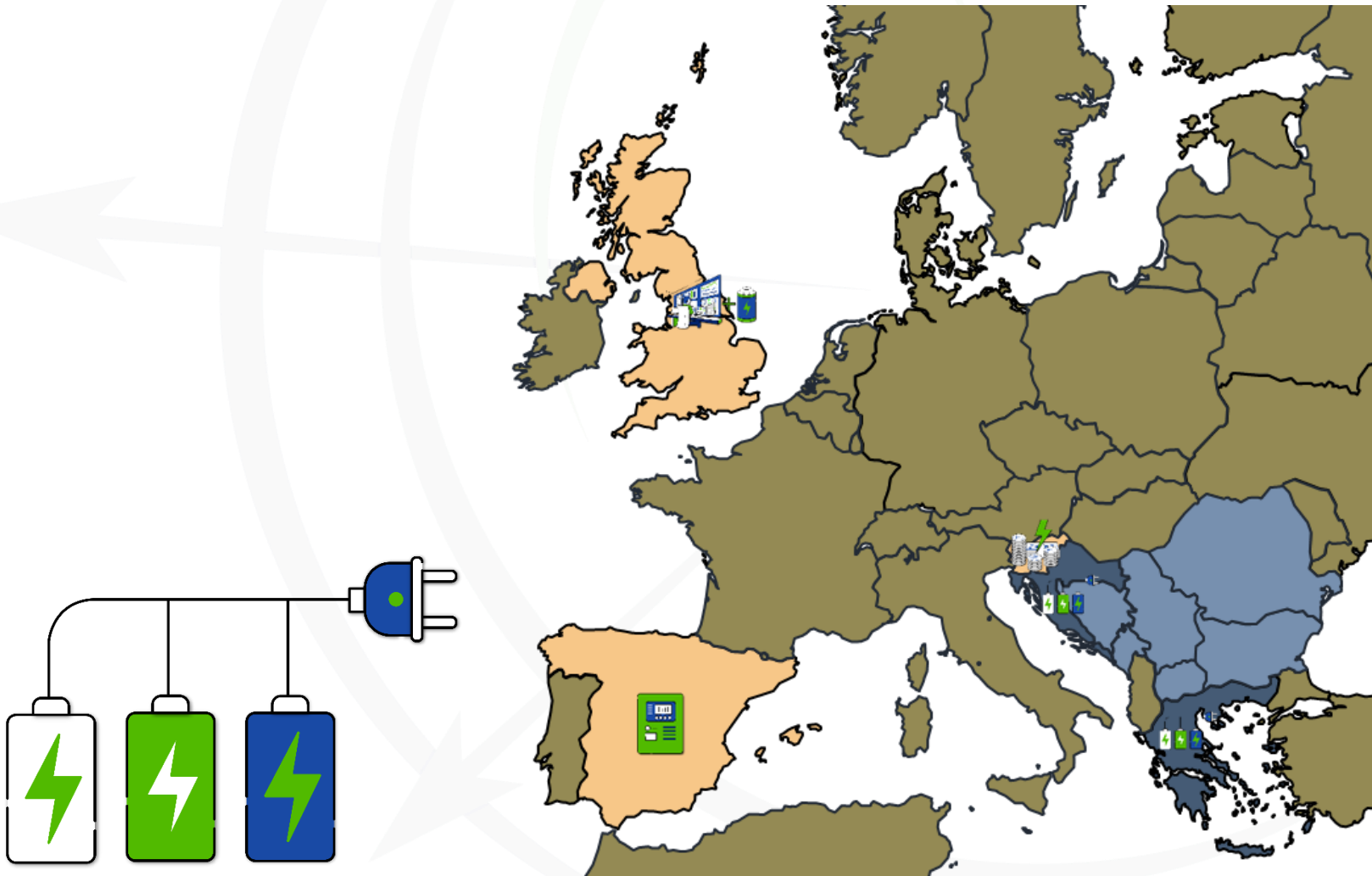
- Focusing on countries with Energy producers in the consortium.
 - ELEM
 - PPC
 - EPS
- It could be extended to countries with large storage or RES:
 - Bosnia&Herzegovina
 - Bulgaria
 - Romania

HLU4-P4 DEMO COUNTRIES



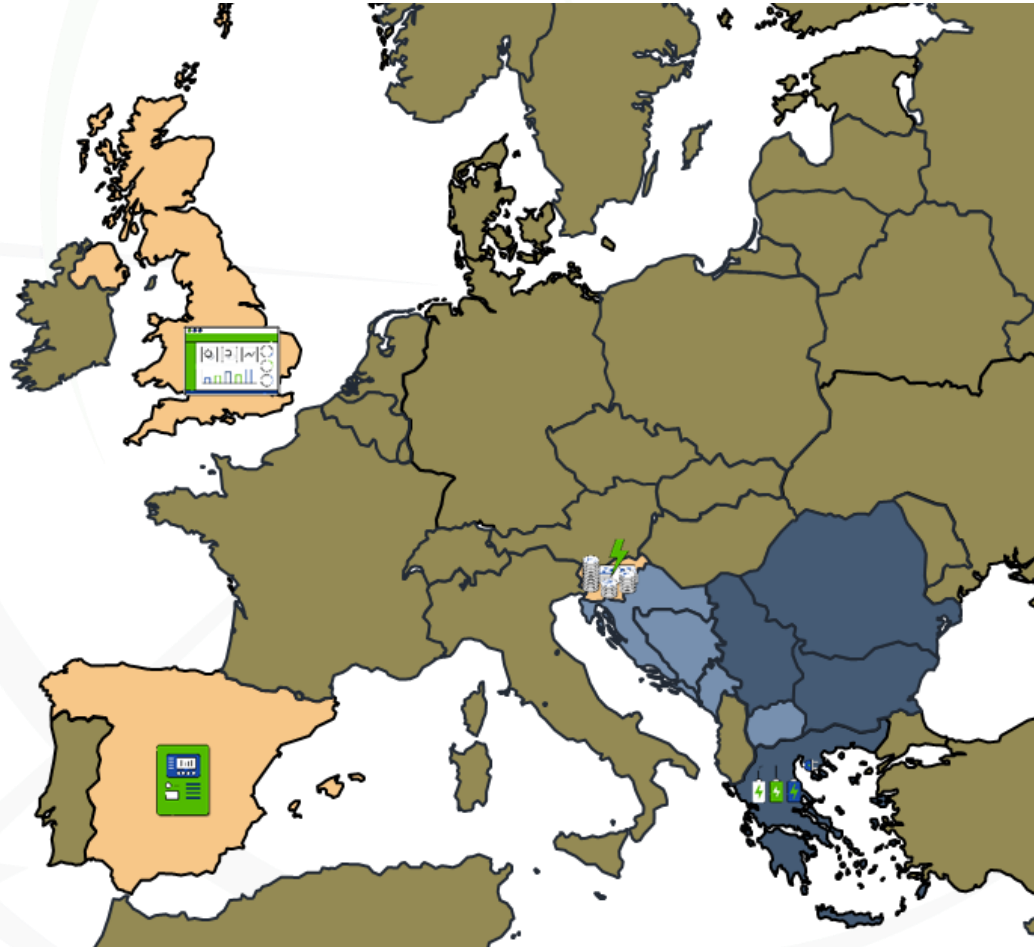
- Focus on the countries with large storage
- Other countries may join later.
- Again, special interest for countries with Energy producers in the consortium.
 - ELEM
 - PPC
 - EPS

HLU5-P5 DEMO CLUSTERS



- Two main demos:
 - Greece (HEDNO) engaging TSO-DSO collaboration.
 - Croatia (at laboratory).
- Special interest for countries with Energy producers in the consortium
 - ELEM
 - PPC
 - EPS

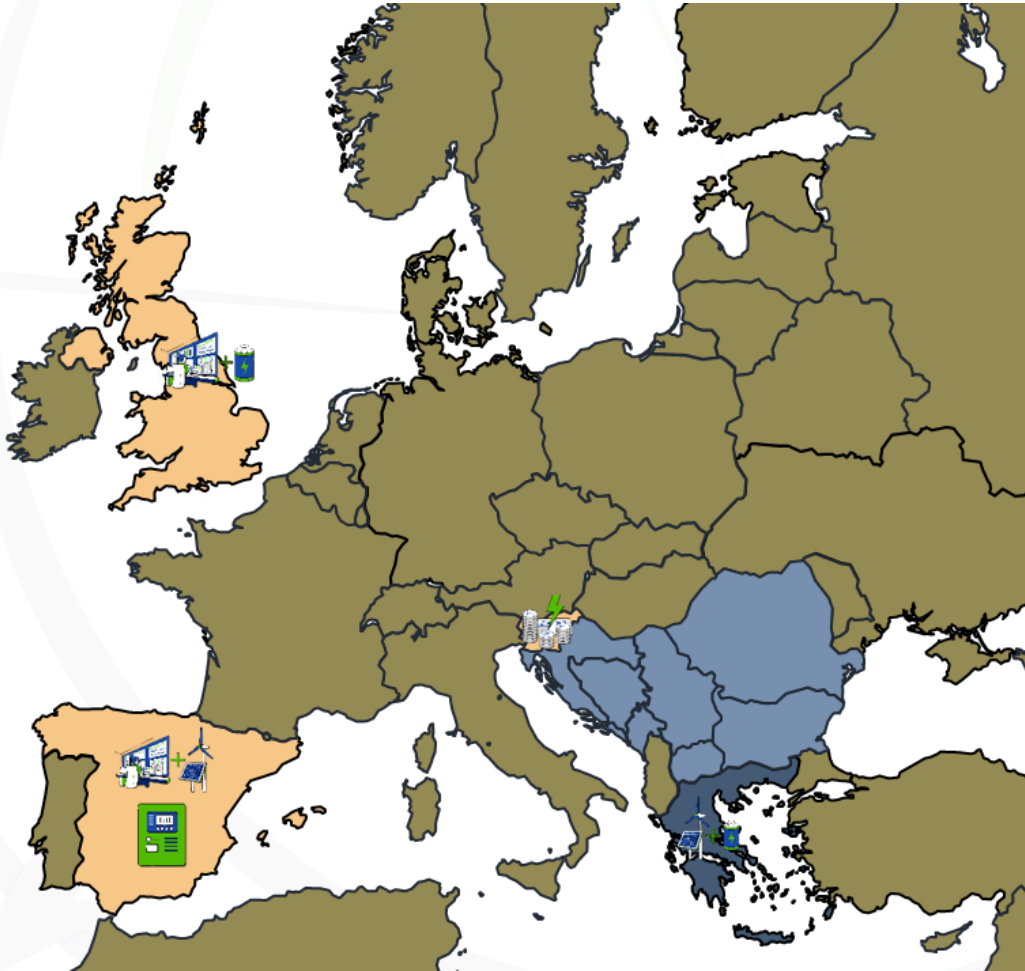
HLU6-P7 DEMO COUNTRIES



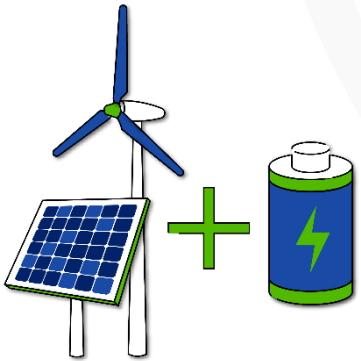
- Focus on
 - Existence of DSM contract with large consumers.
 - TSO/DSO collaboration.



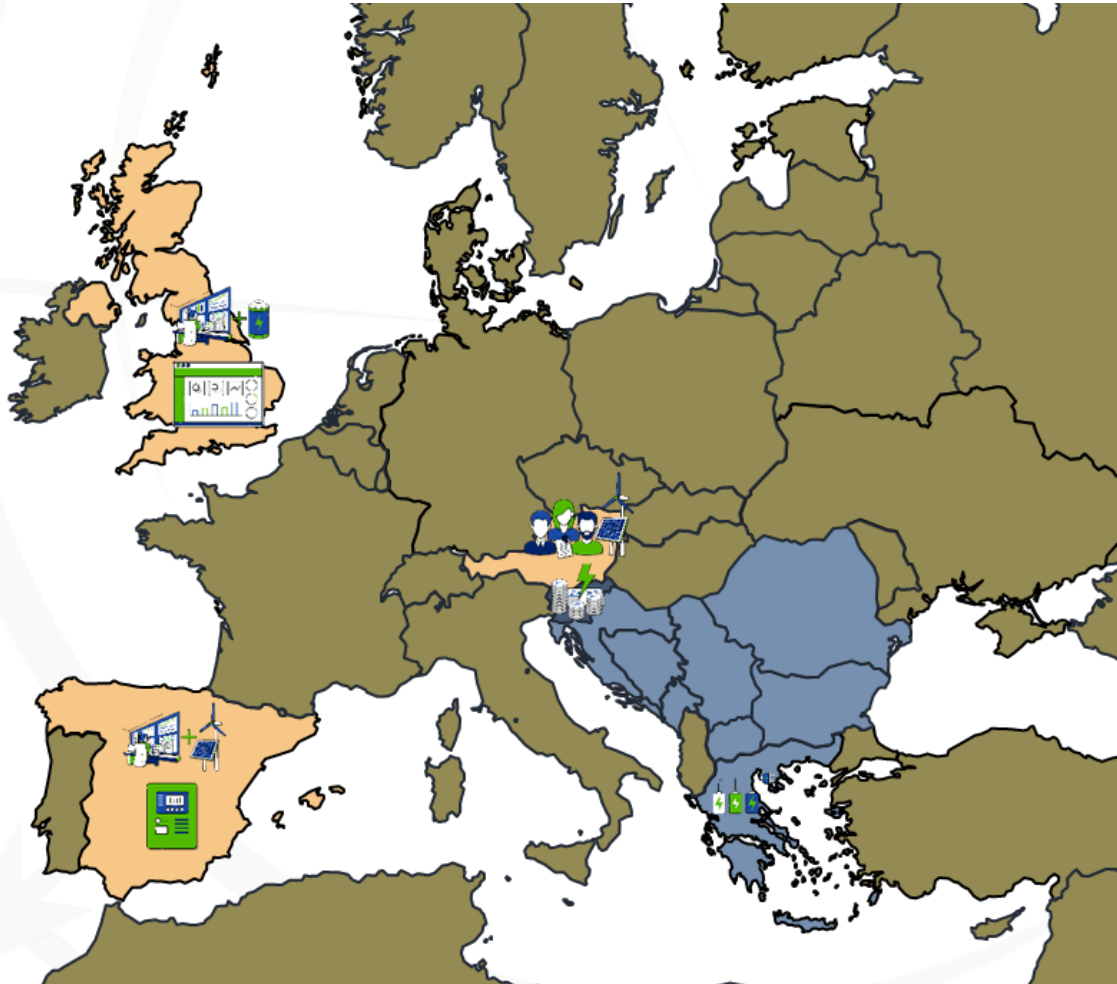
HLU7-P3 DEMO COUNTRIES



- Small scale demonstration of the RES-DU.
- Validation on the correct use with other products.
- To be demonstrated in Greece.
 - Maximize Synergies with GRIDSOL project.

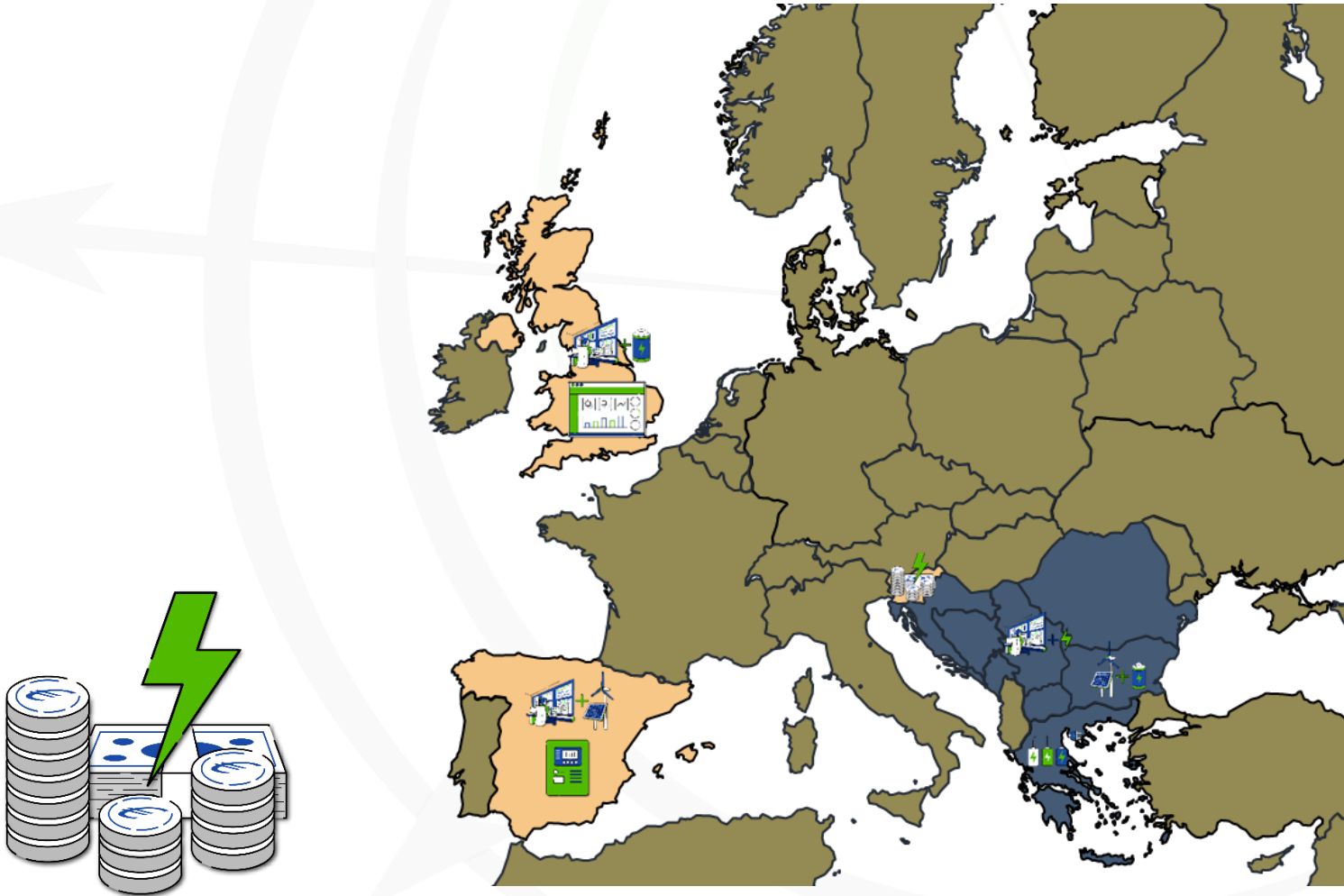


HLU8-P9 DEMO COUNTRIES



- Not related to TSO interests.
- Not necessary related to Energy producer interests.
- P9 will be validated by members of the Project User Group.
 - Cooperatives and energy Communities.
- HLU8 will be demonstrated in Slovenia.
 - Instantiated in CGRID servers.

HLU9-P8 DEMO COUNTRIES



- All countries will participate in the demo.



Clean energy a *cross* Europe

For more information visit: crossbowproject.eu