Interreg Sudoe

Co-funded by the European Union

SHAREDH2 - SUDOE

DELIVERABLE 1.2 IDENTIFICATION OF ENERGY COMMUNITIES AND CONSUMPTION ASSESSMENT

Report characterising potential Local Energy Communities (LECs) to be created in the Sudoe area, including the economic model, the scale of their renewable energy production to cover consumption needs, and the production of green hydrogen for identified and authorised uses.

1. Identification and cataloguing of CELs

Sample: 90 LECs from the SUDOUE area

Data collected:

- Generic: Geographical location, size of structure, legal form and energetic objectives
- On energy infrastructure:
  - Energy production capacity
  - Availability of renewable energy production surpluses
  - Historical production and future projections

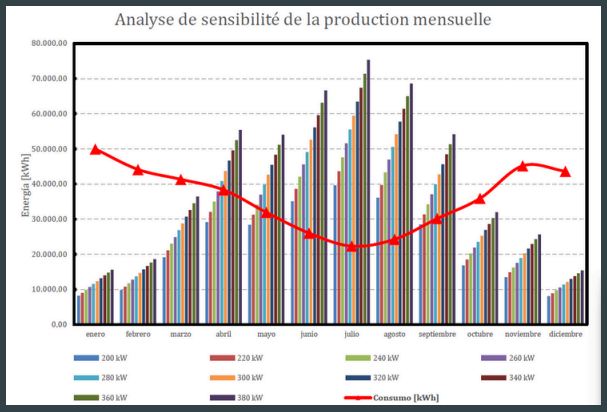
Opportunities:	Difficulties:
• Creation of a centralised platform • Common protocols for data management • Participatory involvement of members • Integration of AI tools to encourage data collection	• Lack of harmonisation and interoperability of data • Regulatory uncertainty • Absence of incentive mechanisms data sharing and centralised tools.

2. Energy consumption assessment & generation opportunities for renewable hydrogen generation from surplus energy

Focus on the CELs in Bembibre (29 users – Industry) and Seville (20 users – Residential)

Bembibre:	Seville:

• Seasonal variations
• Significant PV surpluses from 320 kW installed
• Production H2 :
  ○ S1 (Power to Power): limited 25%
  ○ S2 (Direct sales): Viable potential for local industries
	• Morning/Evening Peak
	• Intelligent management of PV surpluses
	• Production H2 :
	  ○ S1: H2 production prohibited in the urban area
	  ○ S2: Direct sales H2 oriented towards mobility (public and private individual)



3. Regulatory framework and local energy policies in the concerned regions

The European directives (RED II & RED III) recognise the existence of Renewable Energy Communities (REC) and Communities of Citizen Energy (CEC). As such, the regulatory framework sets out increased targets for the production and distribution of renewables and encourages the simplification of authorisations and citizen participation.

SPAIN

- Draft Royal Decree (2023): CER open to citizens, SMEs, Local authorities. Exceptions for major energy companies.
- H2 included in the strategy national energy

FRANCE

- Gradual transposition of RED II & III Directives
- Prefectural authorisation with study impact/hazards and public inquiry (9 to 12 months)

PORTUGAL

- National Strategy EN H2 (2030):
  - 5% green H2 in final consumption
  - 15% of the gas network
  - 50 to 100 H2 stations
- 2050: Complete decarbonisation