Energy Communities in Practice: The What's and the How's Workshop

Day 2 | Wednesday 28th October | 14.00 - 17.00

IElectrix Project / Pierre-Jacques Le Quellec

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Contents of Presentation

i. IElectrix project in a nutshell
ii. Project Objectives
iii. Project Solution and Technologies for Energy Communities
iv. Project Pilot Sites
v. Key expected outcomes
vi. Key Challenges

IElectrix Project in a nutshell

SUSTAINABLE PLACES

Indian and European Local Energy CommuniTies for Renewable Integration and the Energy Transition
DSO-coordinated demonstrators implementing embedded electric island systems and microgrid

42 **months** project duration

2019 - 2022

with a total **budget** of
10.7 M€

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Consortium

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ENEDIS
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Atos

Research and Consulting firms
GECO Global
Mesit Consulting House

DSO in charge of replication
HEDNO

SMEs
Hypertech energy labs
Odit-e

Energy agency

Indian DSO
TATA POWER-DDI

A fostering **collaboration** among

15 European partners

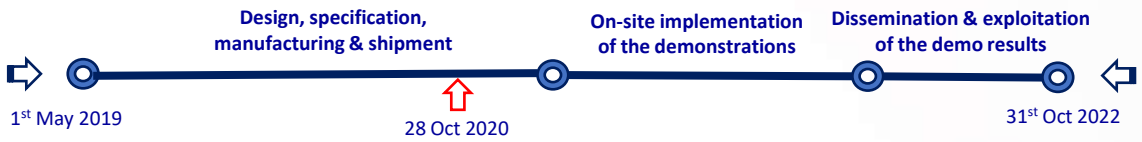
1 Indian partner

Project Coordinator

ENEDIS L'ELECTRICITE EN RESEAU

Technical Director

E.ON Hálózat



IElectrix Project Objectives

- Prepare the advent of Local Energy Communities (Clean Energy Package) and their integration in the networks
- Increase renewable hosting capacity
- Reduce PV connection lead-time
- Strengthen customer engagement
- Increase local use of local RES
- Improved reliability and resilience of the electricity supply
- Postpone network investments
- Contribution to the decarbonisation of energy systems at local levels
- Solve network issues
- Increase network flexibility

IElectrix Project Pilot Sites

5 real-scale demonstrators

- Rural area
- Massive renewable generation & lack of network capacity
- Lack of flexibility and storage facilities and regular load curtailment

Moew.e demo

Germany

- Rural area
- Existing energy community with RES

STROM Güssing demo

Austria

- Rural area
- High peak load due to high level of RES generation & lack of network capacity
- New regulatory voltage limitations

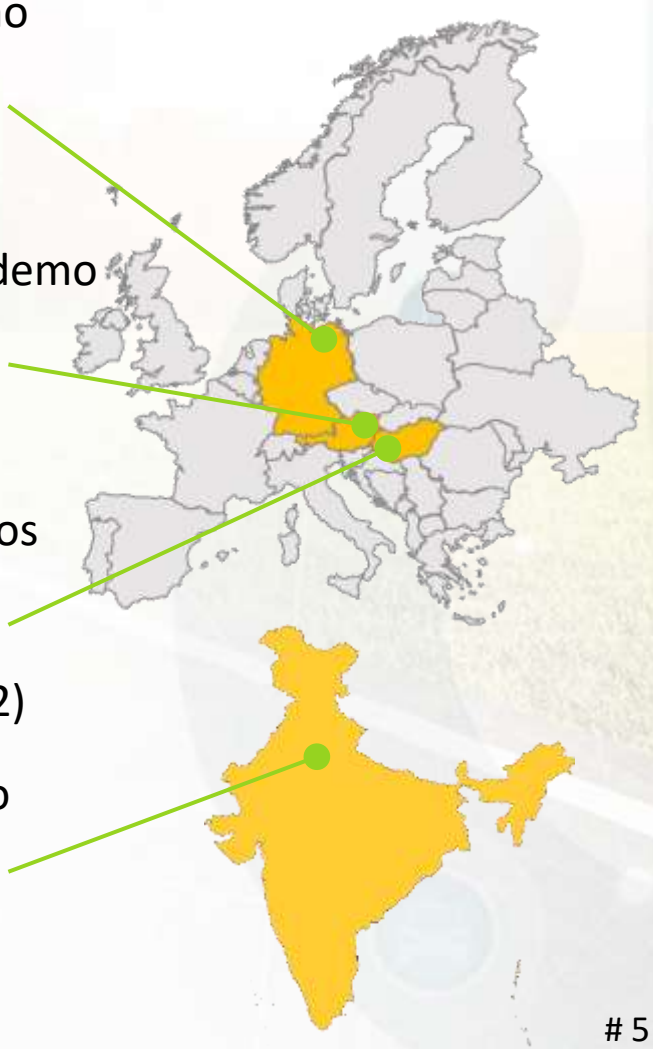
HELGA demos

Hungary (x2)

- Urban area
- Governmental incentives leading to massive PV rooftop installations
- Need to address power quality issues on the distribution network

Shakti demo

India



IElectrix Project Solution and Technologies for Energy Communities

- Battery Energy Storage Systems
- Energy Management Systems
- Digital substations
- Generation and demand forecasting modules
- Demand-side management schemes implemented by the DSO
- Microgrid with islanding capability
- LV grid digitalization (smart meters implementation)
- Smart home equipment in the end-user premises

Key expected outcomes

- DSOs can support the integration of RES cheaper & faster
- DSOs can support the development of Energy Communities

- Deliver as much RES energy as possible to the customers
- Optimize the investment of the RES Energy Communities

- Improve the resilience of local energy systems
- Develop a standard for substation plug and play battery systems

- Scalability and replicability study in Europe and in India
- Draw the relevant consequences into the regulation (recommendations)

Key Challenges

- Variety of ecosystems
- Diverse national regulatory regimes and relevance to the Energy Communities
- Different DSO roles
- Obligations and duties between DSOs and Energy Communities
- Active participation of citizens
- Business models
- No off-the-shelf solutions

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