MICROGRIDS IN RURAL AREAS: AN ENERGY APPROACH OF SMART VILLAGES
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This project is co-financed by the European Union via Interreg Alpine Space
Renewable energy in rural areas

- Abundant renewable energy sources
- Weaker grids than in urban areas
  - Power outages
  - Limitation of RES plants (due to voltage constraints)
- Emerging energy communities
  - New governance schemes

Growing interest for community microgrids
Energy communities in France

- Recent evolution of the French regulatory framework to facilitate the participation of citizen (and municipalities) in RES companies
- Many citizen-owned companies in development
  - Governance often based on a cooperative status
  - Mainly operate electric RES plants
Microgrids

• **Microgrid**
  – Group of consumers, producers, storage systems, which share a common point of coupling to the main grid, and can operate both in grid-connected or islanded mode

• **Several objectives**
  – Increase the share of RES in rural areas
  – Reduce infrastructure costs
  – Reduce electric losses
  – Provide services to the grid
  – Ensure electricity during power outages
  – Propose a lower cost of electricity to local consumers
Microgrid communities

- When energy communities get involved in microgrid operation
- France: « Collective self-consumption » scheme with a direct sale of energy between local energy community and local consumers
- Pilot site of Saint-Julien-en-Quint (PEGASUS project)
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[Video]