Clean energy for EU islands Forum 2024

The resilience of insular power grids

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Clean energy for EU islands
www.clean-energy-islands.ec.europa.eu

#CleanEnergyIslands

Results from the study

Member State discussions & reporting 2 priority measures

Reflections on the next steps

Focus on power grids

2018-

Technical assistance and collaboration with the EU islands

2022-2023

Studies on regulatory challenges facing energy transition of islands and recommendations

Grid constraints and security of supply

Study on
connection policies and management of energy systems
under conditions of non-synchronised generation
in the non-interconnected islands

Executive summary

European Commission

Work leading to the results

2023
April — Review of grid regulation for 15 MSs

May — Choice of 10 case study islands

October — Identified challenges: 40 interviews

November

December — 6 Online workshops 90 participants

2024
March — 5 In-person workshops 150 participants

May — **Final study**

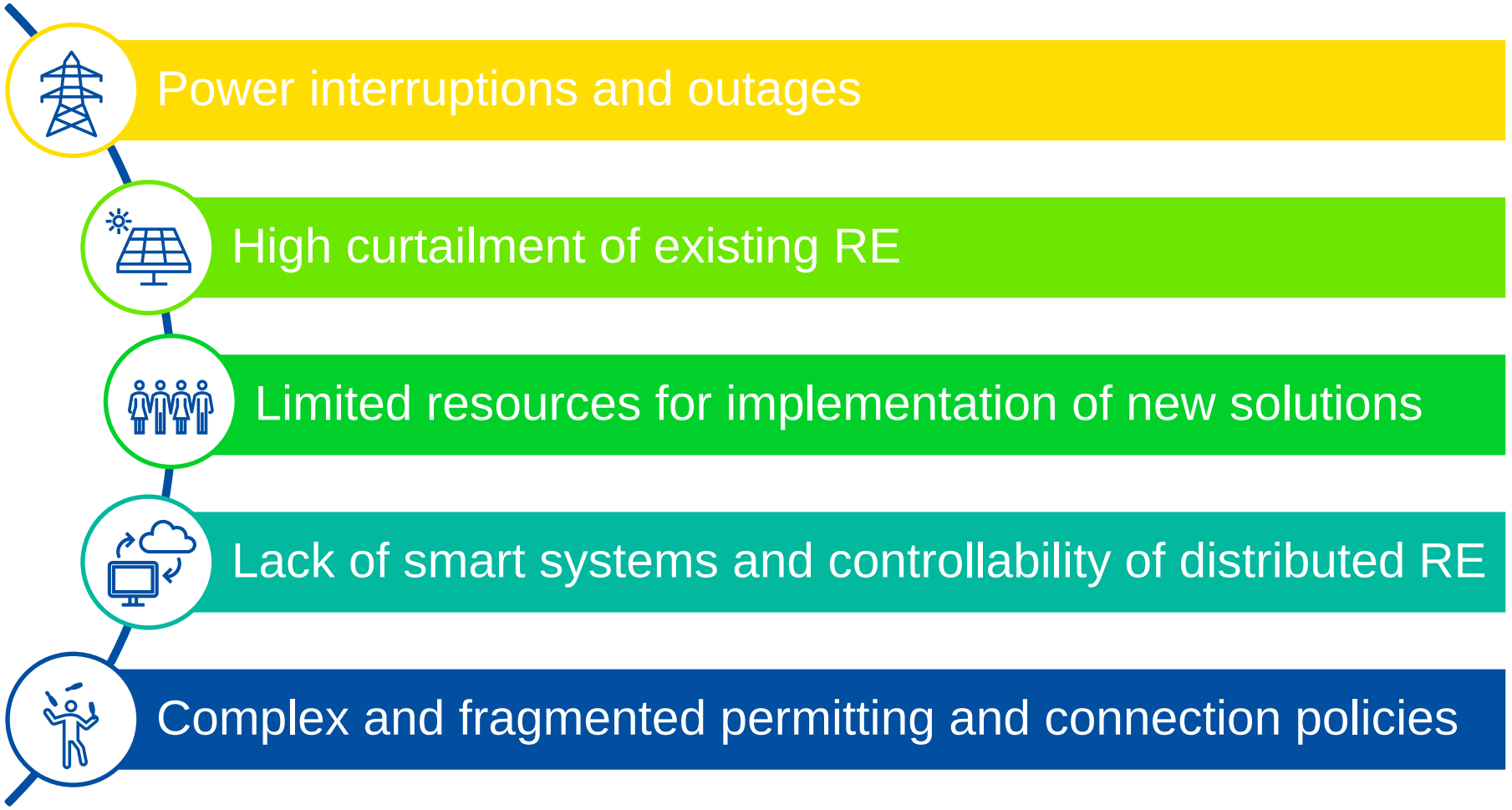
EU Grid Action Plan

European Commission

10 case studies

- Canary Islands, Spain
- Azores archipelago, Portugal
- Madeira, Portugal
- Rhodes island, Greece
- Kos-Kalymnos islands, Greece
- Aeolian Islands, Italy
- Aruba, Netherlands
- Bonaire, Netherlands
- La Réunion, France
- French Polynesia, France

5 horizontal challenges



Recommendations

Implemented by

- System operators
- Regulatory agencies
- Governments

For

- Islands
- Remote areas on mainland

Type

- Operations and management
- Regulation and policy

Operations and management

- Promote hybrid power systems
- Procure centralized storage
- Integrate long duration energy storage
- Monitoring, control and forecast of RE
- Require sector coupling
- Prioritize smart grids

Policy and regulatory framework

- Modernize grid codes
- Unbundling and storage ownership
- Enable Virtual Power Plants
- Clear renumeration for curtailment

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Recommendations

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Thank you!

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How is the study structured

- **EU policy and regulation**

  Overview of EU policy and regulation relevant for the island electricity grids

- **Methodology**

  Annexes include conclusions from 11 workshops

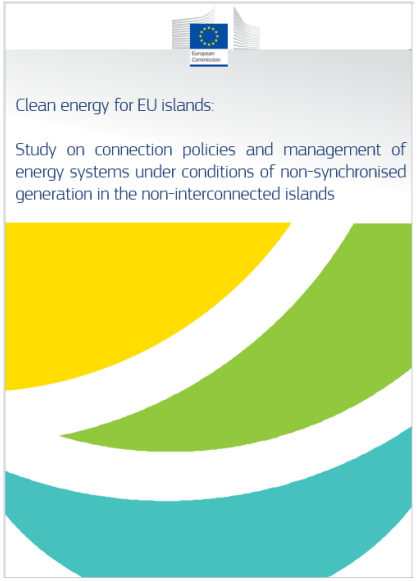
- **Case studies**

  5-6 pages on each island or island group

- **Main challenges and recommendations**

  5 main challenges with 22 recommendations

  recommendations for non-interconnected and connected islands as well as remote areas on mainland



Each case study structure

- **Governance**

  Relevant key actors for electricity system operation

- **Energy system**

  Generation

  Grid status and management

- **Renewable energy policy**

  Renewable energy connection policy

- **Key challenges**

Each recommendation structure

- **Regulation/guidance needed**
- **Who is responsible**

  Regulatory agency, government, system operator or EU
- **Level of implementation**

  EU, national, local
- **Applicability of recommendation**

  non-interconnected islands, connected islands, remote areas on mainland
- **Existing publication**
- **Best practice from islands**