

Clean energy  
for EU islands  
**Regulatory barriers in  
Greece: findings and  
recommendations**

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# FROM CLEAN ENERGY VISION TO CLEAN ENERGY ACTION

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## Executive Summary

The energy legislation in Greece has been developing to allow for the energy transition in all sectors. In particular, Greece has put special focus on the energy transition on the islands. Many innovative projects are already being implemented on pilot islands. In addition, the GR-eco Islands initiative promises to accelerate the energy transition and sustainable development on the islands. However, challenges to the implementation of the energy transition still remain.

Drawing upon the regulatory **inventory** of the current legislation, the Clean energy for EU islands secretariat carried out surveys and interviews with Greek stakeholders to identify the barriers to the clean energy deployment on the islands and the solutions to overcome those. These findings were discussed with all relevant stakeholders in two focus group meetings and a national stakeholder meeting (NSM). The result of that process is described in this booklet.

The barriers identified in Greece relate to the strategic planning and coordination of the energy transition on the islands, local energy planning, complex authorisation, grid constraints and energy communities. These barriers can be overcome through a coordinated action by different governmental actors to achieve better planning, capacity building and involvement of regional and local stakeholders, especially those involved in the implementation, as well as fostering innovative technologies and increasing the leadership of the relevant authorities. The recommendations in this booklet serve as guidance to accelerate the energy transition on the Greek islands.

## Περίληψη

Η νομοθεσία όσον αφορά την ενέργεια στην Ελλάδα έχει εξελικτεί τα τελευταία χρόνια για να επιτρέψει την ενεργειακή μετάβαση σε όλους τους τομείς. Η Ελλάδα έχει δώσει ιδιαίτερη έμφαση στην ενεργειακή μετάβαση στα νησιά. Πολλά καινοτόμα έργα ήδη υλοποιούνται σε πιλοτικά νησιά. Επιπλέον, η πρωτοβουλία GR-eco Islands υπόσχεται να επιταχύνει την ενεργειακή μετάβαση και τη βιώσιμη ανάπτυξη στα νησιά. Ωστόσο, εξακολουθούν να υπάρχουν προκλήσεις για την εφαρμογή της ενεργειακής μετάβασης.

Βασισμένη στον **κατάλογο** της ισχύουσας νομοθεσίας, η γραμματεία της Καθαρής Ενέργειας για τα νησιά της ΕΕ πραγματοποίησε έρευνες μέσω ερωτηματολογίων και συνεντεύξεις με ελληνικούς ενδιαφερόμενους φορείς για να εντοπίσει τα εμπόδια στην ανάπτυξη καθαρής ενέργειας στα νησιά και τις λύσεις για την αντιμετώπισή τους. Αυτά τα ευρήματα συζητήθηκαν με όλους τους σχετικούς ενδιαφερόμενους φορείς σε δύο συναντήσεις ομάδων εστίασης και σε μια εθνική συνάντηση ενδιαφερομένων φορέων (national stakeholder meeting - NSM). Το αποτέλεσμα αυτής της διαδικασίας περιγράφεται σε αυτό το φυλλάδιο.

Τα εμπόδια που εντοπίστηκαν στην Ελλάδα σχετίζονται με τον στρατηγικό σχεδιασμό και τον συντονισμό της ενεργειακής μετάβασης στα νησιά, τον τοπικό ενεργειακό σχεδιασμό, την σύνθετη αδειοδότηση, τους περιορισμούς του δικτύου και τις ενεργειακές κοινότητες. Αυτά τα εμπόδια μπορούν να ξεπεραστούν μέσω μιας συντονισμένης δράσης ενεργειακής μετάβασης, μέσω καλύτερου σχεδιασμού, οικοδόμησης ικανοτήτων και συμμετοχής των περιφερειακών και τοπικών φορέων, ιδίως εκείνων που εμπλέκονται στην υλοποίηση της μετάβασης, αλλά και μέσω της προώθησης καινοτόμων τεχνολογιών και της ενίσχυσης της ηγεσίας των αρμόδιων αρχών. Οι συστάσεις σε αυτό το φυλλάδιο χρησιμεύουν ως καθοδήγηση για την επιτάχυνση της ενεργειακής μετάβασης στα ελληνικά νησιά.



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Introduction

There are more than 2,200 inhabited islands in the EU. Despite having access to an abundant amount of renewable energy, such as wind, sun and waves, many of them depend on petrol imports for their energy supply. Through the deployment of clean energy assets, EU island communities can have access to reliable, clean, and competitive sources of energy. Given their insular nature, they can even become leaders in the clean energy transition.

While it has often become technically and financially possible to develop renewable energy projects on islands, the current legal frameworks are not always fit for purpose. The Clean energy for EU island secretariat embarked on the mission to identify the legal, regulatory and policy barriers to clean energy deployment and provide recommendations to overcome them. This booklet contains the highlights of the more in-depth country study. It processes the insights gathered from literature review, surveys sent to 95 stakeholders, 13 interviews, two focus group meetings attended by 17 and 23 participants and one national stakeholder meeting (NSM). The NSM was held at the University of West Attica in Athens. The meeting included participants from national institutions including the Ministry of Environment and Energy, Ministry of Maritime Affairs and Insular Policy, Ministry for Development and Investments and Ministry of Culture. Academic representatives from the University of West Attica, Hellenic Mediterranean University and University of the Aegean were present. Energy sector companies were represented by the Distribution System Operator and System operator for non-interconnected islands (HEDNO) and Public Power Corporation. Other stakeholders that represented regional and local stakeholders included the Centre for Renewable Energy Sources (CRES), the Network of Sustainable Greek Islands (DAFNI), the Samos Energy Community, the Electra Energy cooperative and the Energy Community of Chalki. The barriers and recommendations represent the view of the Clean energy for EU island secretariat and do not bind the stakeholders who contributed to it.

Greece and its islands

Greece has more than 6,000 islands, of which 227 are inhabited. 15% of the total population of Greece lives on the islands corresponding to approx. 1,650,000 people. The Greek islands have been important economic, commercial and cultural centres with a long history. Several islands are interconnected to the mainland electricity system, while others are not. The non-interconnected islands (NIIs) are grouped into 28 autonomous electricity systems.

Regulatory best practice

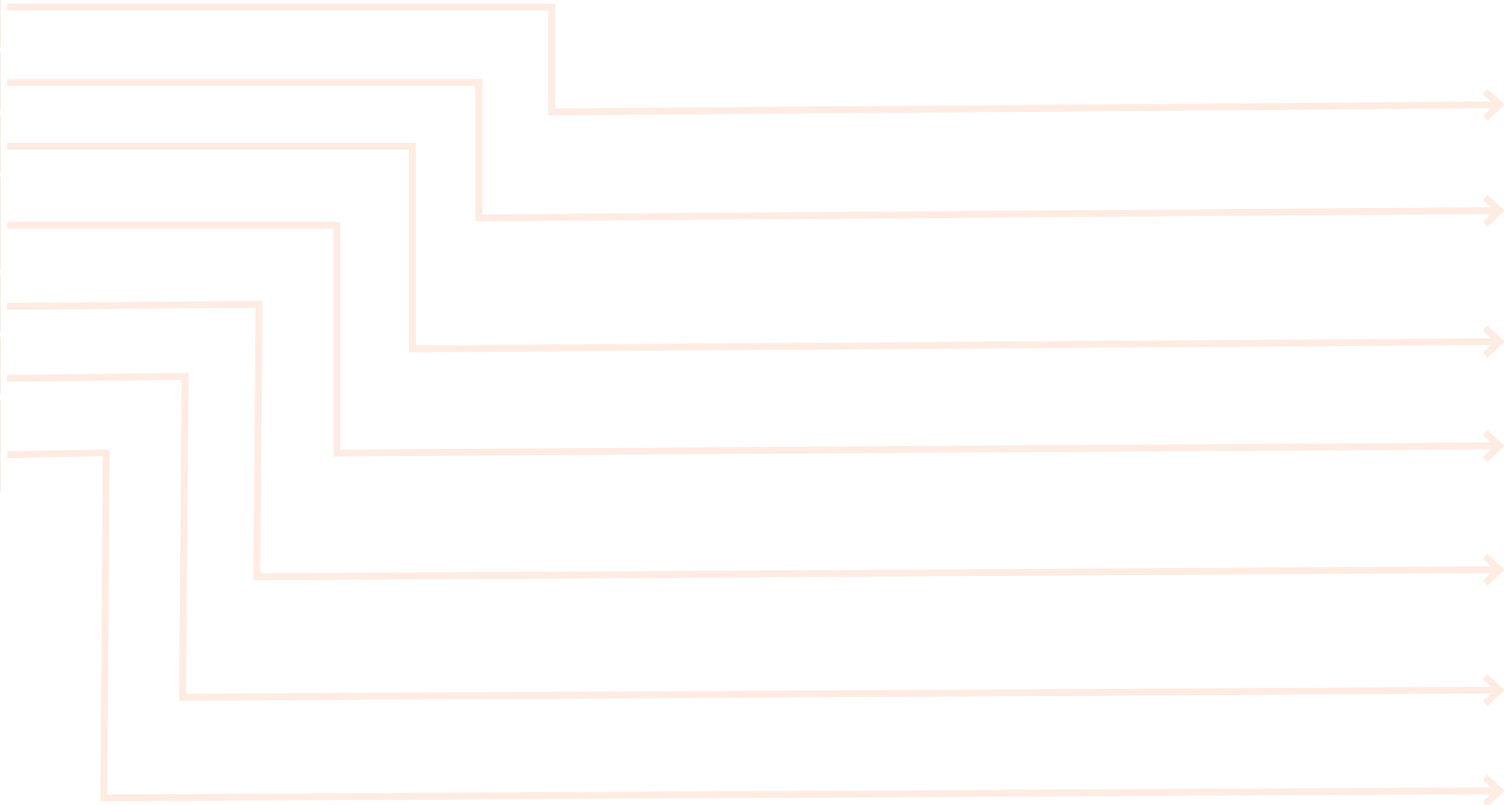
The transport sector is the biggest energy consumer and highest emissions sector on the Greek islands. **Law 4710/2020** on promotion of e-mobility brought together different policies in order to accelerate electrification of road transport through better planning, implementation and operation of charging infrastructure and e-mobility. Based on this law, (island) municipalities are adopting electric vehicle (EV) charging plans, e-mobility is integrated in urban and spatial planning, taxes are used to foster electrification of road transport and subsidies are provided to public and private sector for uptake of electric vehicles through the GO ELECTRIC program, which provides higher incentives for stakeholders from Greek islands.

## Main Barriers to the Clean Energy Transition

Based on the detailed assessment of the current regulatory framework and consultation with relevant Greek stakeholders (surveys, interviews, and joint meetings), the most important regulatory barriers for the clean energy transition on Greek islands were identified.<sup>1</sup> The barriers are ranked by order of priority according to the stakeholders consulted:

- ↳ Lack of clear strategy for energy transition on the islands, lack of coordination and monitoring of implementation
- ↳ Lack of island specific energy planning and integration with spatial planning
- ↳ Complex and long permitting procedures for RES projects
- ↳ Lack of clarity regarding short and mid-term actions to allow clean energy transition and ensure security of supply on the islands
- ↳ Bureaucracy and administrative burden for the community energy initiatives
- ↳ Clean energy project subsidies equalise interconnected islands and mainland
- ↳ The regulated price for electricity generation in non-interconnected islands hinders clean energy transition

Each of these barriers is presented, including recommendations for overcoming them, alongside examples of best practices and connections to the REpowerEU policy. For the presented recommendations, the actors who should be responsible to initiate implementation are highlighted.



<sup>1</sup> The content of this booklet is based on the "Regulatory barriers in Greece: findings and recommendations" report to be found [here](#) | Clean energy for EU islands (europa.eu)



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USEFUL INFORMATION

Barrier 1: Lack of clear strategy for energy transition on the islands, lack of coordination and monitoring of implementation

↳ The National Energy and Climate Plan (NECP) identifies transmission interconnections of islands and reduction of carbon emissions for thermal generation as the main measures for the Greek islands. However, no further strategy on how a complete energy transition will be implemented on the islands has been defined. Greece has many ongoing activities aimed at decarbonisation and energy transition of islands, including accelerated action for implementation of hybrid plants on the non-interconnected islands, digitalisation and upgrades of distribution network, implementation of projects through the GR-eco initiative (e.g. **Chalki**) and innovative and good practice projects on islands that include storage systems, e-mobility, energy communities on the islands of Tilos<sup>2</sup>, **Astypalea**, **Crete**, **Sifnos**, **Agios Efstratios**, and **Ikaria**. What is lacking is a feedback loop from local to national level on lessons learned from completed projects. More than 95 GW of renewable energy source (RES) projects are paused in implementation and capacity of local and regional governments to plan for broad decarbonisation seems inadequate.

RECOMMENDATIONS

To overcome the barriers in strategic planning, coordination and monitoring of energy transition on Greek islands, the secretariat recommends the formation of an agile Islands Task Force, a holistic approach to energy transition and capacity building.

1.1 Set up an agile national Islands Task force for clean energy transition on the islands

↳ We recommend that the national government forms an Islands Task Force. The goal of the Task Force would be to represent island needs, priorities and characteristics regarding the energy transition, to help shape national energy and islands policy and to relay islands’ implementation challenges. It is crucial that the Task Force includes representatives of local and regional stakeholders active in implementation of clean energy projects on the islands. The Islands Task Force should be coordinated with existing NECP and GR-eco committees More details on its possible roles are provided in the **full study**.

1.2. Ensure holistic approach to energy transition on the islands and provide capacity building

↳ The secretariat recommends the national government to provide guidelines to regional and local stakeholders on how to ensure a holistic approach to energy transition planning. The guidelines should be followed with capacity building which will further clarify the intersectoral approach to climate change mitigation and adaptation, energy transition and sustainable development embedded in local energy, spatial, and infrastructure planning and actions. This approach can help identify projects that require sector coupling (for e.g. energy and water, waste, transport, tourism, agriculture or culture) and gaps in capacity and staffing of local and regional stakeholders for the implementation of needed actions.



↑ Chalki, Greece © Photo by Damien Rei on Unsplash.



Did you know?

**REPowerEU** - The RES Simplify report recommends integrated planning system from national to local. A general planning strategy can enhance local and regional involvement. Such a strategy includes breaking down national targets to the regional and local levels. This could feature regional targets, but would leave decisions about specific locations in the hands of local actors.



Further action is expected from:

- ✓ Ministry for Environment and Energy
- ✓ Ministry for Shipping and Island Policy
- ✓ Ministry for Development and Investment



Useful information

- **Integrated National Energy and Climate Plan for the Republic of Greece**
- **GR-eco Islands National Initiative**
- **The Climate Act**
- Best practices: **Tilos**, **Astypalea**, **Crete**, **Sifnos**, **Agios Efstratios**, and **Ikaria**.

<sup>2</sup> Kaldellis, J.K. Supporting the Clean Electrification for Remote Islands: **The Case of the Greek Tilos Island**. Energies 2021, 14, 1336.



## Barrier 2: Lack of island specific planning and integration with spatial planning

↳ While some urban areas on islands might be covered by Local Urban Plans, Greek islands generally lack local spatial plans and modern cadastral plans. In order to remedy this, the **National Recovery and Resilience Plan** foresees spatial planning reform and adoption of the marine spatial plan. Greece's Special Spatial Plan, a national spatial document, provides generic guidelines for renewable energy projects for the whole territory of Greece. However, these guidelines have a disproportionately negative impact on the clean energy transition on the islands as possible locations for project implementation become very limited. Moreover, due to lack of regional or local energy planning, there is no planning document that defines priority locations or technologies based on local island needs and characteristics.

### RECOMMENDATIONS

To cope with the lack of integration of clean energy into spatial planning, we recommend redefining the spatial planning guidelines, defining renewable go-to areas on national and regional level and mandating local energy plans. These are briefly explained below.

#### 2.1 Reassess spatial planning guidelines for implementation of clean energy projects on the islands

↳ We recommend that the spatial planning guidelines for planning and implementation of clean energy projects should be reassessed and take into account local conditions and characteristics of the islands. As the Special Spatial Plan for renewable energy is currently being updated, the guidelines can be integrated into it. Preparation of these guidelines should involve local and regional stakeholders, which can be done through collaboration with the Island Task Force.

#### 2.2. Adopt national and regional master plans for clean energy projects

↳ We recommend that the national government initiates preparation of national guidelines and regional clean energy master plans that investigate and approve go-to areas: the areas or sites, island by island, where clean energy projects are allowed and can have simplified procedure for implementation. Go-to areas specifically for one or more renewable energy sources and storage projects, should be identified in coordination with local needs and priorities, as well as the state of the electricity grid.

#### 2.3. Mandate adoption of island or group of islands energy plans

↳ Energy planning on the level of an island or group of islands should be mandated from the national government. Planning on the local level not only helps to identify viable projects, but also to set priorities for sustainable development of an island. The ministry for environment and energy should assess how these plans can be integrated with existing mandated plans based on the climate law, spatial plans and other sectoral plans, to not overburden the local administration.



↑ © Photo by Mimi Thian on Unsplash.



#### Did you know?

**REPowerEU** - Projects located in renewable go-to areas should benefit from accelerated administrative procedures, including a tacit agreement in case of a lack of response by the competent authority on an administrative step by the established deadline, unless the specific project is subject to an environmental impact assessment. These projects should also benefit from clearly delimited deadlines and legal certainty in regards to the expected outcome of the procedure.



#### Further action is expected from:

- ✓ Ministry for Environment and Energy, Directorate for Spatial planning
- ✓ Ministry for Environment and Energy, Directorate for Energy
- ✓ Ministry for Shipping and Island Policy
- ✓ HEDNO DSO



#### Useful information

- ✎ **OECD Greece Fact Sheet - The Governance of Land Use**
- ✎ **Greek urban policy reform** through the Local Urban Plans and Special Urban Plans, funded by Recovery and Resilience Facility, Avgi Vassi et. al. 2022
- ✎ **Spatial planning in Greece: from the past to the economic crisis & the future**, Dionysia - Georgia Perperidou, International Federation of Surveyors 2021
- ✎ **Greek Recovery Fund** planning
- ✎ **Greece National Recovery and Resilience Plan**
- ✎ **Maritime Spatial planning Greece**
- ✎ **Digital map of cultural heritage sites in Greece**
- ✎ **HEDNO availability of capacity in non-interconnected islands**

## Barrier 3: Complex and long permitting procedure for RES projects

↳ RES projects usually need to obtain several authorisations and permits. In Greece, some simplifications have been implemented. For example, some small RES projects (e.g. photovoltaics (PV) below 1 MW installed capacity) are exempt from certification and Environmental Impact Assessment (EIA) approval. In addition, the grid connection procedure is completely electronic for RES projects on the mainland and interconnected islands. However, despite these improvements, clean energy projects are still facing complex and lengthy authorisation and permitting procedures. Many RES projects are currently paused in their authorisation. Wind energy projects require 8 to 10 years to get approved. Many applications of hybrid plants to connect to the grid on non-interconnected islands are put on hold, awaiting regulation on the pricing system for hybrid plants to obtain a binding offer. These long permitting times lead to the situation that environmental assessments executed at the beginning of the project have become irrelevant by the end of the procedure. The same goes for certain technology choices. Long administrative authorisation process, which includes various sector authorisations and public acceptance, and limited grid capacity are the main factors slowing down the process. Moreover, energy transition on small islands suffer a disproportionately negative impact from these long procedures because reserved capacity by a single project which is paused in authorisation, can block energy transition on the island.

### RECOMMENDATIONS

To cope with complex and long permitting procedures, further simplifications, a one-stop shop and focus on local island conditions are recommended. More details are provided below.

#### 3.1 Further simplify permitting procedure for RES projects

↳ We recommend to the national government to further simplify the permitting procedure for clean energy projects on the islands. Simplification can be implemented through digitalisation of the permitting process, implementation of the single permit, modification or simplification of requirements to speed up specific types of projects and harmonisation of criteria across government levels and institutions.

#### 3.2. Set-up regional one-stop shops

↳ In order to simplify the authorisation process and improve coordination between multi-level governmental bodies for the acquisition of specific permits, we recommend setting up regional one-stop shops. A project applicant would communicate with one regional body coordinating the one-stop shop which would have the capacity to communicate with relevant national and local bodies.

#### 3.3. Account for island energy and economy conditions when defining procedures for clean energy projects

↳ We recommend that strategic energy planning, through regional clean energy master plans, takes into account the local energy and economy characteristics of islands when defining implementation conditions and guidelines for go-to areas and their priority technologies. For example, for small non-interconnected islands where energy demand is low that a single RES project can satisfy the island's needs, socially inclusive investment through an energy community should be a requirement.



↑ © Photo by This is Engineering on Unsplash.



#### Did you know?

**REPowerEU** - The recommendation on permitting stipulates that Member States should design a one-stopshop for granting permits for renewable energy projects required in Directive (EU) 2018/2001 in such a way as to limit the number of authorities involved to what is necessary and maximise efficiency, taking into account public resources and the benefits of concentrating technological, environmental and legal expertise. The RES Simplify report contains some useful recommendations and examples for the one-stopshop consolidation into one single application process.



#### Further action is expected from:

- ✓ Ministry For Environment and Energy
- ✓ Directorate for decentralised units of the Ministry for Rural Development and Food
- ✓ Ministry for Shipping and Island Policy
- ✓ Ministry for Culture and Sports
- ✓ Regional governments



#### Useful information

- ✎ The **RES projects approved by the Regulatory Authority for Energy**
- ✎ Law 4951/2022 on “**Modernization of the licensing process for Renewable Energy Sources -Phase B, Licensing of electricity production and storage, framework for the development of Pilot Marine Floating Photovoltaic Plants and more specific provisions for energy and the protection of the environment**” (Government Gazette 129/A/04-07-2022)
- ✎ **ADMIE/IPTO (TSO) The Ten-Year Development Plan 2022-2031 approved according to the GOG B’ 4789/12.09.2022.**
- ✎ **Example of Portugal’s simplified procedures for PV plants under 50 MW**
- ✎ **Example of Spain’s simplified procedure for wind farms and PV plants**



**Barrier 4: Lack of clarity regarding short and mid-term actions to allow clean energy transition and ensure security of supply on the islands**

↳ Islands electricity grids have insufficient capacity for an increased share of RES. The accepted long-term solution is to interconnect most islands with the mainland electricity grid and upgrade the grids of the Ionian islands network by 2029. A very strict regulatory framework for the operation of the electricity grid has prioritised security of supply, limiting the share of RES in the energy mix on non-interconnected islands to below 30%. Legislation of storage systems has been implemented, allowing storage to be installed either behind the meter or together with the RES capacity in the hybrid system. High battery storage system prices, together with the lack of a remuneration framework for storage systems makes deployment of this technology not viable on the Greek islands. Moreover implementation of energy efficiency and savings measures is not sufficiently prioritised, leaving the grid without the needed flexibility.

**RECOMMENDATIONS**

To tackle the grid constraints, four measures are further elaborated below: an enabling framework for energy storage systems and demand-side response, further RES installation with flexible assets, regulatory sandboxes and guidelines for integration of RES.

**4.1 Develop a framework for uptake of energy storage systems and demand-side response**

↳ We recommend developing a supporting framework for remuneration of energy storage for authorised storage systems. The framework should provide investors with clear visibility on the remuneration parameters of this technology and encourage its penetration, taking into account the island specificities (such as the absence of a wholesale market). In addition, remuneration mechanisms should be in place to encourage demand-side management, both allowing for increased grid flexibility.

**4.2. Allow installation of RES with flexible assets**

↳ In areas where the electricity grid is considered saturated, we recommend HEDNO (DSO) and Regulatory Authority for Energy to revise the Non-Interconnected Islands (NII) Grid Code to allow RES integration which is coupled with management of flexible loads (e.g. e-mobility, desalination unit etc). This can encourage innovation in implementation as well as stimulate sector coupling projects which will utilise existing device flexibility and foster further integration of RES.

**4.3. Use regulatory sandboxes for testing of innovative solutions**

↳ We recommend using the regulatory sandbox approach to allow specific geographical areas or islands to experiment with innovative electricity tariff designs or RES integration schemes before they are further implemented in the regulation. Regulatory sandboxes are ways for authorities, tasked with implementing and enforcing of specific legislation, to test innovative approaches and technologies in real-life situations through time limited implementation of exceptions to the existing legislation. We recommend using the regulatory sandbox approach to allow specific islands to experiment with, for e.g., different designs of electricity tariffs (hourly tariff, time-of-use tariff, etc.).



↑ © Photo by Amy Hirschi on Unsplash.



**Did you know?**

**REPowerEU** - Member States are encouraged to put in place regulatory sandboxes to grant targeted exemptions from the national, regional or local legislative or regulatory framework for innovative technologies, products, services or approaches, to facilitate permit granting in support of the deployment and system integration of renewable energy, storage, and other decarbonisation technologies, in line with Union legislation.



**Further action is expected from:**

- ✓ Regulatory Energy Agency
- ✓ HEDNO
- ✓ Hellenic electricity market operator
- ✓ Ministry for Environment and Energy



**Useful information**

- ✍ [Non-interconnected islands Grid Code](#)
- ✍ [Non-interconnected island systems: The Greek case](#)
- ✍ [An Overview of the Greek Islands' Autonomous Electrical Systems: Proposals for a Sustainable Energy Future](#)
- ✍ [The Electricity Act](#)
- ✍ [Greece Market Reform Plan proposal](#)
- ✍ [Greece Electricity Market discussion](#)
- ✍ [Regulatory sandboxes examples](#)

Barrier 5: Bureaucracy and administrative burden for the community energy initiatives

↳ The energy communities legislation has changed twice (Law 4685/2020 and Law 4843/2021) since its first implementation with Law 4513/2018. However, not many energy communities have been created as a result. Excessive bureaucracy and administration imposed on small community initiatives lead to unfair competition between the community initiatives and energy companies, which are highly aware of the functioning of the energy system and have the needed human and other resources available. Moreover, expecting the same efficiency and detail in preparation of the RES projects for energy communities and large scale developers, puts the community at a disadvantaged position due to the lack of know-how and resources.

RECOMMENDATIONS

To accelerate local involvement through energy communities we recommend simplification of procedures for energy communities, setting up a platform for knowledge exchange and implementation of a broader concept of energy community, as further discussed below.

5.1 Simplify the procedures and requirements for energy communities

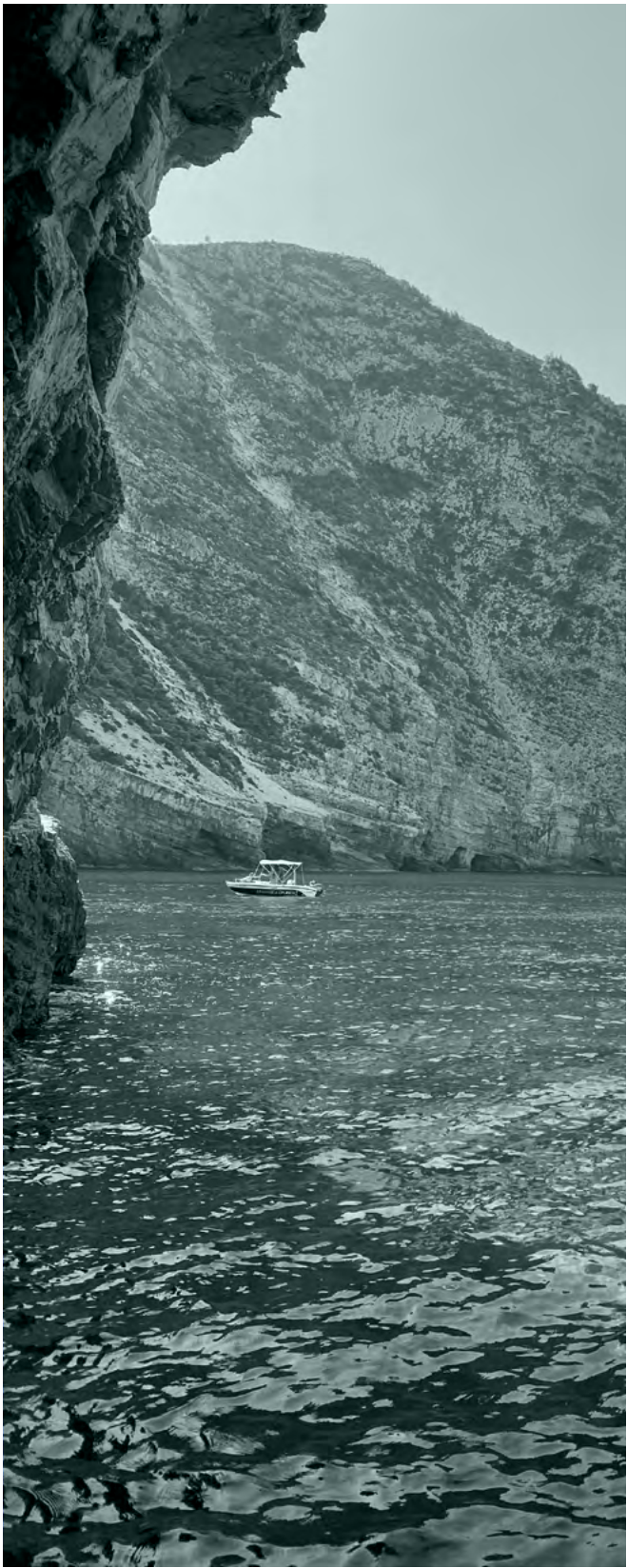
↳ We recommend simplifying and minimising the requirements needed for RES projects implemented with involvement of local municipalities or stakeholders through energy communities. Moreover, the project applicants should be encouraged to ensure local ownership of RES plants.

5.2. Create a platform for knowledge transfer and support

↳ The national government should set up a platform, trainings or conferences with island stakeholders to foster the discussion, give light to the best practices or even provide funding for a mentorship programme. This can be coordinated and monitored by the Islands Taskforce mentioned above. We recommend that the national or regional government sets up helpdesks to provide assistance to local stakeholders.

5.3 Re-evaluate the concept of energy communities for the islands

↳ Energy communities on the islands should take into account not only energy projects, but also other sectors needed for sustainable development, such as water, waste, tourism etc. Therefore energy communities implemented on the islands are recommended to prioritise sector-coupling projects and therefore bring together not only energy actions, broadening the concept of an energy community.



↑ Chalki, Greece. © Photo by Damien Rei on Unsplash.



Did you know?

**REPowerEU** - To facilitate citizen and community participation, Member States should stimulate the participation of citizens, including from low and middle-income households, and energy communities in renewable energy projects, as well as take measures to encourage passing the benefits of the energy transition on to local communities thus enhancing public acceptance and engagement. Member States should implement simplified permit-granting procedures for renewable energy communities, including for the connection of community-owned plants to the grid and reduce to a minimum production licensing procedures and requirements, including for renewables self-consumers.



Further action is expected from:

✓ Ministry for Environment and Energy



Useful information

- 🔗 [Legislation on energy communities in Greece](#)
- 🔗 Examples of energy communities on the Greek islands: “**Minoa Energy**”, “**Energy Community of Sifnos**” and “Energy Community of Thalís”.



Barrier 6: Clean energy project subsidies equalize interconnected islands and mainland

↳ The subsidies for RES projects on Greek islands are dependent on the islands’ electricity interconnection to the mainland, where interconnected islands are equalised to the mainland. The interconnected islands, due to their geography, still witness higher investment costs for RES projects than the mainland projects. In addition, limited resources of local stakeholders and limited know-how make the maintenance of the clean energy projects more expensive regardless of whether the island is electrically interconnected or not.

RECOMMENDATIONS

To tackle this barrier, we recommend the changes to support schemes as detailed below.

6.1 Re-evaluate support schemes for interconnected islands

↳ Support schemes for clean energy projects should differ depending on whether the island is interconnected or not. We recommend that the support schemes for interconnected islands are re-evaluated to take into account the island characteristics (higher investment and operation costs) in comparison to the mainland.



↑ Old Venetian Port of Chania, Agiou Markou, Chania, Greece in 2022. © Getty images, licensed under the Unsplash+ License.



Did you know?

RES projects on non-interconnected islands can benefit from a feed-in tariff, regardless of the capacity (size) of the project, whereas on interconnected islands there is a maximum threshold of 400 kW. In addition, RES on interconnected islands that participate in the electricity market may benefit from a feed-in premium tariff, while bigger PV (>500 kW) and onshore wind plants (>3 MW) can take part in tenders. There is also a subsidy for RES plants on non-interconnected islands employing two or more RES technologies.



Further action is expected from:

- ✓ Ministry for Environment and Energy



Barrier 7: The regulated price for electricity generation in NII hinders clean energy transition

↳ Based on the Regulation for Electrical System Operation Code for Non-Interconnected Islands (NII), the conventional power plants are reimbursed for the operation costs that include among others all operation, assets and fuel costs and complete costs for temporary operation of diesel generators. The current system does not incentivise existing electricity generation plants to become more sustainable, efficient or flexible in their operation as regulated price covers the needed operational costs. Moreover, for smaller energy systems, the lower capacity thermal power plants are used. In high-demand times, in such systems there is a need for more temporary generation using diesel generators. Therefore, the smaller the island, the more the current system pays for inefficient and hence more expensive electricity generation.

RECOMMENDATIONS

To tackle this barrier, we recommend a revision of the regulated reimbursement process as detailed below.

7.1 Revise system of regulated reimbursement of operation costs

↳ We recommend evaluating and revising the existing system of regulated reimbursement of their generation costs. The revision should provide incentive to accelerate introduction of alternative fuels and improving efficiency, but also to incentivise clean energy transition and energy diversification. The solution could provide a timeline for the thermal power plants to gradually decrease the support for the operations. Part of the financing could be redirected to support test and innovative projects on the islands working towards the same goal.



↑ Ios, Greece in 2020. © Photo by Johnny Africa on Unsplash.



Further action is expected from:

- ✓ Ministry for Environment and Energy
- ✓ Regulatory Energy Agency (REA)
- ✓ Ministry for Investment and Research





Useful information

- Regulation for Electrical System Operation Code for Non-Interconnected Islands (NII)
- An Overview of the Greek Islands' Autonomous Electrical Systems: Proposals for a Sustainable Energy Future

# Comparison to other countries (map)

Some of the identified legal and regulatory barriers in Greece are also present in several of the other countries which were part of the study.

- 

If the type of barrier present in Greece is also present in an other country, the corresponding icon is bright.
- 

If the type of barrier is not present, the corresponding icon is faded.

## Type of barrier

- **GRID**
- **SYSTEM INTEGRATION**
- **PERMITTING**
- **SUPPORT SYSTEMS**
- **SPATIAL PLANNING**
- **COORDINATION & STRATEGY**
- **ENERGY COMMUNITIES**

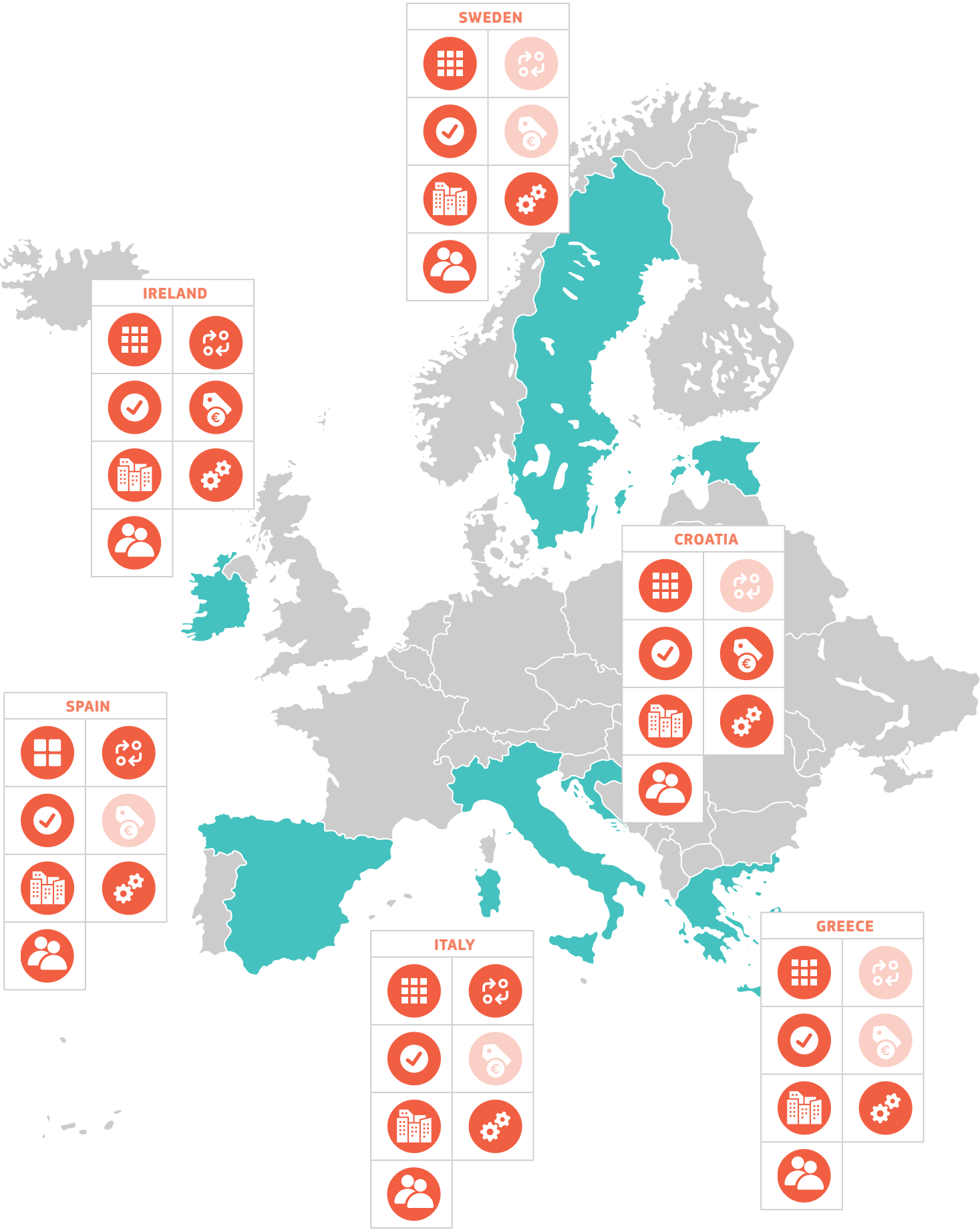
## Greek barriers summary

Insufficient grid capacity on the Estonian islands and no support for solutions to cope with the obsolete grid capacity.

Need for better integration of clean energy transition and spatial planning.

Lack of clear strategy and coordination of clean energy transition on the islands.

Lack of support for energy communities.





## Further Reading

### Regulatory barriers in Greece: findings and recommendations

📖 Read the full study [here](#) | Clean energy for EU islands (europa.eu)

### Greek islands with a Clean Energy Transition Agenda (CETA)

- 📖 Chalki island
- 📖 Chios Island
- 📖 Kasos Island
- 📖 Ikaria island
- 📖 Samos island
- 📖 Sifnos island
- 📖 Symi island
- 📖 Trizonia island
- 📖 Zakynthos island

### Greek islands that have received technical assistance

- 📖 Chalki
- 📖 Chios
- 📖 Crete
- 📖 Kasos
- 📖 Kythira
- 📖 Spetses
- 📖 Symi
- 📖 Syros
- 📖 Tilos

### Regulatory Framework in Greece

- 📖 Greek regulatory inventory
- 📖 Greek National Energy and Climate Plan (NECP)

→ Chalki, Greece in May 2020 © Photo by Blanche Peulot on Unsplash.





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↑ On June 14<sup>th</sup>, the Clean energy for EU islands secretariat organises its first Energy Academy focusing on the island of Cyprus. © Photo by Clean energy for EU islands secretariat



↑ The session offered the opportunity to familiarise with phase II of the secretariat, discuss the national policy framework for energy transition, and get inspired by other energy projects on the island. © Photo by Clean energy for EU islands secretariat



↑ The workshop was an opportunity for participants to meet like-minded islanders and stakeholders of the clean energy transition, and have strategic discussions on how to advance the clean energy transition of Cyprus. © Photo by Clean energy for EU islands secretariat

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