

#### Introduction

The launch of the Clean Energy for EU Islands Initiative in May 2017 underlines the European Union's intent to accelerate the clean energy transition on Europe's more than 1,400 inhabited islands. The initiative aims to reduce the dependency of European islands on energy imports by making better use of their own renewable energy sources and embracing modern and innovative energy systems. As a support to the launch of the initiative, the Clean Energy for EU Islands Secretariat was set up to act as a platform of exchange for island stakeholders and to provide dedicated capacity building and technical advisory services. The Clean Energy for EU Islands Secretariat provides a range of support activities and all the islands active within the initiative contribute a wealth of practical experiences worth learning from.

The aim of the Islands Transition Handbook is to provide a methodological framework for island communities to develop a Clean Energy Transition Agenda. The Handbook serves as a starting point to find inspiration and contacts in the EU island community to kick-start, re-start or further boost the decarbonisation of islands. It provides background and current thinking, whilst offering practical examples for transition, tools for further reading and performance indicators for self-assessment of the ongoing process.

A Clean Energy Transition Agenda makes sure that there is a shared vision and an overview of the different transition pathways for the island. It is a strategic agenda that determines the next steps for the transition on the island.

Central to this Islands Transition Handbook is the Clean Energy Transition Agenda, a strategic roadmap for clean energy transition for islands. Developing a Transition Agenda is a process requires broad engagement and involvement from the island community and frontrunning public authorities, moving in the same direction to decarbonise the island's energy system. The outcome is a document

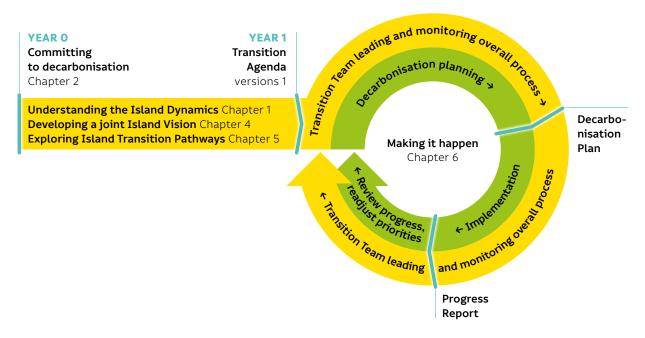


Figure 1 | The clean energy transition process can be represented as a circular process.

that spells out the island's vision and identifies transition pathways to attain this vision. It differs from traditional energy planning as it has a focus on community-led clean energy activities, requiring an active role of citizens, local businesses and educational institutes in the decarbonisation of the island. The Transition Agenda as a method to achieve full decarbonisation emphasises the roles and responsibilities of the various stakeholders in this process.

Looking at the clean energy transition as a circular process, the arrows in Figure 1 provide an overview, going from an initial agreement between local island organisations and the public authority, through a dialogue process, leading from implementation and monitoring towards full decarbonisation. The Islands Transition Handbook concentrates on the initial stages of the process – the transition strategy – with the focus on committing to decarbonisation, understanding the island dynamics, visioning and exploring transition pathways. These steps are each covered in a separate chapter in the Islands Transition Handbook.

#### **Committing to Decarbonisation**

Embarking on an island's clean energy transition requires a team of relevant and eager members on the island. The Islands Transition Handbook explains how to gather a strong team and presents examples of workflows leading to a common vision and transition pathways for a Clean Energy Transition Agenda.

## A transition is a long process that requires backing by a committed and balanced team of island stakeholders.

A good team is characterised by a broad range of stakeholders that match the islands general dynamic. It should be a collection of organisations that have the human resources to ensure a strategic dialogue that leads to a strong Clean Energy Transition Agenda. The key stakeholder groups include public authorities, civil society organisation and educational institutes. Local business associations and private businesses on the island are a vital part of the local socioeconomic ecosystem which will also be affected by the transition. A balance should be found between the different groups, and a clear understanding of the mandates and responsibilities held by each of them.

From the start, a Transition Team should consist of a minimum of two different organisations that commit to each other, and one of these must be the local authority covering the island. It is recommended that representatives are found from all four groups of stakeholders in order to achieve as broad a representation as possible.

#### A joint pledge to decarbonisation makes sure that there is continuity in the process.

To ensure a good start, the <u>Clean Energy for EU Islands Pledge</u> is designed to support the commitments between the different stakeholders involved in the island-wide Clean Energy Transition Agenda. The pledge consolidates the clean energy transition and includes a series of acknowledgements to other islands and to national and European bodies in order to address the need for locally rooted actions that rise to the joint global challenge of tackling climate change. When the pledge document has been signed it must be registered on the Clean Energy for EU Islands website. Signing the pledge shows that the organisations involved are committed enough to broadcast this to the EU island community and the European Commission. It also indicates that the island is part of the EU-wide community of islands in transition, and that it can reach out to likeminded islands and supporting organisations via an online community for inspiration, collaboration and support.

In order to maintain the process's momentum, it is recommended to aim at having a first version of the Transition Agenda agreed within one year after the Pledge has been signed. As the clean energy transition is an ongoing process it can be expected that a Transition Agenda will require updates throughout the participatory process. The different process phases include the involvement of the island community and the island stakeholders may require additional expertise and can bring in either local or external experts.

### **Understanding the Island Dynamics**

Before starting the island's clean energy transition, the complexity of the challenge has to be fully understood. As an essential step in the Clean Energy Transition Agenda, the island dynamics are explored to identify and analyse the barriers and opportunities that exist. A sustainable transition happens in conjunction with the island's present and past and each island has a unique context that requires an adapted approach.

The analysis includes a description of the current energy system that acts as a baseline for the future and allows to determine the key sectors that influence the clean energy transition. The island stakeholders are mapped to identify those who are key to the process. The position of the transition process in the regulatory context, including national, regional and local targets, is investigated. This results in a catalogue that acts as a useful reference to shape the island's transition pathways.

A description of the energy system is useful to identify energy consumption patterns and interdependencies and it can act as a basis from which informed decisions can be made and next steps prioritised.

The goal of the energy system description is to understand the island's current situation, and to set a baseline for referral and future comparison. The Handbook gives guidance on an appropriate scope for the analysis, possible sources of data, how to interpret it, and how to estimate it whenever it is not available. In order to acknowledge the special needs and challenges of islands, the energy system description is classified according to the following sectors.

- Electricity generation and consumption;
- Transport on the island;
- Transport to and from the island;
- Heating and cooling.

The data for these different vectors is summarised in a table. Islands are referred to the material developed by the Covenant of Mayors for a detailed technical methodology to develop a final energy breakdown and baseline emissions inventory.

### Having a balanced representation of different stakeholders is key to the success of the transition.

A successful clean energy transition benefits the entire island community. Mapping the island stake-holders is a useful way to ensure that the relevant stakeholders are engaged, whilst providing a structure for determining the governance of the transition. The stakeholder mapping also facilitates the co-creation process in the next phase of the Transition Agenda. The mapping determines which type of engagement should be assigned to each stakeholder, based on their level of interest and their impact on the outcome of the transition.

## An understanding of the policies and regulations on energy for the island allows for the identification of barriers and opportunities.

As part of the Transition Agenda, it is investigated how the island transition process is embedded in the surrounding policy and regulatory framework as this provides the backdrop against which the local energy transition takes place, such as international agreements on climate change, national and regional targets for the integration of renewable energy, local commitments to decarbonisation, etc. It also includes the legal framework for the active participation of citizens in the energy transition such as Citizens Energy Communities and Renewable Energy Communities. This exercise provides a clear understanding of how an island's Clean Energy Transition Agenda relates to clean energy transition and planning processes at different governmental levels.

### **Exploring Island Transition Pathways**

Island Transition Pathways describe strategies, barriers to overcome, important actors, and essential actions for the island's clean energy transition. The starting point is the island-wide vision on clean energy elaborated by the island stakeholders. The transition pathways describe possible storylines, including goals and interventions, in the short-, mid- and long-term to make the bridge between the island's envisioned clean energy future and the present. It is the result of a process that involves all relevant island stakeholders and leads to aligned perspectives and assigned roles to work towards the identified common goals.

# Island transition pathways integrate the different perspectives and identified opportunities to link the present situation on the island with the envisioned future.

By identifying common goals and effective strategies they allow the decision-making process to move forward. The pathways help to overcome technical, financial, legal, cultural, historical and social barriers to the island's clean energy transition by mobilising all stakeholders. They can be considered holistic energy scenarios that provide insight into how different areas, such as ownership models, technologies, and principles can work together to reach the envisioned future. They provide action mandates and enable an outreach to the island transition community and beyond. Developing the transition pathways is an important step to connect the vision of the clean energy island to tangible and concrete ideas of how this future can be achieved. It brings the strategic discussion on the vision down to an operational and pragmatic level and leads to an overview of the different possible ways to the island's complete decarbonisation.

#### Pillars of the energy transition are explored and assessed to determine the opportunities for the island's clean energy transition.

Parallel to developing the transition pathways, transition pillars can be constructed. Whereas the pathways integrate the different perspectives from across sectors and energy vectors, the transition pillars explore and investigate individual opportunities in a single area. While pathways focus on the inter-dependencies across the pillars and go beyond existing silos and cut across the existing tasks and responsibilities of the actors involved, the transition pillars lead the way to concrete project decisions and ideas. The Islands Transition Handbook provides several tools to develop the pillars, including SWOT analysis, the Transition canvas and a technology assessment. Figure 2 gives a graphical representation of how to develop island transition pathways and pillars.

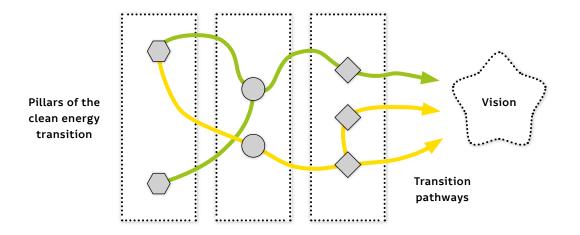


Figure 2 | Constructing the island transition pathways by connecting the elements of the pillars.

After the transition dialogue has arrived at clear outcomes, it is important to bring the Clean Energy Transition Agenda to a close.

Once it is agreed that the strategic dialogue has led to clear outcomes, publishing the agenda can serve as an important milestone in the transition process. The publication of the agenda is an opportunity to bring together the entire island community and relevant mainland stakeholders. No two Transition Agendas are identical: The content, role and format can vary significantly from one island to another. It can be a brief strategic document used to indicate principles and tactical decisions, or it can be a detailed guidebook with goals and operational planning. Making the Transition Agenda available online provides access to it for the island stakeholders and any other EU islands wanting to learn from your island's transition process.

### **Making it happen**

The Islands Transition Handbook gives advice and practical tools on how to continue the clean energy transition after the Clean Energy Transition Agenda has been published. It provides references to guides, programmes and platforms that help island stakeholders to develop a decarbonisation plan, financing concept and individual clean energy projects.

The Transition Agenda is only the first step towards complete decarbonisation. The island vision and transition pathways need to be operationalised into a concrete project pipeline.

Based on the Transition Agenda, a decarbonisation plan can be written that defines the concrete actions, responsibilities and timing to achieve an island's long-term energy consumption and CO2 emissions reduction targets. Different financing opportunities exist for clean energy transition projects, depending on the technology, the involved stakeholders and other project-specific factors.

A financing concept is a solid basis from which to implement the decarbonisation plan and is a starting point for discussion with potential promoters and financiers. A financing concept is an analysis of the steps and approach required to develop a pipeline of projects on the island. The Islands Transition Handbook refers to the **Quick Reference Guide on Financing** and the tools and resources on financing made through the EU Covenant of Mayors which provide more information. It outlines how various sources of public and private funds are combined to develop a viable and effective financing structure.

### **Monitoring the Transition**

Monitoring is an integral part of the learning process of the transition and allows to keep track of the developments and indicates whether the transition is going in the right direction.

Monitoring is an important part of the learning process. Both the transition process itself and the way that it is managed are monitored and reflected upon. Periodic assessment is recommended – to keep track of the developments – and indicates whether the transition is going in the right direction.

Transition indicators can be used as an opportunity to reflect and adapt the strategic direction of the transition.

The Clean Energy for EU Islands Secretariat develop transition indicators that cover nine areas of the clean energy transition. By means of a self-assessment matrix, an island self-assesses the transition process on the island in order to identify the strengths and weaknesses of the ongoing activities. The indicators act as a tool to guide discussion and evaluation and allow to prioritise actions on clean energy. The indicators are shown in Figure 3.

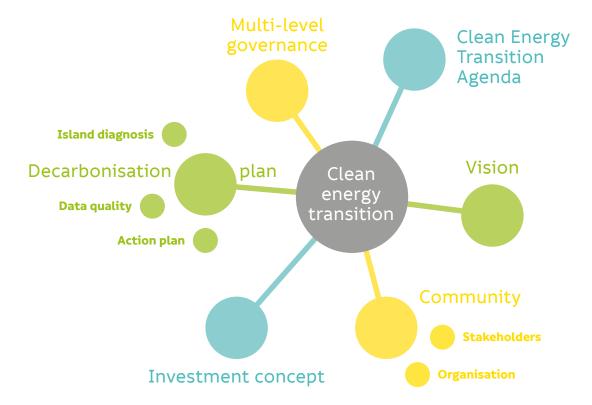


Figure 3 | The transition indicators for clean energy transition can be used to monitor an island's progress.

## ISLANDS TRANSITION HANDBOOK FOR POLICY MAKERS

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