There are over 2,000 inhabited islands in the EU that are home to more than 4% of European citizens. Islands are shaped by insularity which very often comes with energy dependency – particularly on fossil fuels – high transportation costs, water scarcity, limited economic diversification and local expertise, but also significant renewables potential, unique ecosystems, enhanced levels of social capital and strong sense of identity. This set of pluralistic characteristics can turn islands into living labs for interventions in multiple sectors including energy, transport, circular water and waste management.

Innovative solutions for the energy sector like short and long-term energy storage, demand response, flexible energy management, electromobility, microgrids, peer-to-peer energy trading, can perfectly work for islands mobilising their clean energy transition while reducing the cost for electricity production and increasing their energy independence and security. Solutions working for islands can be replicated and scaled up for different geographies – rural and mountainous areas but also cities and towns. The European Commission has well-recognised this dynamic supporting for more than a decade initiatives like the Pact of Islands, Smart Islands initiative and the recent Clean Energy for EU Islands Initiative.

To unlock islands’ potential, it is crucial to recognize the significant role and strengthen the capacities of island local authorities, energy agencies and stakeholders. If empowered, these will be in a position to boost the maturation of clean energy projects which will enable the optimal and resilient use of infrastructures and resources, laying the foundation for islands’ sustainable growth.

FEDARENE, recognizing islands’ special character, since 2018 formed a new islands college including 15 energy agencies actively working on islands. The college builds upon several years of collective work and experience on islands’ energy transition. FEDARENE aims to share this knowledge to ensure that technical and financial assistance, designed to support islands’ decarbonisation, responds to challenges that are well-identified by local and regional authorities and citizens of the EU islands.

With the European Green Deal well in place islands have a real incentive to kick-start their clean energy transition now, reap the benefits that come with it and act as lighthouses of Europe’s climate-neutral future. What is more important, decarbonisation should be seen as the backbone of islands’ smart and sustainable development, since it can unlock coupled interventions with sectors like water, waste, land and sea transport, ensuring the creation of local sustainable growth, translated in a well-preserved natural environment, quality jobs and prosperity for islanders.

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DAFNI Network of Sustainable Greek Islands Director and AEGEA Head of Energy and Climate Unit
EU Islands, trailblazers for the green transition

Europe is facing an unprecedented existential challenge: to fight climate change, we must become a climate-neutral economy by mid-century. To deliver on our ambitions, the Commission has presented the European Green Deal, a roadmap of actions across all areas of policy, which will fundamentally change our economy and society through green growth and a just transition. In this transition to a better planet, energy policy will play a crucial role. In the EU, energy generation, transmission and conversion is responsible for 75% of emissions.

Numerous actions have already been undertaken to make EU energy policy legislation fit for the new challenges. Finalised in 2019, the Clean Energy for all Europeans package addressed the three main priorities of EU energy policy: security of supply, affordability, and sustainability. Now, with the Green Deal, we will continue along this path to complete the transformation of our energy system into one that is not only carbon-neutral, but also more cost effective, energy efficient and secure.

Islands are in a very favourable position to make this transition to clean and carbon-free energy a reality. Islands usually have access to a rich potential array of renewable energy sources, such as wind, sun, wave and tide. These sources may be combined with energy efficiency measures and flexibility solutions, such as demand response and storage, to create decarbonised local energy systems, which can reduce energy costs significantly. Currently, the cost of electricity generation on non-connected islands is up to 10 times the production cost on the mainland. When we know that the cost of combined renewable and storage projects is already much lower, and will still come down significantly, we see that there is an enormous potential for cost savings. Local solutions will benefit local populations and island economies in many other ways too. They can reduce local pollution, improve energy security and provide jobs and economic opportunities to islanders.

Such decarbonised energy systems can be developed on the small scale of an island, and have the potential to be replicated elsewhere on a much larger scale. This gives islands a unique potential to be trailblazers of the European Green Deal.

Despite this clear potential and the advantages, we see that many islands are still relying on expensive and polluting fossil fuels, in particular diesel and heavy oil generators. In many cases they simply lack the resources and expertise to develop and implement their transition plans.

For this reason the European Commission launched the Clean Energy for EU Islands Initiative in 2017, part of the Clean Energy package. Fourteen Member States signed the Valetta Declaration, together with the Commission, with the objective to cooperate to support their islands in developing tailor-made clean energy transition projects.

Supporting islands to shape their future – local initiatives at the core

The Initiative has taken a bottom-up approach. The focus is on the creation a community of committed islands and on providing technical support for the development of their transition plans. It is important to keep in mind that there are no standard solutions and that each island has its unique characteristics and requires tailor-made solutions. But there are commonalities and islands can still learn a lot from each other.

With the support of the European Parliament, the Clean Energy for EU Islands Secretariat was established in 2018 as a successful pilot project. The Secretariat provides support to 26 Pilot and Pioneer Islands to develop their Clean Energy Transition Agendas. A further twenty-four islands were selected for project development support.

Under the New Energy Solutions Optimised for Islands Facility (NESOI - www.nesoi.eu), supported by the Horizon 2020 programme, islands can receive support for the next steps towards implementation of their plans. This facility will provide training, technical support, cooperation opportunities and funding opportunities to convert Action Plans into concrete actions, such as RES plants, building and energy infrastructure retrofitting, energy bills reduction, local job creation and more. This project has just started. With a total budget of € 3.1 million for grants, to be allocated through open calls for proposals, it is expected that more than 100 M€ of investment in sustainable energy projects will be mobilized.

Under the Horizon 2020 programme, several other calls for proposals specifically target the energy transition of islands, with a budget of € 140 million over the period of 2018-2020.

Reinforced cooperation: an enabling and long-term framework

In the 2017 Political Declaration on Clean Energy for EU Islands, the signatories committed to establishing “a long-term framework to promote replicable and scalable projects [...] to accelerate the clean energy transition on all EU islands”.

After three years of experience, it is now time to take stock of the results achieved and to gear up to a second phase of the Initiative. The islands community has indicated a clear wish for the Initiative and the bottom-up support to be stepped up in terms of both ambition and scale.
At the same time, accumulated experience shows that islands face a number of common challenges that cannot be addressed at island-level. These relate to the national regulation and policies that are necessary to create a conducive and enabling framework in which decarbonisation projects can thrive. The Commission and Member States can benefit intensively from cooperation on this subject, in order to identify common solutions and best practices, and to ensure that approaches are coherent with EU policies and legislation.

This can be done by tailoring energy market regulation to the specific needs of islands, for instance, by facilitating the replacement of fossil fuel subsidies by sustainable alternatives and incentivising investments in islands.

The mobilisation of adequate private and public funding for green investments in islands is another key topic. Financing is available but it is scattered, throughout different EU funds (Horizon Europe, LIFE, regional funds and InvestEU and the Just Transition Mechanism) and other sources of public and private financing. Islands need support to navigate the different possibilities and to have optimal access to the diverse financial options.

The Commission and the relevant Member States are currently working to establish a long-term framework with the aim to accelerate the clean transition on all EU islands, in line with the objective set in the Valletta Declaration. This is also a priority for the Croatian Presidency of the EU.

The European Green Deal concerns every European, and it will bring about changes that will transform all sectors of the economy and our way of life, building green growth and opportunities. I believe the Clean Energy for EU Islands Initiative has all the potential to be a genuine flagship component of the European Green Deal. With engagement of every European citizen, we will be able to rise to the challenge of the global climate emergency. I am convinced that together we can achieve our objectives and that EU islands have a key role to play in leading the way through local engagement for clean energy solutions.

Samsø: An Island of Innovation and Sustainability

The island of Samsø, Denmark, pursues a fossil free and circular economy vision by 2030 with the sustainability of the community at the center.

Samsø, home to approx. 3,700 people is an island of 114 km² located 15km off the Jutland peninsula, Denmark. Already in 1997 Samsø decided to be a pioneer community in climate action and in only 10 years it became Denmark’s 100% renewable energy island through an innovative approach to energy.

The fear of change is embedded in people, we know what we have, we don’t what’s in the future, says Søren Hermansen, CEO of the Samsø Energy Academy and the local leader who introduced the idea to the island community. To break this human resistance, he adds, we must invite people in a process to sit down and feel comfortable to talk about the unknown.

The open discussion that took place on Samsø allowed everybody to see what this change would mean for the island and the community. This process was key to success and to local co-ownership of on-shore and off-shore wind turbines, biomass-fueled district-heating, solar panels and electric cars, with tremendous impact on the sustainability of the community.

Nowadays, with the 17 United Nations’ Sustainable Development Goals, an increasing focus on climate change, and Denmark’s goal to be independent of fossil-based energy by 2050, there is a reason for Samsø to set the bar even higher and attempt once more to lead in solutions that point to the future.

Pursuing the ambition to become fossil-free by 2030 Samsø will store the excess wind energy on the island, partly electrify the district heating, convert local biomass into biogas to fuel the ferry to the mainland, and further increase the number of electric cars. The fossil fuels substitution with local renewable energy resources will show how renewable energy and circular economy can be at the same time catalysts for a community’s sustainability, good business and effective climate action.

Its approach “from best to next” made Samsø a world-wide brand name for what community-centered energy transition and sustainable local development can look like. The Energy Academy, the island’s NGO that facilitates the energy transition, now receives annually some thousands of energy visitors, to hear and see firsthand the process that led to success. Madeira (PT), Azores (PT), Guadeloupe (FR), Saaremaa (EE), Texel (NL), and Vlieland (NL) have joined forces to exchange innovation policies (Islands of Innovation, INTERREG programme).

Samsø also reaches out to communities in Asia, Australia, North America, Africa to show what is possible and inspire local leaders design a more sustainable future for their territories and engage in the energy transition. The Energy Academy participates in cooperation and knowledge exchange programmes and organises on Samsø study visits, workshops and leadership seminars for local leaders, stakeholders and policy makers from around the world.

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CANARY ISLANDS: 100% SUSTAINABLE LA GOMERA

La Gomera (21,500 inhabitants, 370 km², World Biosphere reserve since 2012) is the third smallest island of the Canary Archipelago (Spain). In spite of its current low renewable energy penetration, an ambitious plan to decarbonize the island has started in 2019, promoted by the Regional Government of the Canary Islands, the insular corporation (Cabildo) and the Canary Islands Institute of Technology (ITC).

La Gomera has 64 dispersed populational nuclei, a 21 MW thermal power station (diesel) and a 20 kV distribution network. Instead of proposing a centralized electricity generation model, like it has been done on El Hierro with its successful Wind – Pumped Hydro Storage Power Station, the roadmap for La Gomera’s transition to 100% renewable energy is based on a distributed generation approach. Besides on-going private sector initiatives (promotion of small renewable power systems (with unitary power ranging from few hundreds of kW to approx. 2 MW), the current plan 100% sustainable La Gomera, promoted by the public authorities and the technological partner ITC, consists in a combination of intelligent self-consumption, innovative hybrid systems and microgrids, which are being located at emblematic sites for further replication.

In particular, the following 6 pilot projects are being carried out in 2020:

- PV system with battery storage and intelligent energy management in Alojera (generation system for grid injection; 210 kW / 500 kWh);
- Intelligent PV self consumption system with battery storage at the Thalasso Center of Hermigua (no grid injection; 130 kW / 70 kWh);
- PV self consumption system at the island’s slaughterhouse (70 kW; no batteries, excess electricity injected into the grid);
- Intelligent PV self consumption system with battery storage at Alajeró old people’s home (with grid injection; 80 kW / 68 kWh);
- Intelligent PV self consumption system with battery storage at water pumping station (no grid injection; 90 kW / 70 kWh);
- Intelligent PV self consumption system with battery storage at Cabildo’s main building (no grid injection; 75 kW / 70 kWh).

ITC has designed the solutions and is responsible for their implementation. The pilot projects are intelligent and innovative in the sense that they foresee the development of new energy management models (based on meteorological forecasting and advanced optimization methods) and even the provision of ancillary services to the island distribution grid (case of Alojera microgrid). The ultimate goal is that they serve as platforms for the deployment of solutions which allow to integrate distributed renewable energy sources in La Gomera, other Canary Islands, and isolated territories worldwide.

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EUROPEAN CITY FACILITY: DESIGNED BY CITIES FOR CITIES

Municipalities and local authorities play a key role in a sustainable European energy transition. They have a tremendous potential to build comprehensive sustainable energy investment programs (i.e. investments in energy efficiency and renewable energy). They also play a key role in pooling smaller projects into larger investment portfolios and in mobilising the significant financial resources required for the energy transition.

Although the potential is immense, there are fundamental obstacles. In many cases, there is a lack of credible, robust and sufficiently mature investment concepts (including a detailed description of the planned investment project and of the promoter(s) and local stakeholders, a legal analysis, an economic and financial analysis and the investment roadmap). However, such investment concepts are an initial prerequisite for access to different sources of funding.

In this context, a new pan-European City Facility (EUCF) is set up under Horizon 2020: tailor-made, rapid and simplified financial support (in the form of EUR 60,000 lump sums) and related services will be provided to some 200 cities and municipalities to enable them to develop relevant investment concepts.

The EUCF design allows for decentral and tailor-made support to small- and medium-sized municipalities through country experts, national networks of local authorities and activities across Europe. A helpdesk and user-friendly platform have also been established for a smooth running of the Facility.

EUCF will organise tailored webinars and info-sessions in each European country, to guide local authorities in their city journey. Support and guidance will be also provided for the development of the investment concept and for the actual access to financing.

Get involved

- Meet us at events, visit our website or get in touch with our country experts.
- Follow the simple and fast-track application process and benefit from strong technical & financial expertise, multi-level governance approaches & support in local languages.
- Develop your investment concept and learn from peers about blending of funds, innovative financing schemes, procurement, climate mainstreaming in municipal budgets and more.
- Get easy access to a pool of EU experts, investors & other key actors, benchmarks and standardised investment packages for successfully implementing your investment concept.

Spread the word to your municipalities: the first call for applications will open on the 25th of May until the 2nd of October 2020!

Website: www.eucityfacility.eu - Twitter: @eucityfacility
Email: info@eucityfacility.eu