Smart Islands Projects and Strategies

Issued from the 1st European Smart Islands Forum, June 2016, Athens, Greece

aegean energy agency
THE SUPPORTING ORGANISATION FOR GREEK ISLANDS

FRIEDRICH EBERT STIFTUNG

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Smart Islands Projects and Strategies

A documentation of smart projects and strategies implemented by 35 European islands and showcased during the 1st Smart Islands Forum, 21-22 June 2016, Athens, Greece

Lighthouse Projects from: Croatia, Cyprus, Denmark, Finland, France, Germany, Greece, Italy, Malta, The Netherlands, Spain, Sweden, United Kingdom

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FOREWORD

The Smart Islands Initiative is a bottom-up effort of European island local authorities and actors to communicate the need for tapping the significant, yet largely unexploited potential of islands to function as laboratories for technological, social, economic and political innovation.

The Smart Islands Initiative builds on years of collaboration between European islands and seeks to demonstrate that islands can host pilot projects and produce knowledge on smart and efficient resource and infrastructure management, which may be then transferred in mountainous, rural and generally geographically isolated areas but also scaled-up in big cities of continental Europe and beyond.

KEDE, the Central Union of Municipalities of Greece fully supports the Smart Islands Initiative. Enhancing the institutional, technical and financial capacities of local island authorities and fostering cooperation with the private sector and academia are key preconditions for the promotion of smart, sustainable and inclusive development on islands.

Furthermore, KEDE strongly advocates in favour of the Smart Islands Forum to be hosted on a yearly basis, in order to offer island local authorities and actors across Europe with the much needed space to network, share knowledge and exchange experience on the deployment of smart projects and strategies at local level.

Georgios Patoulis

President of the Central Union of Municipalities in Greece (KEDE)

FOREWORD

The first "Smart Islands Forum", a specialised conference on sustainability, was held in Athens from 21 to 22 June 2016. Over 40 island experts from 13 different European countries participated. The conference aimed to encourage the exchange of experiences between island representatives and offer a forum, which is proposed to be held each year from now on. It also aimed at the drafting of a joint Declaration through which island representatives will advance and support their specific interests in Brussels. The results of the first Smart Islands Forum are summarized in this publication.

A "Smart Island" can be described as an island that creates local sustainable growth, offering a high quality of life to the local people, protecting natural resources and equipping public power supply and transport systems with smarter technology, as well as applying innovative governance methods or exploiting new funding schemes that are more innovative and participatory.

Greek Smart Islands are of paramount importance for the economic growth of the country. Currently 32 island systems, some of which consist of more than one neighbouring islands, are not interconnected to the mainland system but are electrified by autonomous thermal plants and RES. Expensive diesel oil prevails as the main energy source on many islands. The use of photovoltaic and wind power could become more widespread. It is possible to link sustainable tourism with smarter technology, like for instance electromobility, as is already happening in places like Mallorca, which can enable the penetration of RES and trigger the uptake of sustainable economic activities on islands.

A great number of institutions have helped with the organization of the first "Smart Islands Forum" in cooperation with the Friedrich-Ebert-Stiftung:

- **The DAFNI Network of Sustainable Aegean and Ionian Islands,** a network of 33 local and 2 regional island authorities from Greece

- **The Aegean Energy Agency,** a non-for-profit organization providing scientific and technical advice to DAFNI Network

- **KEDE,** the Central Union of Municipalities of Greece

- **FEDARENE,** the premier European network of regional and local organizations charged with the implementation, co-ordination and support of energy and environment policies at regional and local levels, where the Aegean Energy Agency is a member.

These institutions have considerably contributed to the success of the Smart Islands Forum. A warm thanks goes to them for the great work.

The "Smart Islands Forum" entirely falls within one of the key areas of activity of the Friedrich-Ebert Stiftung, that of "Sustainable development". In this key area, the foundation is working with its 100 offices around the world on the development of concepts to convert the idea of sustainability into political practice. Social justice, solidarity and democracy are central elements thereof. Besides, there is strong conviction that sustainable development begins at local level and international cooperation is extremely useful in catalysing the implementation of sustainable development.

Nicole Katsioulis
Friedrich-Ebert-Stiftung, Director Athens Office

NOTE TO THE READER

The Smart Islands Initiative is the culmination of a series of activities, among which stands prominently the Pact of Islands. The Pact of Islands is a political scheme engaging islands to go beyond the EU 2020 climate and energy targets, counting today 117 signatories across Europe.

The definition of an island as smart relates to its ability to implement integrated solutions to the management of infrastructures and natural resources, namely energy, transport and mobility, waste and water, all while promoting the use of innovative and socially inclusive governance and financing schemes. The introduction of cutting-edge technologies coupled with sound environmental management, including the protection of the landscape and rational use of coastal and marine resources is key in nurturing sustainable economic activities on islands. Furthermore, the use of ICT ensuring the availability of reliable data to increase efficiencies, reduce costs and improve the quality of life of local communities is another core pillar of the Smart Islands concept.

In light of the ever increasing trend towards a new type of energy market, in which the supply of energy is increasingly decentralized, new business models emerge, consumers are in control of their energy consumption and production and innovative technologies are penetrating the market (smart meters, electric vehicles etc.) with demand-side measures receiving priority, islands emerge as the ideal territories to test new scalable technologies and processes with the involvement of all relevant actors, namely public authorities, utilities and grid operators, market players and citizens.

Yet, despite these trends, policy and technology inertia coupled with the ongoing economic crisis in Europe still prevent islands from fully tapping their potential to host innovative and sustainable projects. This is due to a range of factors; testing and scaling of cutting-edge technologies is perceived to be a risky endeavor, new technological solutions challenge the way island systems and economies function, and, lastly, technology and its implications are not always well-understood across different sectors. Against this backdrop, islands need to establish a baseline in order to better understand their potential and assess their priorities. This will allow them to adopt an integrated approach when devising and implementing new projects, one that encompasses envi-

ronmental, social, and economic considerations. Hence, before an island can transform itself into a smart island, it first needs to understand exactly where it stands in relation to other areas by putting in place the right indicators for measuring, monitoring and assessing impacts. This will allow islands to develop in a way that is sustainable, ensuring the protection of their ecosystems all while exploiting their comparative advantages.

This publication represents a compilation of smart and sustainable projects from over 30 islands across 13 European countries, currently under implementation or in the phase of maturation, which were showcased during the 1st Smart Islands Forum. The Forum was organized at the initiative of the DAFNI Network of Sustainable Aegean and Ionian Islands and the Aegean Energy Agency on 21 and 22 June 2016 in Athens, Greece with the support of the Friedrich-Ebert-Stiftung, the Central Union of Municipalities of Greece and the Covenant of Mayors Office. The report presents the profiles of the majority of European islands involved in climate responsible and innovative projects, providing also an overview of the technologies deployed. We think that this is a very promising start for islands to gain the attention they deserve!

Ilias Efthymiopoulos
Aegean Energy Agency, Director

INTRODUCTION

Islands are at the forefront of the global fight against climate change since they are amongst the first to experience the devastating impacts this has on local ecosystems and livelihoods. Despite the fact that islands face intrinsic challenges deriving from insularity and seasonality – often described as permanent handicaps – with regards to energy production, transportation, natural resources management, access to markets and economic diversification, there is growing evidence that these inherent characteristics can in fact represent untapped potential for islands to function as laboratories of technological, social and financial innovation.

Indeed, islands host locally most of the infrastructures needed for the management of their resources, while the often intense seasonal tourism demand takes a heavy toll on both infrastructures and resources. Against this backdrop, islands rise as the ideal test-beds for the deployment of smart, integrated solutions, which maximize the synergies between energy, transport, water and waste management through the use of cutting-edge technologies, including ICT, and which can be replicated in small municipalities, mountainous, rural and generally geographically isolated areas of the mainland but also scaled-up in big urban centers. To fully tap this potential though, it is crucial to recognize the role and strengthen the capacity of island authorities so that these are in a position to ensure the optimal use of infrastructures and resources, and thus create an enabling environment for sustainable economic activities to flourish on islands.

The EU energy and climate policy framework for 2030 and recent COP 21 agreement both emphasize the role of local authorities in tackling climate change by reducing emissions, building resilience and establishing cooperation platforms at local, national and international levels. Even more so for islands, catalyzing collaboration between the so called Quadruple Helix actors, namely local and regional authorities, the business sector, academia and the civil society is key for devising and implementing a place-based, transformative development agenda that exploits islands' competitive advantages and generates sustainable local growth and prosperity for citizens and visitors.

The recognition of islands' potential to transform themselves into smart territories and usher in a low-carbon, sustainable and inclusive development paradigm is the result of years of collaboration between European islands in the context of the Pact of Islands initiative. At an operational level the Pact of Islands created the conditions for the establishment of two EU-scale projects, ISLEPACT and SMILEGOV, facilitating islands' collaboration on local sustainable energy planning and sustainable energy project implementation.

Building on this foundation but also capitalizing on frontrunner islands' experience in implementing sustainable and innovative projects and policies, DAFNI Network of Sustainable Aegean and Ionian Islands, under its role as coordinator of the SMILEGOV project, took the initiative to host the 1st Smart Islands Forum and thus provide the space to the majority of European island local and regional authorities and actors to come together and collectively define and promote the Smart Islands initiative.

The Smart Islands initiative suggests a new narrative for islands that calls for an integrated approach to the management of islands' natural resources and infrastructures; one that taps into European islands' potential to transform themselves into smart territories and improve the quality of life of island communities, all while helping the EU meet the goals it has set in a number of policy areas, including climate change mitigation and adaptation, circular economy, innovation, sustainable transport and mobility, blue growth, and the digital agenda.

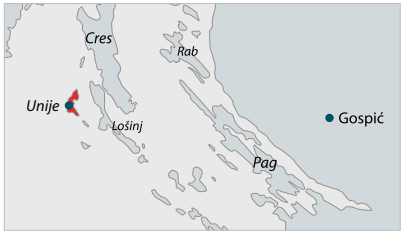
Ultimately the 1st Smart Islands Forum can be seen as a first step in maturing the Smart Islands initiative. Further steps to this direction are: 1) the Smart Islands Declaration, a document outlining the aspirations on the role, challenges and potential of islands to be endorsed and signed by island local and regional authorities and stakeholders in the coming months 2) the Smart Islands Forum as an annual networking and capacity building event offering island representatives the space to meet and update each other on on-going smart projects, strategies and policy tools, events and other activities 3) the Smart Islands Conference, an event that will take place in January 2017 in Brussels to present the Smart Islands Declaration and showcase island lighthouse projects and exchangeviews with policy makers on islands' potential to drive Europe's transition into a low-carbon, resource-efficient, circular and inclusive economy and the 4) the

establishment of the Smart Islands Platform that will advocate in favour of island affairs and facilitate partnerships for the realization of EU projects on islands, acting also as the Pact of Islands Secretariat in strong collaboration with the Covenant of Mayors for Climate and Energy Office.

The following chapters of this publication provide an overview of smart projects implemented by European islands. The projects adopt an integrated approach to the management of natural resources and infrastructures at island level through the right matching of technology, governance and financing scheme. Most of the projects fall within a broader island strategy – or vision in the absence of such strategy – of how each island can transition into a low-carbon, sustainable and inclusive development paradigm.

1. CROATIA

1.1 Unije



ISLAND PROFILE

With a surface of 16,77 km^2 and 36,6 km of coastline the island has a large number of olive trees, yet the majority of it is also surrounded by under bush and thus hard to reach. The island's geographical position favors the exploitation of renewable energy sources. The main economic activities on the island are tourism, olive oil production, sheep breeding and fishing. Unije has 88 permanent residents.

SMART STRATEGY

Unije's smart strategy is reflected in the strategy paper "The Island of Unije: Energy Self-Sufficient Island", prepared by the Regional Energy Agency of Kvarner (REA Kvarner) in cooperation with the Department of Energy, Power Engineering and Environment at the Faculty of Mechanical Engineering and Naval Architecture, University of Zagreb (UNIZAG FSB). The study examines different scenarios up to 2020 or 2030 and discusses concrete RES and EE measures with the view to transforming Unije into an energy independent smart island with zero carbon emissions. The study foresees the construction of a desalination plant powered by renewable energy, the installation of a ground photovoltaic power plant (up to 1 MW) combined with battery storage and energy-efficient LED technology in street lighting, the construction of a small biomass plant using the island vegetation and oil trees as fuel, the construction of educational walking paths leading to RES demonstration plants and special routes for bicycles, electric bicycles and electric vehicles used in short-distance transportation and agricultural activities.

SMART PROJECTS

- **Project Title:** Construction of desalination plant powered by renewable energy
- **Project Storyline:** The problem of scarce water resources on the island becomes particularly aggravated during the summer months, due to prolonged drought and seasonal rise of tourists. The construction of the desalination plant is expected to commence in 2016
- **Financing:** Funding will be provided by the public company Hrvatske vode, the Utility company Cres-Lošinj, REA Kvarner and the Environmental Protection and Energy Efficiency Fund
- **Actors Involved:** Public – Public company Hrvatske Vode, Utility company Cres-Lošinj, REA Kvarner, Environmental Protection and Energy Efficiency Fund

PROJECT 2

- **Project Title:** Photovoltaic Power Plant
- **Project Storyline:** Preparations have already begun for the installation of a ground photovoltaic power plant (up to 1 MW) combined with battery storage. The power plant will ensure the security of energy supply and reduce grid losses. The Environmental Impact Assessment has been carried out and the preliminary design as well
- **Financing:** Public – Primorje Gorski Kotar County and REA Kvarner
- **Actors Involved:** Primorje Gorski Kotar County and REA Kvarner

PROJECT 3

- **Project Title:** Educational Walking and Cycling Paths
- **Project Storyline:** The proposed project includes the construction of educational walking paths leading to RES demonstration plants. Paths will also be a part of special routes for bicycles and electric bicycles
- **Financing:** Public – City of Mali Lošinj
- **Actors Involved:** City of Mali Lošinj, REA Kvarner

1.2 Lastovo

ISLAND PROFILE

The island of Lastovo is located in the Dubrovnik Neretva County and is one of the populated islands that is furthest from the mainland counting 792 inhabitants. The Municipality of Lastovo has an area of 52.84 km^2 and includes 46 islands from which the biggest is the island of Lastovo. Lastovo is famous for its wine and the sea surrounding the island is the richest fishing area in the Adriatic. The whole island with its archipelago has become a natural park in 2006. It is connected with the island of Korcula and mainland by hydroplane and ferry.

ISLAND SMART STRATEGY

Lastovo has developed a Sustainable Energy Action Plan (SEAP) through the IEE-funded Meshartility project with the help of the Regional Development Agency of the Dubrovnik-Neretva County (DUNEA), UNIZAG FSB and the Municipality of Lastovo. In the framework of the project, an agreement was signed with the local utility company ELEKTROJUG HEP ODS to gather and analyze energy data. To achieve the goals set by their SEAPs the island has become one of the target areas of the IEE BEAST project on how to transform into a smart, green and sustainable territory. Thanks to its unique position, Lastovo has featured in several scientific papers which analyzed the possibility of developing the island as an isolated smart energy system.

PROJECT 1

- **Project Title:** Bike and electric bike sharing system
- **Project Storyline:** On the island of Lastovo they started with the implementation of a bike sharing system. There are currently set up two stations for bike rental which are completely autonomous since they are fueled by photovoltaics. In the further steps they will include electric bikes

in the system and expand the stations network across the whole island

- **Financing:** The financing was undertaken by the Municipality of Lastovo with the co-financing from the Croatian Environmental Protection and Energy Efficiency Fund which provided 80% of the funds. This measure is one of the measures for sustainable mobility developed in the SEAP of the municipality
- **Actors Involved:** Actors involved in the process are the Municipality of Lastovo as the main investor in the project and the Croatian Environmental Protection and Energy Efficiency Fund which co-financed part of the investment

1.3 Mljet

ISLAND PROFILE

With a total surface of 98 km^2 and mostly covered by forests, especially in the northern part, the island of Mljet is the 8th biggest island in southeast Croatia. The island's population reaches 1,088 inhabitants. Administratively, the island is governed by the municipality of Mljet and on the northern part of the island is the National Park Mljet (NP Mljet). The main economic activities include tourism and agriculture, mainly farming, fishing and growing vineyards, olive trees and herbs.

ISLAND SMART STRATEGY

All actors that are participating in the development of the Island of Mljet are devoted to develop island in a sustainable and smart way. This can be seen from the Sustainable Energy Action Plan (SEAP) that was developed through IEE Meshartility project with help from DUNEA, UNIZAG FSB, Municipality of Mljet and NP Mljet. In the framework of the project, an agreement was signed with the local utility company ELEKTROJUG HEP ODS to gather and analyze energy data. To achieve the goals set by their SEAPs, the island has become one of the target areas of the IEE BEAST project on how to transform into a smart, green and sustainable territory. As a part of the NP Mljet strategy the island should become the first 100% Green Island, meaning that smart and green solutions will be implemented in all sectors of the island to reduce the energy consumption and eliminate the CO_2 emissions.

PROJECT 1

- **Project Title:** Electric vehicles and charging infrastructure in NP Mljet and Mljet municipality
- **Project Storyline:** NP Mljet and the Municipality of Mljet started with the electrification of the road and maritime transport in the area of the National

Park and on the whole island. The first stage included the construction of two semi-fast charging stations and acquired electric and plug-in hybrid electric vehicles. These activities will continue with the expansion of the charging infrastructure and acquisition of new E-vehicles and electric vessels

- **Financing:** Public – made by the NP Mljet, the Environmental Protection and Energy Efficiency Fund of Croatia and the Ministry of Nature and Environmental Protection of Croatia. Further exploration of EEA grants and EU funds
- **Actors Involved:** In the development phase the main partners were NP Mljet, the Municipality of Mljet and the University of Zagreb and the Faculty of Mechanical Engineering and Naval Architecture. In the implementation phase, actors involved are the NP Mljet, the Environmental Protection and Energy Efficiency Fund of Croatia and the Ministry of Nature and Environmental Protection of Croatia

PROJECT 2

- **Project Title:** Installation of autonomous ecological blocks
- **Project Storyline:** NP Mljet started with the implementation of autonomous touristic ecological blocks. These blocks are equipped with solar panels, small wind turbine and battery pack so that they are completely autonomous from the grid and can be located on any location on the island to be easily accessible by tourists. Modular construction allows for the blocks to be multi-functional
- **Financing:** In the implementation phase the partners who are financing the project are the NP Mljet, Environmental Protection and Energy Efficiency Fund of Republic of Croatia and Ministry of Nature and Environmental Protection of the Republic of Croatia. There are possibilities to use EEA and EU grants
- **Actors Involved:** Main partners include NP Mljet, Municipality of Mljet, DUNEA, Dubrovnik Neretva County and University of Zagreb and the Faculty of Mechanical Engineering and Naval Architecture

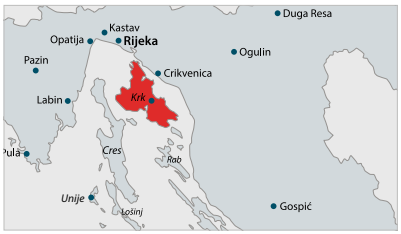
PROJECT 3

- **Project Title:** Centre for protection of nature – Kulijer
- **Project Storyline:** The integrated development project „Centre for the protection of nature - Kulijer“ combines efforts of improving the system of protected areas through the establishment of a National Reference

Centre for the protection of nature and the creation of attractive visitor infrastructure. The project includes the re-use of an old military complex in modern research and a visitors' centre for the natural and cultural underwater heritage of the island of Mljet

- **Financing:** The financing is available through the NP Mljet, the Environmental Protection and Energy Efficiency Fund of Croatia and the Ministry of Nature and Environmental Protection of Croatia
- **Actors Involved:** In the development phase the main partners were NP Mljet, the Municipality of Mljet and the University of Zagreb and the Faculty of Mechanical Engineering and Naval Architecture. In the implementation phase the partners financing the project are the NP Mljet, the Environmental Protection and Energy Efficiency Fund of Croatia and the Ministry of Nature and Environmental Protection of Croatia

1.4 Krk



ISLAND PROFILE

Krk is one of the largest Adriatic island, part of Primorje-Gorski Kotar County, with an area of 405.78 km^2. It is the most populated Adriatic island, with numerous towns and villages, reaching 19,383 inhabitants in total. Krk is located rather near the mainland and has been connected to it via a 1,430 m two-arch concrete bridge since 1980. Due to the proximity to the city of Rijeka, Omišalj also hosts the Rijeka International Airport as well as an oil terminal representing a part of the Port of Rijeka and a petrochemical plant. Krk is a popular tourist destination. Main economic activities include fishing and tourism.

ISLAND SMART STRATEGY

The local public authorities of the Island of Krk have recently unanimously adopted the new "Zero Emission Development Strategy", pushing for the integrated and sustainable development of the island. The strategy goes far beyond the context of energy and energy efficiency, discussing not only environmental aspects, but also the long term socio-economic development of the island. The strategy defines a set of concrete measures that should result in significant energy savings through the implementation of a set of cost-effective technology investments to increase energy efficiency and the share of renewable energy sources (wind, sun and biogas) which can be implemented through improved governance (e.g. raising public awareness). The aim is to transform the island Krk into a zero-emission island, the first fully energy independent island in the Mediterranean and thus set an example for other island communities. The strategy over the next twenty years foresees about 36.8 MWp of new photovoltaic installations on the roofs, 4 MWp of photovoltaic installations on the ground, 25.2 MW of wind power and 250 kWel in biogas plants.

PROJECT 1

- **Project Title:** Anaerobic digestion plant for biogenic waste
- **Project Storyline:** All the important parameters for the construction and operation of a biogas cogeneration plant powered by biogenic waste on the Island of Krk have been analyzed. Furthermore, a detailed survey was conducted to determine the quantity of available raw materials and all the relevant biogenic waste producers on the Island have been contacted. The identified available row materials were further analyzed in terms of biogas yield, pH values during the fermentation process, as well as the amount of methane in the produced biogas
- **Financing:** The facility's financing is planned through Public Private Partnerships and an energy cooperative
- **Actors Involved:** The energy cooperative "Island of Krk", Ponikve Eko Otok Krk D.O.O. (municipal company), REA Kvarner, PGC and island municipalities, LAG (Local action group) "Kvarner Islands"

PROJECT 2

- **Project Title:** Smart Island
- **Project Storyline:** Smart Island foresees the construction of DTK-broadband optical network to every single house on the Island of Krk, project control and management of public lighting, GIS system, 8000 new LED public lights, webcam, info panels, reading meters, management of car parks, chargers for electric vehicles, electric vehicles, scooters and bicycles, certification and the implementation of ISO 50001:2011
- **Financing:** Joint financing by all actors involved namely the energy cooperative "Island of Krk", Ponikve Eko Otok Krk D.O.O. (municipal company), REA Kvarner, PGC and island municipalities , LAG (Local action group) "Kvarner Islands", the Fund for Environmental Protection and Energy Efficiency of the Republic of Croatia
- **Actors Involved:** The energy cooperative "Island of Krk", Ponikve Eko Otok Krk D.O.O. (municipal company), REA Kvarner, PGC and island municipalities, LAG (Local action group) "Kvarner Islands", the Fund for Environmental Protection and Energy Efficiency of the Republic of Croatia

PROJECT 3

- **Project Title:** Energy Academy and Information Centre
- **Project Storyline:** The Centre will provide information on renewable

energy sources, energy efficiency, buildings, efficient transport, water saving and waste separation, charging stations and electric vehicles, bicycles etc. All activities are related to the idea of an energy-independent Island of Krk, island with zero CO_2 emissions. It would be a learning Centre for the wider area of the island and even the mainland. It will cover over 350 m^2 of indoor and outdoor space. The building itself will be a passive building

- **Financing:** Joint financing by all actors involved namely the energy cooperative "Island of Krk", Ponikve Eko Otok Krk D.O.O. (municipal company), REA Kvarner, PGC and island municipalities, LAG (Local action group) "Kvarner Islands", the Fund for Environmental Protection and Energy Efficiency of the Republic of Croatia
- **Actors Involved:** The energy cooperative "Island of Krk", Ponikve Eko Otok Krk D.O.O. (municipal company), REA Kvarner, PGC and island municipalities, LAG (Local action group) "Kvarner Islands", the Fund for Environmental Protection and Energy Efficiency of the Republic of Croatia

1.5 Korcula

ISLAND PROFILE

With an area of 279 km^2, the island of Korcula belongs to the central Dalmatian archipelago. It is the sixth largest Adriatic island with three main island settlements amounting to 15,500 inhabitants in total. The island is largely covered with Mediterranean flora including extensive pine forests. The most important economic branches on the island are tourism, shipbuilding and agriculture

ISLAND SMART STRATEGY

All actors participating in the development of the Island of Korcula are devoted to develop the island in a sustainable and smart way. This can be seen from the Sustainable Energy Action Plan (SEAP) that was developed through IEE Meshartility project with help from DUNEA, UNIZAG FSB, Municipality of Mljet and NP Mljet. In the framework of the project, an agreement was signed with the local utility company ELEKTROJUG HEP ODS to gather and analyze energy data. To achieve the goals set by the SEAPs, the island has become one of the target areas of the IEE BEAST project on how to transform into a smart, green and sustainable territory together with the islands of Mljet, Lastovo, Peljesac Peninsula and Dubrovnik West Coast.

PROJECT 1

- **Project Title:** Energy Renovation of households
- **Project Storyline:** Some of the elements of the SEAPs developed by island municipalities include the development of an "Energy system based on solar energy in Vela Luka", "Energy self-sustained Municipality Smokvica", "Green working places for Municipality Blato" and "Korcula - Smart Energy City". Through the implementation of recommended actions and measures in their SEAPs, municipalities on the Island of Korcula plan to

reduce CO_2 emission by 22.02% till 2020. Joint actions are also planned so that all municipalities on the island can cooperate together in a smart way to maximize their limited financial and human capacities

- **Financing:** In 2015 energy efficiency and renewable energy measures were implemented in the households on the Island of Korcula. The renovation of buildings was financed mostly with private funds, but the Croatian Environmental Protection and Energy Efficiency Fund and Dubrovnik Neretva County co-financed the projects with funds that were at average 50% of the investment. Total funds invested in the renovation were around 70,000 EUR. This process will continue with the deployment of a smart management system following renovation to optimize the benefits achieved through the energy efficiency and renewable energy measures
- **Actors Involved:** Actors involved in the project were private investors and owners of the households. With the help from the Municipality of Vela Luka and association "Novi Otok", they prepared the documentation for the Croatian Environmental Protection and Energy Efficiency Fund and Dubrovnik Neretva County which co-financed the projects

PROJECT 2

- **Project Title:** Small PV plants
- **Project Storyline:** There are several households on the Island of Korcula far from the existing electric grid and further grid expansion would require significant investment. Small PV systems with battery pack and smart management systems will be installed. Already one household has served as a demonstration site where basic household needs for electricity have been covered by solar energy. Other households will also become part of the project, while with the new Law on Renewable Energy households connected to the grid will start to implement similar solutions
- **Financing:** Investment was mainly private, with part of it covered by the Croatian Environmental Protection and Energy Efficiency Fund
- **Actors Involved:** Actors involved in the project were private investors and owners of the households

PARTICIPATING ORGANIZATION:
REA Kvarner, http://www.reakvarner.hr/
CONTACT PERSON:
Goran Krajacic, University of Zagreb, REA Kvarner consultant

2. CYPRUS

ISLAND PROFILE

Cyprus is the most eastern island in the Mediterranean Sea and the third largest in the Mediterranean with a total surface of 9,251 km^2 and distance only 40 miles south of Turkey and 60 miles west of Syria and Lebanon. Cyprus population reaches 1,172,000 inhabitants. The island economy has shifted over the past 20 years from agriculture to light manufacturing and services, with tourism, financial services and real estate being the most important sectors of the Cypriote economy. Energy will be a significant new source of growth on the islands, following the discovery of natural gas reserves in Cyprus' Exclusive Economic Zone. The island has ambitious plans to become a regional energy hub in the Eastern Mediterranean and the successful extraction of natural gas from its waters could allow the island to export to European and East-Asian markets.

ISLAND SMART STRATEGY

The island's smart strategy is based on efforts to increase the local capacity for development, financing and implementing EE and RES projects. Also emphasis is placed on the joint development of new local bankable energy projects and on local support for follow up and evaluation of progress towards the 2020 targets (SEAPs implementation and monitoring).

PROJECT 1

- **Project Title:** Upgrade of the Street Lighting in 20 local authorities in Cyprus
- **Project Storyline:** The total number of existing lighting that will be replaced with new lighting technology Light Emitting Diode (LED) are 55,940. Participating authorities in the project have already signed either the "Covenant of Mayors" or the "Pact of Islands" or both and have developed their SEAPs in collaboration with CEA. Upgrading the street

lighting in order to save both energy and carbon emissions, but also to reduce their energy costs is one of the top priorities in the authorities' agenda towards their 2020 targets. The proposed project will contribute also to achieving the national indicative 14.3% primary energy saving target by 2020 and 10% of the national energy savings end-use target by 2016

- **Financing:** The project will be implemented through Energy Performance Contracts (EPC), by an Energy Services Company (ESCO), that will be awarded the contract through the public procurement procedure
- **Actors Involved:** ESCOs

ARTICIPATING ORGANIZATION:
Cyprus Energy Agency, http://www.cea.org.cy/Home.html
CONTACT PERSON:
Anthi Charalambous, Director

3. DENMARK

3.1 Samsoe

ISLAND PROFILE

Samsoe is an island in the Central Denmark Region covering a total area of 114 km² with 5,000 inhabitants. Samsoe attracts more than 110,000 visitors every year thanks to the island's distinctive natural and cultural heritage. In the northern and eastern part of the island there are protected areas. Samsoe is an independent municipality. Main economic activities include agriculture, tourism and energy production.

ISLAND SMART STRATEGY

In 1997 Samsoe islanders decided to become a 100% renewable energy island and won a Danish competition to become a designated renewable energy island. Islanders were involved in discussions on the island's transition to renewable energy. Then followed a period of ten years with investments in a number of renewable energy plants and increased energy efficiency. Still fossil fuels are used in the island in the transport sector (cars, tractors), however the wind-power production that is exported from the island to the mainland has a larger energy content than the energy in the fossil fuel that is imported to the island. Lately a new vision has been formed for a fossil fuel free island called "Samsoe 2.0", where the inhabitants are invited to take part in the development of the island, including the transition to a fossil fuel free island. The strategy had 7 components:

1. Fossil fuels are not used on Samsoe.
2. The decentralized and flexible energy system for renewable energy production is maintained and further developed – land and offshore wind turbines will be replaced stepwise with new and more efficient turbines.
3. Fuel for transport on Samsoe and from the island to the mainland will

come from renewable energy. 50% of the local public fleet of cars will be electric and 40-50% of the local commercial transport i.e. transport carried out by entrepreneurs, the agricultural sector, taxies, etc. will switch to bio-fuels or alike in 2020.

4. Heating savings: by 2020 the energy consumption for heating will be reduced by 30%. For industry, the energy consumption for heating will be reduced by 5% in 2020.

5. Substantial savings on the electricity consumption: the electricity use for heating in homes will not rise throughout the period until 2030 compared to consumption in 2009.

6. "Seize opportunities as they arise" to jointly ensure sustainable solutions which include several of the cultural and natural resources of Samsoe.

7. Strengthen and establish partnerships to develop and finance innovative action plans at the benefit of local communities.

PROJECT 1

- **Project Title:** Fossil free island
- **Project Storyline:** The project foresees the deployment of a number of technologies such as biogas, smart energy systems, upgraded wind power feeding heat pumps, storage heat and electricity, energy savings, smart energy systems, e-mobility (e-vehicles, ferry). The project is acknowledged by the local and the national government
- **Financing:** The financing happens from project to project, with around 70-80% being public-private partnership and only 20% comes from funding or direct subsidy
- **Actors Involved:** The fossil free Samsoe project is mainly a citizens' project. The local municipality drives the main projects and the Samsoe Energy Academy is pushing the citizens towards greater activity and ownership

PARTICIPATING ORGANIZATION:

Samsoe Energy Academy, http://energiakademiet.dk/en/om-energiakademiet/

CONTACT PERSON:

Soren Hermansen, Director

3.2 Aeroe

ISLAND PROFILE

The island of Aeroe is situated in the south of Denmark covering an area of 88 km^2 and has two major cities, Ærøskøbing and Marstal with a total population of 6,300 inhabitants. Aeroe used to be a farming and fishing community, but today industry and tourism have taken over as the main economic activities.

ISLAND SMART STRATEGY

In the mid-1990 the municipality of Aeroe set up the Renewable Organization of Aeroe. This organization has worked as a generator of ideas relating to the island's energy transition. Current plans include the removal of old wind turbines and the built-up of six new ones, amounting for 120% of the electrical consumption. All three of Aeroe's district heating plants are 100% renewable. The Renewable Organization of Aeroe has been replaced by "The committee for sustainable energy", initiating a project for a new electrical ferry which is now in the building phase. Aeroe is also exploring the deployment of electrical buses.

PROJECT 1

- **Project Title:** E-Ferry – Prototype and full-scale demonstration of next generation 100% electrically powered ferry for passengers and vehicles
- **Project Storyline:** Ferries are a lifeline for many communities in Europe. At the same time waterborne transport, as a major petroleum consumer, offers enormous potential for cutting emissions while saving energy and operational cost. A prototype mid-range 100% electrical vessel, developed by an EU-funded project, will be powered by wind-sourced electricity and will carry the largest battery pack (4.3 MW) ever installed. One charging station will be built on Aeroe that can also serve electrical buses. The battery pack will be part of a smart grid, which is currently under development
- **Financing:** EU contribution: € 15,141,356. Aeroe Municipality: € 6,162,464

- **Actors Involved:** The Aeroe Municipality (Coordinator); Visedo, Finland; Lelanche, Switzerland; Danish Maritime Authority, Denmark; Jens Kristensen Aps, Consulting Naval Architects, Denmark; Soeboe Vaerft A/S, shipyard, Denmark; Tuco Marine Group, Denmark; Dansk Brand- og Sikrings Institut, Denmark; Hellenic Institute of Transport, Greece; European Commission

PARTICIPATING ORGANIZATION:
Aeroe Municipality, http://www.aeroekommune.dk/
CONTACT PERSON:
Jess Heinemann, RES Projects & Strategies Coordinator

3.3 Faroe Islands

ISLAND PROFILE

The Faroe Islands are an island group consisting of 18 major islands about 655 km off the coast of Northern Europe, between the Norwegian Sea and the North Atlantic Ocean, covering an area of 1,399 km^2. The closest neighbours are the Northern and Western Isles of Scotland. The islands are rugged and rocky with some low peaks while the coasts are mostly cliffs. The climate of the Faroe Islands is characterized by mild winters and cool summers and humid and rainy weather. With a population density of 34.5 per km^2, the islands have the second highest population density of the Nordic countries after Denmark. The population on the island is 48,704 inhabitants. The Faroese economy is strongly influenced by fishing and fish processing. Fishery products, including farmed salmon, represent more than 20% of GDP and occupy 15% of the labour force, and implicitly have strong multipliers to other sectors, such as services and housing. Hence, there is a strong correlation between the development in the fishing sector and the overall Faroese economy.

ISLAND SMART STRATEGY

SEV received the Nordic Council Nature and Environment Prize for 2015, aiming at a 100% green energy future for the Faroes by 2030. Wind, water, solar and tidal energy will help the Faroes reach this goal, along with innovative technical solutions. SEV is now in the process of introducing a more advanced management system so that electricity production management can be fully automatic. Further, SEV installed the very first electric vehicle "quick charger" in the Faroes in Klaksvík in December 2015 and quick chargers will be installed at selected locations throughout the country. The Power Hub system, which is designed to eliminate the risk of power outages, has been functioning satisfactorily since it was implemented on a trial basis in the autumn of 2014. Moreover, the deployment of smart meters has progressed well from 2006 to

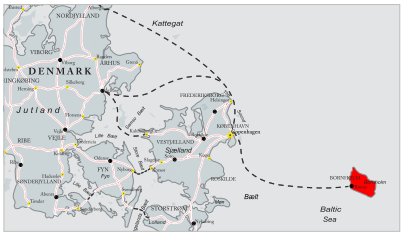
2015. The slow implementation allowed SEV to closely monitor the technical progress and innovation in the sector. In addition to reducing the work-load at SEV, the smart meters benefit customers too. Large consumers in particular will also be able to ascertain rather quickly what their electricity is used for and to set into motion energy saving initiatives where possible.

PROJECT 1

- **Project Title:** Green Vision 2030
- **Project Storyline:** Addressing climate change, ensuring high penetration of renewable energy and the advancement and technical evolution of society as a whole are not simple issues that are easily addressed and managed. At the same time, the goal of a 100% green Faroes by 2030 is a very credible and reasonable goal for the entire country to embrace. The goal can be achieved, but only through the thoughtful and continuous deployment of technological innovation
- **Financing:** USPP (US Private Placement) and financing from banks
- **Actors Involved:** The Government, SEV and the customers in the Faroe Islands

PARTICIPATING ORGANIZATION:
SEV, http://www.sev.fo/Default.aspx?ID=126
CONTACT PERSONS:
Finn Jakobsen, Chief Technology Officer
Bogi Bendtsen, Chief Financing Officer


3.4 Bornholm



ISLAND PROFILE

Bornholm is a small rural island covering an area of 588 km² in the middle of the Baltic Sea with a population of 40,000 inhabitants. Bornholm is a full scale community, with hospital, court house, schools, industry, ferries and airport facilities. The main activities of Bornholm are a mixture of tourism, industry and agriculture.

ISLAND SMART STRATEGY

In 2007 the Bornholm community came together to develop the island's strategy, called 'Bright Green Island'. In 2008, the Municipality of Bornholm decided on a vision that Bornholm should become a carbon neutral community by 2025. In 2015, the utility companies and the municipality of Bornholm revised the strategic energy plan demonstrating how Bornholm will fulfil the vision. The strategic energy plan is based on a unique, locally developed simulation model containing data from a complete mapping of the energy consumption and production for heat, electricity and land based transport. To learn more, please visit www.kortlink.dk/hq9s and www.brightgreenisland.com.

PROJECT 1

- **Project Title:** The Strategic Energy Plan
- **Project Storyline:** Bornholm is a CO_2-neutral community based on sustainable and renewable energy by 2025. The simulation tool handles the entire energy system and can very accurately calculate a wide range of consequences of a given strategic decision in the electrical, heating and transport industries
- **Financing:** Energy Innovation Bornholm
- **Actors Involved:** Partnership between the association Energy Innovation Bornholm f.m.b.a, Bornholms Forsyning, Rønne Vand og Varme and

Østkraft along with the municipal traffic company, BAT, The Center of Technical and Environmental Services and the Growth Forum Secretariat in the Municipality of Bornholm, as well as the private company Logics Aps

PROJECT 2

- **Project Title:** EcoGrid 2.0
- **Project Storyline:** EcoGrid 2.0 is the extension of EcoGrid EU which was completed in September 2015. Through this project Bornholm will be able to widen the range of products offered to the customers and work on increasing the system reliability to create a setup, where flexible consumption will play a vital role in its future energy system. Learn more at www.eu-ecogrid.net
- **Financing:** 48.6 million DKK from the Danish Energy Technological Development and Demonstration Program
- **Actors Involved:** A consortium bringing together 15 partners from different countries, namely ENERGINET/DK; SINTEFF; OSTKRAFT; DTU/Centre for Electric Technology; Landis+Gyr; IBM; SIEMENS; elia; eandis; Tallinn University of Technology; ECN; TNO innovation for life; EDP Distribuição; tecnalia; Austrian Institute of Technology; with the collaboration of the Municipality of Bornholm and local consumers

PARTICIPATING ORGANIZATION:
Regional Municipality of Bornholm,
https://www.brk.dk/Sider/Forside.aspx
CONTACT PERSON:
Jesper Preuss Justesen, Project Manager

4. FINLAND

4.1 Aland Islands

ISLAND PROFILE

The Aland Islands are an autonomous part of Finland with their own regional government. The Aland Islands have 16 municipalities of which 6 are considered to be archipelago municipalities, without any road connection to the main island. The number of inhabitants in the archipelago municipalities range from 101 to about 600, a total of approximately 2,000 people for all the 6 archipelago municipalities combined. In the Aland Islands archipelago, most people are self-employed and get income from more than one occupation. The public sector provides the most traditional work opportunities but is struggling with diminishing resources. Traditionally, the economy has been based on primary production as fishing and farming. However, this has shifted towards the service economy.

ISLAND SMART STRATEGY

The Aland Islands are currently working on the development of a sustainability strategy, following UN guidelines on the sustainable development goals. This focus is not only on environmental issues, but also social and economic issues are crucial for a society to become sustainable.

PROJECT 1

- **Project Title:** SmartPorts
- **Project Storyline:** The project aims at improving and integrating the network of small ports via modern information and communication technology. The project increases the service quality of small ports in the Central Baltic region and helps to create better awareness about the marina network in order to double the number of visitors by the sea. In practice

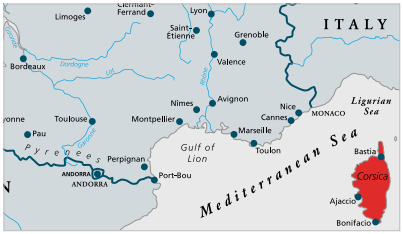
the project implements systems that facilitate cross border information exchange all while creating new port services by investing into modern marina technology. As a result of the project, a cross-border interactive information system for small harbors is jointly developed and piloted

- **Financing:** Total project budget: € 1,455,658, ERDF: € 1,225,260
- **Actors Involved:** Estonian Small Harbour Development Center, Pärnu, Estonia; Kurzeme Planning Region, Saldus, Latvia; Riga Planning Region, Riga, Latvia; Lielupe port authority, Jurmala, Latvia; Mersrags Port Authority, Mersrags, Latvia; Skulte port authority, Zvejniekciems, Saulkrastu nov, Latvia; Salacgriva Port Authority, Salacgriva, Latvia; Pavilosta Port, Pavilosta, Latvia; Port of Kärdla, Hiiumaa, Estonia; Toila Harbor, Toila, Estonia; Kaberneeme Marina Ltd, Kaberneeme, Jõelähtme vald, Estonia; Sottunga municipality, Sottunga, Åland; Archipelago Foundation in Stockholm County, Stockholm, Sweden; Kalev Yacht Club, Tallinn, Estonia; Liimala Port Development (Port of Purtse), Lüganuse county, Estonia; Lõunaranna Investeeringud Ltd, Estonia; Kõiguste Marina MTÜ, Laimjala vald, Estonia

ARTICIPATING ORGANIZATION:
Aland Archipelago Organization;
Enterprising Archipelago http://skargarden.ax/eng/
CONTACT PERSON:
Kristian Packalén, Secretary General

5. FRANCE

5.1 Corsica



ISLAND PROFILE

With a population of 322,120 inhabitants Corsica covers a total surface of 8,680 km^2 out of which 3,500 km^2 is dedicated to nature reserves – Parc naturel régional de Corse. The economy of Corsica has been marked for a long time by agriculture and breeding, however nowadays the private sector plays a pivotal role, tourism in particular.

ISLAND SMART STRATEGY

The local authorities of Corsica together with those of Martinique, Guadeloupe and Reunion are members of the network "Pure Avenir". Through this platform, the island local authorities aim at cooperating in a number of areas, including the promotion of renewable energy and energy demand/response, enhanced governance, financial engineering, and support for innovation and research.

PROJECT 1

- **Project Title:** Myrtle platform
- **Project Storyline:** Located in Ajaccio (Vignola), the platform aims to study the deployment of a storage of solar energy via hydrogen (electrolyser) to ensure the power of renewable energy. Platform characteristics:
  - 1,550 kWp photovoltaic system (3,700 m²)
  - 1 electrolyzer 50 kW for a heat storage 800 kWh / day, a hydrogen storage 1.75 MWh (under 35 bar) and oxygen (under 35 bar)
  - 1,100 kW fuel cell (with a reserve of water 400 L)
  - GreEnergy Box (AREVA), pile 50 kW and 1 electrolyzer 13 NM3/h
  - Labellised by the cluster Capenergies like a developmental project
- **Financing:** European funds (FEDER), Local authorities, French government and partners

- **Actors involved:** University of Corsica Pasquale Paoli, Centre National de la Recherche Scientifique (CNRS), Commissariat à l'énergie atomique et aux énergies alternatives (CEA) and Areva SE

PROJECT 2

- **Project Title:** Microgrid Paglia Orba
- **Project Storyline:** Located in Ajaccio (Vignola), the microgrid will study the mix of storage units coupled to renewable energies using a smart grid to provide energy for homes, offices and vehicles. Microgrid characteristics:
  - Power 100 kW (power consumption of 20 houses)
  - Power capacity up to 150 kilowatts
  - Autonomy for 24-hour
  - An intelligent network (manage the supply / demand balance and communication to optimize energy flows)
  - multi-storage (Ion-Li batteries, Lead acid batteries, NaNiCl2 and ZnBr Batteries, Flywheel, Hydro-pumping and electrolyser)
  - Approved by cluster Capenergies
- **Financing:** European funds (FEDER), Local authorities, French government and partners
- **Actors involved:** University of Corsica Pasquale Paoli, CNRS, CEA, INES (Institut National de l'Energie Solaire)

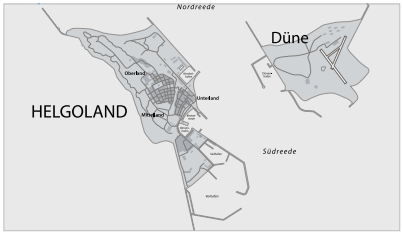
PROJECT 3

- **Project Title:** Driveco
- **Project Storyline:** Driveco is a project on electric mobility and solar solutions with refills, solar with Parasol and flexible with Kino terminal to adapt to all needs in infrastructure for recharging all electric vehicles. Driveco project (Corsica Sole SME leader) was rewarded in June 2016 during the Trophy Energy Transition organized by Usine Nouvelle, French industrial Newspaper. Corsica Sole SME is a renewable energy producer supported by Capenergies
- **Financing:** European funds (FEDER), private funds
- **Actors involved:** Corsica Sole, CEA, Peugeot Lab

PARTICIPATING ORGANIZATION:
Capenergies, http://www.capenergies.fr/
CONTACT PERSON: Céline Auger, Project Manager

6. GERMANY

6.1 Helgoland



ISLAND PROFILE

The islands of Helgoland are the only two German islands not in the immediate vicinity of the mainland covering an area of 1.7 km^2. They lie in the North Sea approximately 69 kilometers north from the mainland at the mouth of the River Elbe. Helgoland is a holiday resort and enjoys a tax-exempt status, as it is part of the EU but excluded from the EU VAT area and customs union. With a permanent population of 1,356 inhabitants the island reaches over 300,000 tourists every year. Tourism, Marine Research and Observatory and Harbor Services are the main sources of income.

ISLAND SMART STRATEGY

"Energiewende", Germany's energy transition project, started in Helgoland already in the 1960s, when the island became one of the first e-Mobility Islands. Later in the early 1990s, one of the first wind-turbine was installed. In 2009 the island was connected to the mainland grid, offering a 100% green power supply. Since 2012 more than 95% of street lighting is based on LED technologies. The Municipality in 2011 set the goal to become a zero emission Island by 2020. A major step forward was a 100% LNG powered island ferry MS "Helgoland" in 2015. At the same time Helgoland became a service island for the Offshore-Wind-Industry. In 2016, the local utility company "VBH" has introduced the "Gridpower-2-Heat" project. The goal will be a 50% reduction of the island's CO_2 Emissions.

PROJECT 1

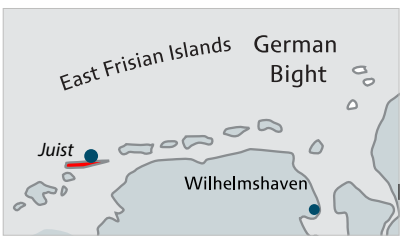
- **Project Title:** Zero Emission Island Program 2020
- **Project Storyline:** The Project consists of a number of sub-projects:

- E-Mobility - Green North Sea Ferry
- Public LED based Illumination
- Service platform for Offshore-Wind-Industry
- Power & Heat supply production and distribution
- Organizational & legal supply for the island utility company to deploy renewable energies in a reliable and cost-effective way

- **Financing:** Multiple sources of funding including public and private financing and pricing
- **Actors Involved:** The driver of these projects is the Municipality of Helgoland. Projects are executed based on contracts or private public ventures

PARTICIPATING ORGANIZATION:
Municipality of Helgoland, http://www.helgoland.de/
CONTACT PERSON:
Jörg Singer, Mayor

6.2 Juist



ISLAND PROFILE

Juist is a little Island in Germany in the North Sea, Part of the Lower Saxony Wadden Sea National Park and the UNESCO Wadden Sea World Natural Heritage covering an area of 16.43 km^2. The island has a population of 1,710 inhabitants and is car-free. Transportation takes place with horses, even for collecting the waste. The island can be reached only at high tide. The power supply is provided through a submarine cable from the mainland. The same applies to the supply of natural gas. The island is water self-sufficient through a freshwater lens. The only economic activity is tourism.

ISLAND SMART STRATEGY

"Climate Island Juist" constitutes Juist's pathway to carbon neutrality by 2030. The strategy includes a number of projects in the fields of citizen participation, resource efficiency, renewable energy, nutrition, sustainable consumption, education and marketing. The three strategies of sustainability (efficiency, consistency and sufficiency) are used. Together with the city of Norden, connected by ferry with Juist, a Climate Action Plan is developed, led by a climate protection manager.

PROJECT 1

- **Project Title:** Energy Revolution Juist
- **Project Storyline:** The project applies the five pillar model developed by Jeremy Rifkin and consists of sub-projects on
  - Renewable energy: wind energy, photovoltaics, geothermal, biomass
  - Building stock: municipal properties and private property
  - Power grid: smart grids
  - Storage: house batteries, heat and cold sinks
  - Mobility: Electromobility
- **Financing:** The cost of compiling and analyzing data for the project were born by the Municipality of Juist. Through local competitions (i.e. Klima kommunal, German Sustainability Award, etc.) additional substantial funding was secured
- **Actors Involved:** The Municipality of Juist collaborates with different partners for the implementation of the different projects. These include NGO Futouris and other unions for environmental conservation, the National Park Authority of Lower Saxony – Wadden Sea, the Centre for Innovation and Sustainable Tourism (CIST) the Fraunhofer Institute UMSICHT and the University of Oldenburg

PROJECT 2

- **Project Title:** Solar drying at the wastewater treatment plant
- **Project Storyline:** In 2006, the trial operation of the first solar sludge drying plant in Lower Saxony took place. With financial support from the state of Lower Saxony, a future-oriented, sustainable technology for sludge treatment, which minimizes – to a large extent – the use of fossil fuels, was deployed. Until mid-2006, approximately 234 tons of $C0_2$ emissions per year resulted from the sludge treatment (dewatering and drying)

through the use of electrical and thermal energy natural gas. With the new technology, a significantly energy-saving dewatering machine and the solar drying sludge, the CO_2 emissions were reduced to about 15 tons per year

- **Financing:** Public funding from the State of Lower Saxony and the EU
- **Actors Involved:** Involved in the project was the municipality Juist, the State of Lower Saxony and the company Thermo-System Industrie- & Trocknungstechnik GmbH

PROJECT 3

- **Project Title:** LED street lighting
- **Project Storyline:** In 2013 the Municipality of Juist replaced 230 inefficient mercury vapor lamps with LED lighting, covering the need of up to 90 % for street lighting
- **Financing:** Public funding from the State of Lower Saxony and the Municipality of Juist
- **Actors Involved:** Involved in the project was the Municipality Juist and the State of Lower Saxony

PARTICIPATING ORGANIZATION:
Municipality of Juist, http://www.juist.de/
CONTACT PERSON:
Thomas Vodde, Project Manager

7. GREECE

7.1 Kythnos

ISLAND PROFILE

The Greek island of Kythnos is a small Aegean island lying at the north of the Cycladic complex with a population of 2,000 inhabitants. Kythnos can be reached from the ports of Pireaus and Lavrion (in the Attica peninsula - Athens area) in 3 and 1.5 hours respectively. Unlike most neighbouring islands, Kythnos receives small amounts of visitors during Easter and summer holidays. Main economic activities include agriculture, fisheries and livestock. However, lately the island has been experiencing an increase in touristic flows which create the conditions for local economic growth, yet put a strain on local resources and infrastructures.

ISLAND SMART STRATEGY

Kythnos has a long history of sustainable energy applications since it hosted the first wind farm in Europe back in 1982 followed by the installation and testing of a 100kW PV plant coupled with batteries, a hybrid station comprising of a 500kW Wind Turbine, battery storage and an automatic control system and finally the development of one of the first PV powered autonomous micro-grids with batteries and diesel generator back-up in Gaidouromandra area (2001). For the Municipality and the citizens of Kythnos the vision is to move towards a smart and sustainable development of the island promoting the extension of the tourism period and minimising the impact of relevant activities. At the same time the integrated planning of the island's future infrastructures will take stock of the past sustainable energy projects and incorporate smart and innovative technologies in the fields of energy, water, waste and mobility.

PROJECT 1

- **Project Title:** Kythnos Smart Island
- **Project Storyline:** The idea is to develop a master plan which will include the assessment of the current situation of the energy, waste and water infrastructures and how these relate to the island's economic activities (tourism, primary and secondary sector activities), but also the study at a prefeasibility level of the different potential projects to support the Smart Islands concept. A key component of the Master Plan will be the development of the Smart Kythnos Centre, comprising of a Renewable Energy Sources Exhibition to demonstrate the history and future of sustainable energy in Kythnos and the rest of the Aegean; and a Smart Training Lab where international and domestic summer schools can take place yearlong with trainees from all education levels, from primary schools to master students
- **Financing:** Exploring EU funds, alternative financing models and PPPs
- **Actors Involved:** The realisation of the Master Plan will be strongly supported by the Municipality of Kythnos, the local stakeholders, entrepreneurs and local organizations with significant track record in shaping the island's sustainable energy profile. The Aegean Energy Agency will be the project coordinator

PARTICIPATING ORGANIZATION:

Aegean Energy Agency,
http://www.aegean-energy.gr/gr/home.htm

7.2 Lesvos

ISLAND PROFILE

Lesvos is the third biggest island in Greece, located in the northeast Aegean Sea. The capital town is Mytilini which also hosts the Region of North Aegean and the General Secretariat for Aegean Islands Policy. There are about 85,333 people living in Lesvos today. Their main source of income is commerce, especially food production activities, different kinds of services but also agriculture, animal farming and fishing. In the past 20 years the island has experienced significant touristic development; however, it is still considered a calm vacation destination with a short tourism period.

ISLAND SMART STRATEGY

Lesvos is electrically autonomous with a thermal power station operating on the island, using diesel and fuel oil as primary energy source. Large amounts of fossil fuels are transferred with ships to the island to cover mainly the demand for transport and heating. Further wind farms and PV stations help meet almost 14% of the electricity demand. In accordance with the local iSEAP resulting from the Pact of Islands, the Municipality of Lesvos aims to reduce the island's dependence on energy imports and boost local energy production by promoting small and medium scale RES installations. By 2020, 17% of the island's primary energy demand is expected to be met through RES. Lesvos is committed to fighting climate change by tapping into locally available renewable resources to cover the island's energy demand. In the coming months, provided that the national banking system becomes more stable, a pipeline of projects for energy production and energy efficiency will be implemented.

PROJECT 1

- **Project Title:** District Heating with Geothermal Energy in Polichnitos, Lesvos island

- **Project Storyline:** The project is about extending and operating an existing district heating network which uses a geothermal field in the town of Polichnitos as source of heat. In 2009 a pilot installation, run by a consortium of different institutions and a private investor, was finalized providing heat to 5 municipal buildings. However, a failure of the pump stopping the supply of heat in the system just after a single day of operation revealed several problems. The dubious ownership scheme of the installation together with the reaction of local stakeholders put the project on permanent hold. Now, there's ongoing effort to bring the different parts involved in the pilot project together and find a viable solution for everyone. The feasibility of the project depends a lot on its extension to include more consumers. However, to do so, a common understanding should be reached between the local stakeholders, the citizens and the consortium involved in the pilot project
- **Financing:** Taking into account the complex nature of the project in terms of the right to exploit the geothermal field, the close relation of the resource to the main productive activities in the area and the mixed ownership of the existing infrastructure, the only win-win solution is that of ensuring involvement of all key players in defining how to overcome existing barriers. For this, a shared financing and ownership scheme is put forward. The financing of the final technical studies for the elaboration of the project is discussed to be funded by the "Deposit and Loans Fund"
- **Actors Involved:** These include the private investor of the pilot project – partial owner of the pilot infrastructure; the Municipality of Lesvos – Owner of the drill; the Municipal Development Company of Lesvos – Potential partner for the operation of the project; The greenhouse farmers and the local society through a cooperative; The Aegean Energy Agency – Consultant for the maturation of the project

PARTICIPATING ORGANIZATION:
Aegean Energy Agency,
http://www.aegean-energy.gr/gr/home.htm
CONTACT PERSON:
Kostas Komninos, Energy Expert, DAFNI Network Director

7.3 Crete

ISLAND PROFILE

Crete is the biggest island of Greece and the 5th biggest island of the Mediterranean Sea. It has a population of 60,1159 inhabitants. It lies at the southern part of the Aegean Sea. The island has an elongated shape, it spans 260 km from east to west, is 60 km at its widest point, and narrows to as little as 12 km. Crete covers an area of 8,336 km^2, with a coastline of 1,046 km. Crete is one of the 13 regions of Greece. The energy needs of the island are covered by a centralized autonomous electrical system (powered mainly by fossil fuels oil, diesel) on the island and of course by the energy carriers consumed directly by the end users. Economic activities include primary and secondary sector activities, that are inter-depended with each other.

ISLAND SMART STRATEGY

The island can be transformed to a 100% green island providing clean energy even to the mainland of Greece. However, it should be noted that the development of RES units shall comply with the sustainable development of Crete's ecosystem as a whole. Taking into consideration the high number of visitors on the island (1,700,000 in 2009) it is clear that energy saving initiatives shall be focused on the sectors related to tourism like accommodation and food service activities. The great challenge for the Region of Crete is to succeed in managing and coordinating the implementation and monitoring of the ISEAP (up to 2050) for an island of more than 600,000 permanent inhabitants, of many tourists and of numerous municipalities. The collaboration between citizens, stakeholders, municipalities, the Region and the State should be strong and committed for a sustainable and smart energy and climate policy and planning, supported by new financial instruments, energy innovation, pilot projects and continuous information. The Regional Energy Agency of Crete will play a pivotal role in coordinating this effort.

PROJECT 1

- **Project Title:** LED lighting and management system in transport tunnels and airport interchanges
- **Project Storyline:** In the framework of the project «Energein: Sustainable energy development at regional, interregional and cross-border level in Greece and Cyprus», energy efficiency pilot projects in the public sector have been implemented in Greek insular regions and Cyprus. In Crete new LED lighting technologies and the accompanying management system have been deployed in the transport tunnel of Stalida and to the transport interchanges of the airports of Chania and Heraklion. These innovative energy efficiency technologies provide:
  - Reduction of installed lighting power of 84.31 Kw
  - Annual reduction of electricity consumption for lighting 473,566 Kwh
  - Annual reduction of lighting costs: 75,814 €
  - Application of an innovative pigmentation in the tunnel which decomposes the car emissions through a photocatalysis
  - Annual reduction of CO_2 emissions: 368 tons.

  The project is the first in Greece to deploy innovative lighting technologies and management system in a transport tunnel. A series of educational, information and dissemination activities including energy workshops, studies, regional action plans on energy efficiency and RES, stakeholders' consultation have been taken place
- **Financing:** The Greece-Cyprus cross border cooperation program provided 80% of the financing and the 20% was provided by the Greek state
- **Actors Involved:** Partners include the Region of Crete, the Region of South Aegean, the Region of North Aegean, the Ministry for Energy, Commerce and Tourism of Cyprus, the Regional Development Fund of Crete, the Development Agency of South Aegean, the Regional Development Fund of North Aegean and the CRES (Centre for Renewable Energy Sources). In Crete specifically, apart from the partners already mentioned, High Schools and Educational Directorates, the Municipality of Hersonissos, the Foundation of Research and Technology, NGOs and local private companies for energy efficiency and innovative energy technologies were also involved

PARTICIPATING ORGANIZATION:
Regional Development Fund of Crete, http://www.pta.gr/
CONTACT PERSON:
Nicolaos Zografakis, Director

8. ITALY

8.1 Pantelleria

ISLAND PROFILE

The Island of Pantelleria counts 7,700 inhabitants. It extends 83 km^2 and is located 110 km south-west of Sicily and 70 km east-north-east of Tunisia. Its territory is of volcanic origin. The highest peak reaches 836 m above sea level. The island's port and the airport allow good connection with Sicily and other Italian towns. The economy is based on agriculture and in particular on the cultivation of the grapevine as the famous sweet wines (Moscato di Pantelleria, Passito di Pantelleria, Moscato Passito di Pantelleria). The UNESCO has declared the agricultural cultivation practice of Zibibbo vine sapling, typical of Pantelleria, as heritage of humanity (this is the first agricultural practice in the world to receive this prestigious award). Among other valuable crops is the production and preservation of caper of Pantelleria and the dried grape. Tourism is a growing activity, and it represents an important part of island income, yet it has a toll on local resources and infrastructures, including excessive energy, water and land use.

ISLAND SMART STRATEGY

Pantelleria aims at becoming fossil free. Currently, Pantelleria has a power station (23 MW diesel) which will be integrated (hybrid system) with a PV system (500 kW by 2016). There is a plan to expand the PV system in the industrial area up to 15 MW. This will concern only 0.35% of the islands' surface, within the industrial area, and allow a reduction of 71% of the diesel employed by the island's thermal power plant. This will require an important hybrid system with related storage capacity. This hybrid system could also include biomass and wave energy technology. About the latter, a system of conversion of wave energy is currently being developed and a full scale prototype (260 kW) has

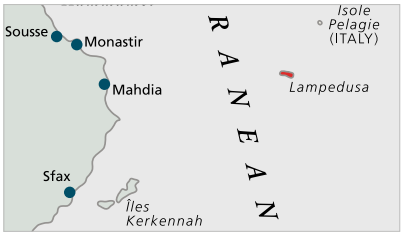
been already installed off Pantelleria. All those renewable systems (PV, Wave and Biomass) will be fully optimized through storage systems that allows the use of renewable energy throughout the day, minimizing the use of the old energy system (diesel) that gradually will be completely replaced by renewable sources.

PROJECT 1

- **Project Title:** PV-Diesel Hybrid System
- **Project Storyline:** The project foresees the deployment of three different photovoltaic plants for a total of 500 kWp power: a rooftop one on the diesel thermal plant building and two ground mounted plants, one with fixed structure and one with single axis trackers, both in the same area. The energy produced by the PV plants will be innovatively integrated with that produced by the diesel generators. There is a plan to expand the PV system in the industrial area up to 15 MW. This will concern only 0.35% of the island's surface, within the industrial area, and allow a reduction of 71% of the diesel employed by the island's thermal power plant. This will require an important hybrid system with related storage capacity
- **Financing:** The project is financed by the island utility with the support of an upcoming national accelerator scheme for minor islands
- **Actors Involved:** Island's Utility, Island's Municipality, Terna Plus, The Green Consulting Group, GHP.

PARTICIPATING ORGANIZATION:
The Green Consulting Group & Greening the Islands Conference, http://www.thegreenconsultinggroup.com/
CONTACT PERSON:
Gianni Chianetta, Director

8.2 Lampedusa



ISLAND PROFILE

Lampedusa is the most southern European island, located 60 miles east the Tunisian coast. Population is almost 6,000 people that become almost 30,000 in summer. Tourism and fishing are the main activities by local people. Electricity is produced locally with a 7 MW diesel generators. Water is produced locally and renewable energy penetration is very low, mainly for electricity purposes.

ISLAND SMART STRATEGY

Lampedusa's Smart Island Strategy aims at demonstrating the technical economic and financial feasibility of a smart community on Lampedusa island through the definition of two models of penetration of renewable energy in the grid of the island (50% RES and Fossil Free), the simulation of the two models through the use of TRNSYS, the definition of strategies to remove the main barriers. To implement the Strategy, special attention will be paid to the positive impact these innovations have on ESCOs (EXALTO and RES NOVA DIE) involved in the implementation of the plan, specifically for increasing the energy efficiency on the island (and more generally of the islands); the manufacturer / distributor of electricity on the business opportunity presented by the accumulation, management and control of electrical energy produced from renewable sources and on its potential to improve local quality of life; on the local communities through the involvement of the Region of Legambiente, given the incentive to boost local employment by using local and third-country human resources.

PROJECT 1

- **Project Title:** Smart Island
- **Project Storyline:** The ultimate goal of the project is the transformation of the island of Lampedusa into an innovative model of Smart Island. The

islander Smart community is a project output and it represents a brand new socio-economic model of Small Island compared to all the other islands. The analyzed scenarios draw a system based on a progressive multilateral system characterized by a plurality of production centers and active users able to interact with an intelligent network, rather than on a centralized power grid and a monopoly production. The new Smart Grid will be able to: absorb the amount of electricity generated from non-programmable innovative power plants; interact with the system of conventional production; supply a number of energy utilities, optimized by saving measures and energy efficiency; programme the energy unitilities to adapt the load curve of the island with the new production and accumulation availability. The energy provider, currently fossil fuels producer, from the baseline fossil free scenerio gradually becomes a manager of a smart grid, enabling the island energy revolution.

- **Financing:** Total budget: €1.2 million. Several financing instruments are/ will be out in place, namely:
  - capital cost incentive by central government up to 100% of eligible costs
  - capital cost incentive by Ministry of research for smart grid implementation (R&D activity)
  - capital cost in five years (Conto Termico) for energy efficiency measures and thermal renewable
  - pecial island feed in tariff for PV and Solar thermal (not yet implemented)
- **Actors Involved:** Local Municipality of Lampedusa, Institute of Atmospheric Pollution Research, National Research Council of Italy

PARTICIPATING ORGANIZATION:
Exalto Energia, http://exaltoenergia.it/en/
CONTACT PERSON:
Mario Gamberale, Project Manager

8.3 Sardinia

ISLAND PROFILE

Sardinia is the second-largest island in the Mediterranean Sea (after Sicily and before Cyprus) and an autonomous region of Italy, which goes by the official name of Regione Autonoma della Sardegna (Autonomous Region of Sardinia). The total population is 1,661,189 inhabitants (June 2014). The sectors composition of the Sardinian economy in 2015 are the following: (i) Agriculture plays an important role in the economy of the island, 33,483 enterprises represent 23.5% of the regional total, while at national level the primary sector represents 14.6%; (ii) the Industry sector represents 22% (the construction sector represents 14.2%), in line with the national data (25%); (iii) the tertiary sector represents 54.5% (the tourist sector is 8.3%), while at national level the tertiary sector represents 60.5%.

ISLAND SMART STRATEGY

FOSTEr in MED – FOstering Solar Technology in the MEDiterranean area – is a strategic project funded by the ENPI CBC MED Programme for €4.5 million. SINBAD – INtegrated System for Building Automation and Domotic – is a project funded by ERDF. The projects are strictly connected to the European 2020 Energy Strategy. They are also in line with Sardinia's Regional Energy Plan, which will be informed by the project's results.

PROJECT 1

- **Project Title:** FOSTEr in MED – FOstering Solar Technology in the MEDiterranean area
- **Project Storyline:** The project promotes the use of
  - solar photovoltaic technologies and their
  - architectural integration on buildings in six Mediterranean countries: Italy, Spain, Lebanon, Egypt, Tunisia and Jordan. Following a Quadruple Helix

approach, the main activities are related to: Analysis of drivers and barriers (technical, socio-economic) to the diffusion of the Photo Voltaic and Building Integrated PV technologies; awareness raising of the local population; competences transfer in the field of BIPV to the target groups:designers (architects and engineers); installers and university students; definition of policy recommendations to foster BIPV adoption; implementation of 5 BIPV pilot projects

- **Financing:** The project has been funded with € 4.05 million by the European Union through the ENPI CBC Mediterranean Sea Basin Programme
- **Actors Involved:** The set-up of a theoretical common approach in the field of renewable energy will support the creation and development of local clusters comprising local authorities, universities and research Centers, Chambers of Commerce and other representatives of SMEs

PARTICIPATING ORGANIZATION:
University of Cagliari,
http://www.unica.it/pub/english/
CONTACT PERSONS:
Marco Pittaluga, Project Manager
Nicola Nieddu, Project Manager


8.4 Certosa

ISLAND PROFILE

The Certosa Island is a 24 hectares-wide island located at the heart of the Venice Lagoon. It lies 200 m away from Venice and 500 m from the Lido Adriatic Sea Inlet. Home to a major example of native remnant vegetation, from 2004 it has been undergoing a sound process of environmental and socio-economic redevelopment, together with a thorough operation of soil remediation. Certosa hosts no permanent inhabitants, but its economic activities (a 300+ berth marina, a hotel, a shipyard, a restaurant, a 12 hectars public park) attract every day an average of a few hundred visitors, that can go up to a couple of thousands during the summer season.

ISLAND SMART STRATEGY

Redeveloping Certosa's abandoned island into a smart island that enables the creation of a space that connects recovered natural assets, together with up-to-date technological features and the social dimension. This is done through an integrated approach that covers multiple systems (e.g. energy, water, material cycles, communication) while aiming at carbon neutrality and keeping the island free, open, and beneficial for the public and the growth of economic activities. A physical enabler is the activity of bioremediation of contaminated soil, while a financial/organizing catalyst is the public-private partnership approach to the overall operation of redevelopment.

PROJECT 1

- **Project Title:** Certosa Smart Island
- **Project Storyline:** The redevelopment of the island stands on the extensive bioremediation activity that has been carried out since 2014, that allowed for the regeneration of topsoil and local natural features. Over this preliminary operation, a complex plan for a local sustainable

energy system (RES and storage, energy efficiency in buildings, smart mobility, smart lighting, smart grid), promoted by the Italian Ministry for the Environment, a plan for the expansion of compatible economic activities, with related infrastructures, are ongoing. The opening of an urban park that hosts the entire island was accomplished in year 2015

- **Financing:** PPPs, national funds, international funds (e.g. EC), private equity, depending on the single operation
- **Actors Involved:** Vento di Venezia holds the concession over the island and runs its main economic activities (marina, shipyard, hotel, sailing school, etc.). In certain cases it has leased its licence to other third parties (e.g. restaurants). The main public bodies involved are: Venice City Council, Italian Ministry for Infrastructures, Veneto Region Council, Ministry of Treasury, Ministry of Defence (former owner of the island), Ministry for the Environment, Land, and Sea. VdV, Venice City Council and Ministry for the Environment have signed an agreement for the sustainable remediation of Certosa in year 2013. Negotiations with international companies for investing at Certosa are undergoing

PARTICIPATING ORGANIZATION:

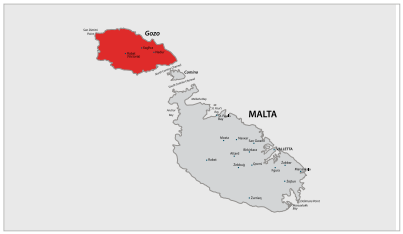
International University of Venice, http://www.univiu.org/

CONTACT PERSON:

Alessandro Costa, Head of Strategic Development & International Cooperation

9. Malta

9.1 Gozo



ISLAND PROFILE

Gozo is the smaller inhabited island forming part of the Maltese Archipelago, which when compared to the overall area of the Maltese Islands, covers approximately one third of that area. Over 31,000 persons live on the island and this amounts to about one twelfth of the overall population of Malta. Thus, the island of Gozo is not as heavily populated as mainland Malta and therefore greener and much more peaceful. The main sources of income in Gozo are from tourism, agriculture, fisheries, services and manufacturing by a number of small and medium sized enterprises.

ISLAND SMART STRATEGY

The eco-island vision for the island of Gozo is a local Sustainable Development strategy for this island community which strives to bring about a better quality of life for its inhabitants, and a better experience for visitors and investors on the island. The eco-island foresees a sustainable, and therefore, a secure future for the island of Gozo. It is a vision rooted in the island's potential and the capabilities of its people. EcoGozo is a vision for an island to become even more beautiful, inspiring, welcoming, thriving, inclusive and successful. A healthy and successful place to live in, in equilibrium with the environment. This is essentially what eco-island will strive to achieve.

PROJECT 1

- **Project Title:** ecoGozo
- **Project Storyline:** The eco-island project for the island of Gozo was launched in 2008, with the aim of putting the island of Gozo on a faster track to achieve the national and EU targets for sustainable Development

and to serve as a pilot for sustainability actions and initiatives. The idea enjoys cross-political acceptance and has to date been led by both the main political forces in the country

- **Financing:** ecoGozo is financed through a number of sources, including: national funding, EU funding (project-based), Private Sector investment (through schemes), Private Sector donations and grants (project-based)
- **Actors Involved:** The strategy aims to involve as many stakeholders as possible. Among others these include the government, the wider population on the individual level, private enterprise on the island, corporate business, the voluntary and NGO sectors, schools and educational institutions

PARTICIPATING ORGANIZATIONS:

Ministry of Gozo, Eco-Gozo Regional Development,
http://ecogozo.com/index.php?lang=en

CONTACT PERSON

Anthony Zammit, Director

10. The Netherlands

10.1 Texel

ISLAND PROFILE

Texel is part of the North West of the Netherlands. It has 13,614 inhabitants with 170 km^2 land. From the city Den Helder (main land) it takes the ferry boat about 20 minutes to sail to Texel. The activities of Texel are mainly focusing on tourism but also agriculture and fishery.

ISLAND SMART STRATEGY

The island's smart energy ambition, starting in 1995, to be self-sufficient with sustainable energy as only resource in 2020 has demonstrated not to be feasible (10% is expected as a maximum). Today, the discussion on developing wind farms is still ongoing. The Planet Texel plan, which has put in place a master vision on Texel's spatial development is currently under implementation. Texel is strong in formulating smart, sustainable ambitions and goals but their realization usually encounters significant obstacles, often due to lack of sufficient support of the population, fear for change among the recreational and tourism industry and a fragmented field of political parties.

PROJECT 1

- **Project Title:** EEPS - Energy-Efficient Products and Services for Smart Grids
- **Project Storyline:** Smart -Electricity/Heat- Grids are usually being developed in a top-down way. The project proposes a more bottom-up approach, starting with a - potentially energy-active - prosumer. Instead of energy companies from the mainland, prosumer villages and neighborhoods on islands run their local energy company themselves, with a much stronger focus on efficient collective lifestyles. Easy existing energy-reduction measures can help not only reduce energy consumption, but also balance

power much better (peak shaving, valley filling, special pricing etc.) with reduced energy and less required renewable capacity as benefits. Building on the bottom-up model of Samsoe, the project wants to go one step further, focus on the demand side, implement EEPS best practices but also - by a creative process - add a few new ones, like the Power Shower concept

- **Financing:** EU - Call for Innovative Energy-efficiency Services (deadline 15 September 2016)
- **Actors Involved:** Texel, Samsoe and other interested Islands, EUREC network of 50 Energy Institutes, Design Factory Network Europe, Frisian Design Factory, Hanze University of Applied Sciences, Aalborg University

PARTICIPATING ORGANIZATION:
Association of European Renewable Energy Research Centres (EUREC), http://www.eurec.be/en/
CONTACT PERSON:
Jarry Sheepens Hasek, Innovation Manager

PARTICIPATING ORGANIZATION:
Delft University of Technology /TexLabs, http://www.tudelft.nl/en/
CONTACT PERSON:
Han Brezet, Professor

10.2 Ameland

ISLAND PROFILE

The municipality of Ameland is a Wadden Island with some 3,500 inhabitants, divided in four settlements. Ameland is one of the five inhabited Dutch Wadden Islands in the North Sea. The municipality of Ameland works towards a safe, healthy and pleasant way of working and living on the island. Tourism is the main source of income on the island. About 550,000 to 600,000 tourists visit the island annually, both foreign and Dutch.

ISLAND SMART STRATEGY

The goal is to establish an intelligent and integrated energy system, with the inhabitants of Ameland being at the centre of this effort. Besides renewable energy, the municipality of Ameland also invests in making the island self-sufficient in other departments, such as with regard to waste and water etc. The ultimate goal is to establish a closed, circular economy on the island and in doing so, strengthening education, research, knowledge and the general economy of the island.

PROJECT 1

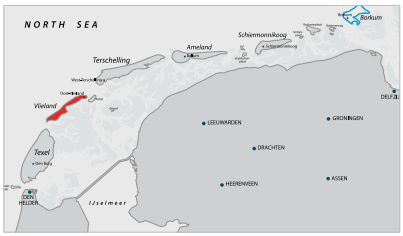
- **Project Title:** Lighting Plan Ameland
- **Project Storyline:** The project focuses on installing the green lighting in the public spaces over all of the island. In the remaining three villages the dimmable energy-saving white lighting will also be installed. In this proposal, we will go into detail about the different aspects of this lighting plan
- **Financing:** The total amount to be invested is € 710,915.07. A mix of private funding and public funding (Ameland Municipality and Province)
- **Actors Involved:** Philips Lighting, the Village Councils and the Ameland municipality

PROJECT 2

- **Project Title:** Solar Park
- **Project Storyline:** The solar park on Ameland is a unique project. Some 23,000 solar panels have been installed on a 10-hectare plot of land near the airport of Ameland. Together these panels produce enough electricity for the 1,500 or so households on Ameland, or enough for the entire island out of season. This solar park is the first of its size in the Netherlands
- **Financing:** A mix of private (energy company) and public funding as used. Local people were able to invest in the park as well
- **Actors Involved:** Amelander Energie Coöperatie, ENECO and the Ameland municipality

PARTICIPATING ORGANIZATION:
Municipality of Ameland, http://www.ameland.nl/
CONTACT PERSON:
Albert de Hoop, Mayor

10.3 Vlieland



ISLAND PROFILE

Vlieland is one of the five Wadden Sea islands in the North of the Netherlands, with a population of 1,100 inhabitants and covering an area of 315.80 km^2. The main activity on the island is tourism.

ISLAND SMART STRATEGY

The island is part of the regional strategy (RIS) of the SNN (cooperation of the 3 northern provinces in the Netherlands)

PROJECT 1

- **Project Title:** Innofest – Festival Driven Innovation
- **Project Storyline:** A start-up support project where cutting-edge innovations in the creative and technological markets are tested during festivals organized for this purpose. This regional eco-innovation system brings innovations to the market faster and unites start-ups with their potential customers. Products and ideas can be developed and tested in a living lab situation whereby thousands of festival-goers play an integral and essential role
- **Financing:** We applied for a grant from the EFRO program and submitted a proposal under INTERREG B North Sea program
- **Actors Involved:** Quadruple helix which means end-user, SMEs, research institutes & universities and public authorities

PARTICIPATING ORGANIZATION:

Lab Vlieland, http://labvlieland.nl/about-lab-vlieland

CONTACT PERSON:

Simon Tijsma, Head of International Sustainability Affairs, Fryslan Province

11. Spain

11.1 Canary Islands

ISLANDS PROFILES

The Canary Islands is an archipelago of seven main islands, namely Tenerife, Fuerteventura, Gran Canaria, Lanzarote, La Palma, La Gomera and El Hierro, spanning across a 7,500 km^2 area and inhabited by 2.1 million people. The main economic activity is tourism with the tertiary sector representing 30% (direct) and 70% (indirect) of regional GDP, which amounts to a total of €40 billion. 13 million tourists arrived only in 2015. Touristic flows are occurring throughout the year, with no seasonal fluctuations being recorded.

ISLANDS SMART STRATEGY

Several plans/strategic documents exhibit the Smart strategy of the region. These are the RIS3 (Regional Smart Specialization Strategy), presented to the EC in 2014 and focusing on sustainable, inclusive and intelligent growth and blue economy and Regional Energy Plan (>30% RES in 2025), insular sustainability plans (e.g. El Hierro) and strategic water plans.

PROJECT 1

- **Project Title:** El Hierro: 100% Sustainable Island
- **Project Storyline:** Energy (and water) self-sufficiency by means of renewable energies (incl. electric vehicles, biomass exploitation, etc.); sustainable agriculture and fishing; sustainable tourism; wind-pumped hydro power station (100% RES) in operation since June 2014
- **Financing:** Wind-pumped hydro power station (€83 million): 60% public (state & región), 40% private (utility); rest of actions/projects: mainly public
- **Actors Involved:** "Cabildo" (insular authority), Regional Government, State Government

PROJECT 2

- **Project Title:** La Graciosa RES microgrid
- **Project Storyline:** Electric microgrid (powered mainly by PV) with battery and electric vehicles (in Project)
- **Financing:** Up to now: €2.5 million (studies and some installations): Regional Government, island council of Lanzarote, ITC, State, EC
- Actors Involved: See above

PROJECT 3

- **Project Title:** Punta Jandía village hybrid system
- **Project Storyline:** Electricity and water supply to the isolated fisher village of Punta Jandía (Fuerteventura) by means of a wind-diesel system (eventual adding of H_2 system)
- **Financing:** First phase (end: 2001): European Union (VALOREN); now looking for funding (refurbishment and H_2 incorporation)
- **Actors Involved:** European Commission, Regional Government, Island Council, Municipality of Pájara, ITC

PARTICIPATING ORGANIZATION:
Instituto Te de Canarias, http://www.itccanarias.org/web/
CONTACT PERSON:
Gonzalo Piernavieja Izquierdo, R&D&I Director

12. Sweden

12.1 Gotland

ISLAND PROFILE

Gotland is the largest island of the Baltic sea, situated roughly 60 miles off the coast of southern mainland Sweden. 57,300 people live year round on the island, a number that changes dramatically during the summer as Gotland is one of Sweden's most popular summer destinations. Beautiful beaches, rich history and a welcoming climate (Gotland is usually one of the sunniest places in Sweden) contribute to the island's popularity.

ISLAND SMART STRATEGY

Gotland has put in place an energy strategy for 2020, in line with the region's overall growth strategy (Vision 2025) for 2025. Both documents prioritize tapping into the local asset of renewable energy for electricity production and fuel usage on Gotland. The renewable energy industry has been steadily growing on the island, which creates a promising outlook for the local economy and sustainable development of the island.

PROJECT 1

- **Project Title:** Power to Gas
- **Project Storyline:** The purpose of the project is to use the CO_2 emissions from a cement factory to produce methane. Wind power will be used for the electrolysis process. The Power to Gas has two phases: In phase 1 the first demonstration project will use hydrogen produced through electrolysis with excess wind power as energy source. The hydrogen will then be used to boost methane production in a conventional methane reactor. The CO_2 in the process will react with the hydrogen, and methane production will rise with 25-35 %. In phase 2 a full scale project using captured CO_2 from

a cement factory will be used together with the hydrogen in a Sabatier reactor to produce methane. The project is now in the second stage and a pre-study has been concluded

- **Financing:** The financing so far is done by the stakeholders. For project implementation financing from EU funds and national co-financing will be explored
- **Actors Involved:** Swedish expert consultancies and organizations such as SWEDGAS, Hydrogen Sweden, SWECO, local companies, biogas and windfarm owners, grid-owner, cement factory owner, gas grid owner, gas consumers, Region Gotland. Gotland was chosen among three regions in Sweden as the place for a possible pilot project and plant because of its high engagement from the local stakeholders

PARTICIPATING ORGANIZATION:
Region Gotland, http://www.gotland.se/
CONTACT PERSON:
Bengt-Olof Grahn, Project Manager Environment and Energy

12.2 Öland

ISLAND PROFILE

Öland - the island of wind and sun - is the second largest island of Sweden and situated on the southeast coast. It is populated by 25,000 inhabitants but in the summer it receives over 1 million tourists, many of them owning summer houses on the Island. The main activities are tourism and farming but also cultural. The island is rich in flora and fauna and has long-term, ambitious goals for sustainability and lots of activity going on to implement the overall vision of becoming a region free from fossil fuels in 2030.

ISLAND SMART STRATEGY

For Öland and for Mörbylånga the goal is to become fossil fuel free region in 2030 and 2025 respecitvely. If fossil fuels still are used in any section in the region (private or public), the region must produce and export renewables to the same extent and, by that, take responsibility for conversion elsewhere.

PROJECT 1

- **Project Title:** Biogas Öland
- **Project Storyline:** A project that promotes biogas, from production to distribution and consumption. Including filling stations, vehicles, preparation of production site and communication on all levels
- **Financing:** Mostly regional funding, collected from different financers but also national funding. Also private public partnership for the distribution sector
- **Actors Involved:** Municipalities, regional board, private entrepreneurs, farmers, public transport operator, academia

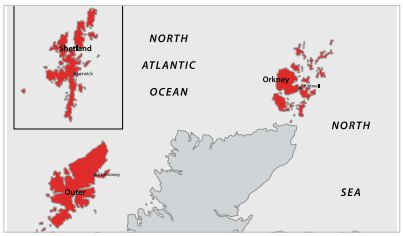
PROJECT 2

- **Project Title:** Renewable transformation of municipal vehicle fleet
- **Project Storyline:** 120 vehicles of the Mörbylånga municipality (half owned, half rented). Fleet mileage, usage and closeness to infrastructure for renewables was considered. With broad engagement of the different municipality departments it was decided 24 vehicles become electrical, 16 run on biogas and 19 cars (diesel) are left to be transformed in the next procurement, in three years from now. Cars will be replaced continuously from September 2016 to February 2017. 15-20 % of cost saving is foreseen. An additional step is the investment of 15 new charging poles (AC charges 22kw, with double charging places) in 2016 and 2017. The charging poles will be used both by the municipal sector and by the private sector. The placement is planned to cover the whole geography of the south part of Öland. Prior to this project, other action was taken, like the opening of a biogas filling station planned for August 2017. More efforts have been made to transform the municipal transport sectors for example through investments in electrical cargo bikes for preschools and a system for carbon off-setting for fossil-fueled cars and airplanes
- **Financing:** The financing is mostly covered by tax money within the municipal budget. However, for charging poles national co-funding (Klimatklivet) has been granted covering approximately 50 % of the costs. Climate off-setting is a sort of local crowdfunding gathering funding for other efforts (for example the promotion of electrical bikes)
- **Actors Involved:** The public transportation operator, local entrepreneurs, other municipalities, the administrative board. The transformation of the municipal vehicle fleet, however, has been a multi-lateral endeavor, with cooperation between different stakeholders and officials within the municipality (economists, politicians, environmental department)

PARTICIPATING ORGANIZATIONS:
Mörbylånga Municipality, Kalmar County Administration, http://www.morbylanga.se/

CONTACT PERSON:
Elvira Laneborg, Sustainability Strategist

13. United Kingdom



13.1 Scottish Islands

(Orkney, Outer Hebrides (Western Isles), Inner Hebrides, Shetland and Clyde)

ISLANDS PROFILES

Community Energy Scotland operate across the whole of Scotland, which has over 90 inhabited islands. Approximately 100,000 people live on the islands, which span a range of climatic and geological conditions, but are typically classed as remote. Main economic activities include tourism, fishing, energy (renewable and fossil) and agriculture. Community Energy Scotland have supported renewable energy development on over 40 islands, ranging from small scale solar projects to multi-MW community windfarms.

ISLANDS SMART STRATEGY

Community Energy Scotland has assisted in the development of Sustainable Energy Action plans, energy audits, and Community Development Plans on a number of islands and archipelagoes, including the Western Isles (with Comhairle Nan Eilean Siar), Orkney Islands, and several islands in the Inner Hebrides and Clyde as part of the SMILEGOV project, led in Scotland by the Scottish Islands Federation. At a national and European level, Community Energy Scotland campaigns for policies that support the development of sustainable and equitable energy systems on islands and in remote areas with limited infrastructure.

PROJECT 1

- **Project Title:** ACCESS project
- **Project Storyline:** The ACCESS project is a community led smart grid project designed to enable the connection of additional renewable

generation in areas with technical limitations on grid capacity where a traditional grid connection would not be possible. The concept is to match in real time the generation from a community owned hydro scheme on the island of Mull, with local energy demand through smart telematics and controls. By focusing on thermal energy storage, the model simultaneously provides affordable, low carbon heating to local homes and business. More information is available at: http://www.accessproject.org.uk/

- **Financing:** The project has been supported by funding from Scottish and UK sources, as well as contributions from project partners
- **Actors Involved:** The project is structured as a partnership between: Community Energy Scotland (a charity/NGO), Mull and Iona Community Trust (a charity/NGO), Scottish and Southern Energy (an energy supplier/ PLC), VCharge UK Ltd (a technology developer/SME), Element Energy (a consultancy/ SME)

PROJECT 2

- **Project Title:** Outer Hebrides Local Energy Hub (OHLEH)
- **Project Storyline:** The OHLEH project builds on existing renewable energy infrastructure at a municipally owned waste management centre, to create new low carbon products and supply chains. The anaerobic digestion plant will be adapted to receive fish waste from local aquaculture operations. The increased biogas output of the AD will be supplied to a 150kWe CHP plant. The electrical output of the CHP will be used to supply the on-site energy needs, as well as to produce hydrogen and oxygen that will be supplied to the aquaculture business to increase fish production and reduce carbon emissions in heat, power and transport. An on-site 330kW wind turbine will be modified to supplement oxygen and hydrogen production.
- **Financing:** The project has been financed by the Scottish Government, an internal loan from the Local Authority, and financial contributions from partners
- **Actors Involved:** The project is structured as a partnership between: Comhairle nan Eilean Siar (Local Authority), Community Energy Scotland (charity/NGO), Scottish Salmon Company (enterprise), Pure Energy Centre (SME)

PROJECT 3

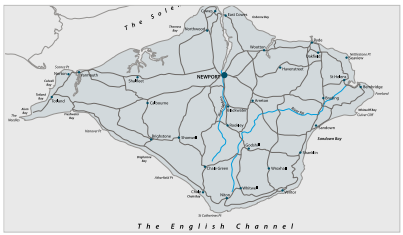
- **Project Title:** BIG HIT (Building Innovative Green Hydrogen systems in an

Isolated Territory)

- **Project Storyline:** BIG HIT builds on foundations laid by the Orkney Surf 'n' Turf initiative, which will see production of hydrogen on the islands of Eday and Shapinsay using wind and tidal energy. These are both world leading pilot and demonstration projects, which deploy a fully integrated model of hydrogen production, storage, transportation and utilisation for low carbon heat, power and transport.
- **Financing:** Fuel Cells and Hydrogen Joint Undertaking ("FCH JU"). The FCH JU selected BIG HIT as the only hydrogen project in its Hydrogen Territories tender to receive funding.
- **Actors Involved:** BIG HIT brings together 12 organisations spanning six EU countries: Orkney Islands Council (local authority), Community Energy Scotland (charity/NGO), Shapinsay Development Trust (charity/NGO), European Marine Energy Centre (EMEC) (charity/NGO), Calvera (enterprise), Giacomini (enterprise), ITMPower (enterprise), SymbioFCell (enterprise), Danmarks Tekniske Universitet (research/ university), Scottish Hydrogen & Fuel Cell Association (SHFCA) (trade body) ,The Ministry for Transport and Infrastructure (MTI) (government), The Foundation for the Development of New Hydrogen Technologies in Aragon (FHa) (research/ university)

PARTICIPATING ORGANIZATION:
Community Energy Scotland,
http://www.communityenergyscotland.org.uk/
CONTACT PERSON:
Felix Wight, Development Manager

13.2 The Isle of Wight



ISLAND PROFILE

The Isle of Wight lies off the south coast of mainland England and covers an area of 146.8 mi^2 (38,016 hectares or 380.16 km^2). It has a resident population of 140,000 in 70,000 households, with a higher than average proportion of people aged over 65. The public sector (administration, health, education) is the largest employer, with significant employment in retail, accommodation, financial services and manufacturing. There are over 5,000 businesses on the Island, most of which are micro businesses. Tourism is very significant for the Island and there is also growing employment in the clean tech sector, including wind turbine blade manufacture and support vessels for offshore wind farms. The Island is home to the Vestas Blade Technology Centre.

ISLAND SMART STRATEGY

Eco Island is a vision for a low carbon community and for growth based on the development of the green economy. Specifically, it has targets for the Island to become self-sufficient in renewable electricity generation and to have the lowest per capita carbon footprint in England by 2020. The Isle of Wight Council (IWC) also has a broader vision of sustainability, focused on the Island's ecological footprint, and is active in energy and water conservation, waste reduction and sustainable travel. It is working with a wide range of community groups and other stakeholders to make the Isle of Wight a sustainable region.

PROJECT 1

- **Project Title:** Perpetuus Tidal Energy Centre
- **Project Storyline:** The Perpetuus Tidal Energy Centre (PTEC) is a state-of-the-art tidal energy generation project. It is the largest consented tidal stream energy project in England and Wales and will reinforce the UK's position as a world leader in marine renewables. PTEC's offshore site

will lie around 2.5 km south of St Catherine's Point, Isle of Wight. It will produce up to 30MW (enough to power 15,000 homes), of clean, safe, renewable energy, for export to the UK grid. PTEC will deploy a number of different turbine technologies positioned in groups or arrays within an area of 5 km^2. Export cables on the seabed will bring the electricity from the site to an onshore project substation. The proposed development is a game-changing opportunity to create much needed jobs and training opportunities, as well as encourage local investment and diversification of local businesses

- **Financing:** PTEC has been developed with funding from the Isle of Wight Council and Perpetuus Energy Ltd. Approximately £2 million were required to achieve consents for the project (achieved April 2016) and up to £30 million will be required for construction. With the investment in tidal energy devices, the total investment will be some £150 million, the majority of which will be provided by the private sector
- **Actors Involved:** The company behind PTEC is Perpetuus Tidal Energy Centre Ltd; a consortium which includes Perpetuus Energy Limited, a private developer of renewable energy, power generation and infrastructure projects and the Isle of Wight Council. As the project develops, tidal device and project developers will become involved

PROJECT 2

- **Project Title:** Island Smart Grid
- **Project Storyline:** The Isle of Wight's Sustainable Community Strategy has the ambition for the Island to be self-sufficient in electricity produced from local renewable energy sources. This will require an installed capacity of RES of approximately 170 MW. To date, approximately 80 MW has been installed, in addition to rooftop PV systems which have been installed on over 3,000 domestic and commercial buildings. To this end IWC will produce a detailed model of the existing power grid and an optimum smart gird architecture, trials of battery storage technologies and domestic thermo-storage and EV charging / storage stations, hydrogen storage facilities, building on the existing hydrogen-powered boat and electrolyser that has been developed on the Island. In order to provide community benefits through smart grid development, the council will also develop a business model for Demand Side Response (DSR) services.
- **Financing:** The council is seeking EU funding for the Island Smart Grid

development. It is part of a $H_2 0_2 0$ submission called "inteGRIDy" and will be submitting an ERDF application to investigate storage solutions and how they can be commercialised

- **Actors Involved:** The council is working with the distribution network operator, a number of Higher Education Institutions and suppliers of smart grid solutions to understand what is feasible for the Island and will prevent the need for further traditional reinforcement. Through "inteGRIDy" it is connected with a wide range of smart grid specialists throughout Europe.

PARTICIPATING ORGANIZATION
Isle of Wight Council, https://www.iwight.com/
CONTACT PERSON
Ian Stephens, County Councillor

13.3 The Isle of Eigg

ISLAND PROFILE

The Isle of Eigg is situated on the west coast of Scotland, an hour from the mainland port of Mallaig in Highland region. It has 98 inhabitants and its primary activities are farming, tourism, services (primary school, health centre, electric system, shop). There are also businesses based on building, craft development and music. It is situated in an area of Scenic Beauty and its attractiveness is its outstanding landscape, geology and pristine wildlife.

ISLAND SMART STRATEGY

The Isle of Eigg has pioneered an innovative electricity system based on three types of renewables to provide its inhabitants with a source of renewable power to replace their dependency on fossil fuel generators. It is also looking at ways to minimize its carbon footprint by installing solar water heaters, promoting the use of EV's and bicycles for island transport, producing more food locally and minimize the amount of waste produced and exported, whilst developing its image as a Green tourism destination. This is all part of the Scottish Government's 2020 route map vision of low carbon communities, supported by the Highland Council strategy for Carbon Clever communities.

PROJECT 1

- **Project Title:** Isle of Eigg Electrification project
- **Project Storyline:** Eigg's electricity is produced by three Hydro electric generators - 100 kW, 10 kW and 9 kW, four 6 kW Proven wind turbines and 51 kW of solar panels - providing about 95% of electricity needs - backed by two 80kW diesel generators. Power is distributed via a grid of 11 km of buried high voltage cable. Overall control depends upon a bank of batteries connected to the grid through a series of linked inverters. The system is operated for the benefit of the community by Eigg Electric Ltd.

and is serviced and maintained by a trained island maintenance team. Electricity charges have collected via pre-payment card operated meters and are set a level necessary to allow the company to fulfill its duties to the community

- **Financing:** Financing was through The Big Lottery fund: £250,000, Highland and Islands Enterprise: £250,000, European Rural Development Fund: £764,000, Highland Council: £10,000, Energy Saving Trust: £102,000, Isle of Eigg Heritage trust: £40,000, Isle of Eigg residents' connection fees: £51,000. Total: £1,567,000. Triodos bank assisted in the financial arrangements, providing bridging loans
- **Actors Involved:** The project required close cooperation between a number of private actors: the islanders through the electrification project team, the project manager - Synergie Scotland Ltd, the main contractor for design and build, Scottish Hydro Contracting and four subcontractors, E-connect Ventures Ltd, Wind and Sun Ltd, Energy renewed Ltd and G.G. MacKenzie Contractors Ltd.

PROJECT 2

- **Project Title:** Circular economy food
- **Project Storyline:** The Scottish Islands Federation in currently investigating the feasibility of recycling food as part of a project to encourage the development of a circular economy on the islands. The Scottish Islands Federation pilot projects consists firstly of closing the loop between food production and food consumption, by adding an anaerobic digester to food collection and composting, to produce soil and heat for greenhouse growing on the island of Cumbrae, thus complementing a project already funded by the Climate Change fund
- **Financing:** Development of the circular economy is now one of the priorities in the Zero Waste Scotland strategy and they have a fund granting as much as £ 170,000 without the need for match funding
- **Actors Involved:** Isle of Cumbrae

PROJECT 3

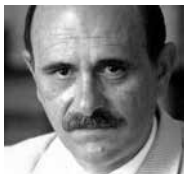
- **Project Title:** Plastic recycling
- **Project Storyline:** The Scottish Islands Federation is currently investigating the feasibility of recycling plastic as part of a project to encourage the development of a circular economy on the islands. The second pilot project

consists of investigating the possible ways to recycle plastic collected on beach cleans. A proportion of the plastic collected can be shredded in small pieces and then used by melting it to produce every day or bespoke objects, either through an open source machines or using 3D printer technology. A scoping workshop is funded by Highland and Island Enterprise, a Scottish government agency, to look at 3D printing technology and its application to produce bespoke designs for objects which can be used locally or export as part of a burgeoning craft industry in the Small Isles

- **Financing:** Development of the circular economy is now one of the priorities in the Zero Waste Scotland strategy and they have a fund granting as much as £170,000 without the need for match funding
- **Actors Involved:** Isle of Eigg and the Small Isle

PARTICIPATING ORGANIZATION:
Scottish Islands Federation,
http://www.scottish-islands-federation.co.uk/
CONTACT PERSON:
Camille Dressler, Chair

Publication Scientific Coordinators



Ilias Efthymiopoulos,
Aegean Energy Agency Director

Ilias Efthymiopoulos has 35 years of experience on Energy and Environment through his involvement in national and international projects. He holds a PhD in Physics and currently offers consulting services to local authorities, mainly in island and coastal regions. He was the Founder and Director of Greenpeace office in Greece from 1991 to 1999 and vice Minister for the Environment (2000-2002). From 1998 to 2010 he was the Scientific Director for the Ecology Summer University in Greece. Since 2009 he is the General Director of the Aegean Energy Agency. He is the author and editor of various publications on sustainable economy and EU affairs.

Kostas Komninos,
DAFNI Network of Sustainable Aegean and Ionian Islands, Director

Kostas Komninos serves as Director of DAFNI Network since July 2015. He has substantial experience in maturing and managing sustainable energy projects that are of interest to local authorities both in the fields of energy efficiency and energy production from RES. He has participated as an energy expert in different EU funded, national and local projects, in the context of which he has also led capacity building workshops targeting staff from local authorities. Since April 2015 he is a non-executive member of the Board of Directors of the Hellenic Electricity Distribution Network Operator S.A. (HEDNO), the Greek Distribution System Operator with a portfolio to promote innovative projects in the Greek islands, where HEDNO is the sole system operator. Last but not least, he is a founding member of the Collective Planning & Design – CPD, an interdisciplinary consortium of engineers with horizontal organization and cooperative structure that aims to promote environmentally, socially and economically viable planning of public space and infrastructure.

Alkisti Florou,
Aegean Energy Agency, Sustainable Development Advisor

Alkisti Florou is Sustainable Development Advisor at the Aegean Energy Agency, assisting island local and regional authorities that are members of DAFNI Network on accessing EU and other funds and implementing climate, energy and environment-related projects. She also delivers capacity-building workshops on stakeholders' mapping and engagement methods to facilitate the implementation of sustainable development projects on Greek islands. Further she keeps track of policy developments at national, European and international levels that are of interest to insular and coastal areas. Prior to that, Alkisti served in different organizations, including the European Commission, the United Nations Environment Programme, the European Climate Foundation and different NGOs.

Hosting Organizations

DAFNI
Network of Sustainable Aegean & Ionian Islands

The Network of Sustainable Aegean and Ionian Islands – DAFNI is the hosting organization of the 1st Smart Islands Forum. DAFNI is a network of 33 island local and 2 regional authorities from the Aegean Sea that promotes sustainable solutions in Greek islands in the fields of energy, transport, water and waste management, tourism and blue growth. Back in 2009 DAFNI became a Covenant of Mayors Supporter for the Aegean islands within the Covenant of Mayors and was also among the founding members of the Pact of Islands (PoI) initiative. Within the PoI, DAFNI provides technical assistance to the signatories from the Aegean region and assists them in sustainable energy planning and developing projects that lead to the reduction of their CO_2 emissions. DAFNI has also been a partner in the ISLEPACT project and coordinator of the SMILEGOV project.

Website: http://www.dafni.net.gr/en/home.htm

aegean energy agency
THE SUPPORTING ORGANISATION FOR GREEK ISLANDS

The Aegean Energy Agency – AEA is a non-profit organization established in 2008, acting as scientific and technical advisor of DAFNI network. The primary goal of AEA is to catalyze cooperation between island authorities and the private sectors (developers and investors) in order to mature and implement bankable, innovative and sustainable projects on Greek islands in the fields of renewable energy, energy efficiency, sustainable transport and mobility, water and waste management. Further, AEA encourages the participation of local authorities and citizens in energy investments through new investment schemes and/or cooperatives, raises awareness on the need for citizens to adopt a responsible energy behavior and establishes strategic partnerships to promote smart and integrated solutions for insular regions at European and international levels.

Website: http://www.aegean-energy.gr/en/home.htm

Supporting Organizations

The Friedrich-Ebert-Stiftung is a non-profit German political foundation with representation across the globe, committed to the advancement of public policy issues in the spirit of the basic values of social democracy through education, research and international cooperation. In May 2012 the foundation reopened its representation in Athens in order to promote the dialogue between progressive forces in Greece and Germany in the light of the current economic crisis, thus contributing to a better understanding between the two countries. Together with its partners, i.e. political parties, trade unions, NGOs, think tanks, universities, and state institutions the Athens bureau deals with a large number of political, social and economic issues, focused on reduction of youth unemployment, promotion of renewable energies, reform of the public sector, fight against right-wing extremism and more.

Website: http://www.fes-athens.org/

The Central Union of Municipalities in Greece (KEDE) is a private law entity that represents the interests of Greek local authorities. KEDE provides technical support and strives to enhance local authorities' cooperation with the central government. KEDE also participates in various European and International Organizations that advocate for concrete support towards local level authorities.

Website: http://www.kedke.gr/

European Federation of Agencies and Regions for Energy and the Environment (FEDARENE) is the premier European network of regional and local organizations charged with the implementation, co-ordination and support of energy and environment policies at regional and local levels. FEDARENE participates in the consortium of organizations forming the Covenant of Mayors Office. The Aegean Energy Agency, member of FEDARENE, currently assists FEDARENE and the Covenant of Mayors more broadly in the development of support services, capacity building tools and events for signatories of the Pact of Islands to ensure proper alignment of commitments deriving from the Pact of Islands with the ones from the Covenant of Mayors for Climate and Energy.

Website: http://www.fedarene.org/

Smart Islands Projects and Strategies

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