



SMILEGOV
**Enhancing effective implementation of sustainable
energy action plans in European islands through
reinforcement of smart multilevel governance**

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**Islands Strategy
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Part. N°		Partner's name	Short name
CO1		Network of Sustainable Aegean Islands - Greece	DAFNI
CB2		Conference of Peripheral & Maritime Regions	CPMR
CB3		Region Gotland - Sweden	GOTLAND
CB4		Ölands Municipal Association - Sweden	ÖLAND
CB5		Kärđla Town Government - Hiiumaa - Estonia	HIIUMAA
CB6		Saare County Government – Saaremaa - Estonia	SAAREMAA
CB7		European Small Islands Federation	ESIN
CB8		Samsø Energy Academy - Denmark	SE
CB9		Canary Islands Institute of Technology - Spain	ITC
CB10		Regional Agency for Energy and Environment of the Autonomous Region of Madeira - Portugal	AREAM
CB11		Cyprus Energy Agency	CEA
CB12		Local Councils Association - Malta	LCA
CB13		Scottish Islands Federation	SIF

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1 THE SMART ISLANDS INITIATIVE

▪ INTRODUCTION

Approximately 3.5% of the European citizens live in islands and this percentage increases significantly during the high tourism season, adding pressure to the islands' ecosystems, transport systems, energy systems and water requirements.

The European Treaty in Article 174 has recognised that many of the European islands are suffering from **structural handicaps**. This leads to population reduction and more particularly the young leaving the islands for better employment and living conditions in the mainland.

To fight against these structural handicaps and economic disadvantages European islands have been working together for a number of years promoting and implementing sustainable actions. Through many collaborative projects (over twenty in the last 10 years) the islands are and intend to continue to be in the forefront of the fight against climate change. Surrounded by water, **with fragile ecosystems and weak local economies**, island authorities have realised early on the need to become important partners in the common global as well as European initiatives for a **decarbonised economy**

The Smart Islands Initiative focuses on promoting sustainable strategies, plans and investments with the view to improving local insular economic conditions and at the same time achieving specific environmental and sustainability objectives.

The ISLE-PACT and SMILEGOV project partners, together with the Pact of Islands signatories constitute a critical mass of over 70 European islands that cover the largest part of the European insular regions: the Atlantic Arc (Canaries, Madeira, Scotland), the Baltic Sea (Denmark, Sweden, Norway, Finland, Estonia) and the Mediterranean (Italy, Malta, Cyprus, Greece). The Initiative is open to any other European island that wishes to join.

▪ BACKGROUND

Energy production and use is responsible for XX % of the total greenhouse gas emissions in Europe.

The Smart Islands Initiative will support islands and insular regions in taking ambitious and pioneering measures to progress towards exceeding the 20% EU target for greenhouse gas emissions by 2020 in a number of key sectors of local economic activity, through sustainable use and production of energy. This will require systemic approaches and organisational innovation,

encompassing energy efficiency, low carbon technologies and the smart management of supply and demand. In particular, measures on buildings, local energy networks and transport would be the main components of the Initiative.

The Initiative will continue building on existing EU and national policies and programmes, such as the Climate and Energy Package of 2009 (establishing the 2020 targets and objectives), the 2030 Framework for Climate Change and Energy Policies (Green Paper published in March 2013), the Roadmap for a Low Carbon Economy in 2050, the Energy Efficiency Plan 2011, the Blue Growth Strategy of September 2012 specific programmes such as CIVITAS, CONCERTO, Intelligent Energy Europe and Horizons 2020, as well as on the results of specific projects such as TRANSPLAN, ISLE-PACT, SMILEGOV and others. It will also draw upon the SET-Plan Initiatives, in particular the Bioenergy, Solar and Smart Electricity Grid Initiatives, as well as on the EU public-private partnership for Buildings and Green Cars established under the European Economic Plan for Recovery.

The Initiative will run under the auspices of the Islands Commission of the Conference of Peripheral and Maritime Regions (CPMR). It will also establish a close cooperation with the SMART CITY Initiative of the EU, the Covenant of Mayors Office (COMO) and other similar initiatives of the EU.

The local authorities involved in the Pact of Islands and the Covenant of Mayors will be mobilised around this initiative to multiply its impact.

▪ **DEFINITION OF A SMART ISLAND**

An insular area that creates sustainable local economic development and high quality of life by excelling in multiple key areas of sustainability; such as the economy, mobility, energy, environment, human capital and excellence in governance.

▪ **STRATEGIC OBJECTIVE**

To **accelerate progress towards the EU energy and climate objectives to 2020 and beyond** at a local level while proving to citizens that their **quality of life** and **local economies** can be improved through investments in sustainable solutions in a number of vital sectors of their local economy, such as **energy, water, transport, tourism, agriculture, fisheries and waste management** to name a few. To achieve these objectives, attention will be paid to the parallel development of intelligent and efficient **Multilevel Governance (MLG)** systems and processes in order to improve the cooperation and the decision making process across all levels of government

This Initiative will also foster the **dissemination throughout Europe** of the most efficient models and strategies to progress towards a **low carbon future**.

▪ **SET SPECIFIC GOALS**

- To trigger a sufficient take-up (reaching X% of the EU islands population) of energy efficient and low carbon technologies.
- To reduce by XX% the greenhouse gas (reference year 1990) emissions by 2020, that will demonstrate not only environmental and energy security benefits but also to provide socio-economic advantages in terms of quality of life, local employment and businesses, and citizen empowerment.
- To effectively spread across Europe best practices of sustainable energy concepts at local level, for instance through the Pact of Islands and the Covenant of Majors. These sustainable energy concepts should cover areas of insular economic activities such as:
 - Local production and use of energy
 - Local transport
 - Sustainable water management
 - Intelligent tourism solutions
 - Local and regional/collective waste management
 - Local agricultural practices
 - Local fisheries

In moving towards these objectives, local authorities will propose and implement intelligent problem-solving approaches, integrating the most appropriate technologies and policy measures. This would involve ambitious and pioneer measures in all sectors of local economic activity identified above.

2 COMPONENTS OF THE INITIATIVE

▪ **SMART PRODUCTION AND USE OF ENERGY**

Buildings

- New buildings with net zero energy requirements or net zero carbon emissions when averaged over the year by 2015, thus anticipating the requirements of the recast Directive on the energy performance of buildings (EPBD). This requirement could be anticipated (e.g. 2012) for all new buildings of the local public authority (city).
- Refurbish of the existing buildings to bring them to the lowest possible energy consumption levels (e.g. passive house standard or level of efficiency that is justified by age, technology, architectural constraints) maintaining or

increase performances and comfort. This would include innovative insulation material (solid insulation, vacuum insulation, vacuum windows, cool roofs, etc.)

Energy

Heating and Cooling

- Innovative and cost effective biomass, solar thermal and geothermal applications
- Innovative hybrid heating and cooling systems from biomass, solar thermal, ambient thermal and geothermal with advanced distributed heat storage technologies.
- Highly efficient co- or tri-generation and district heating and cooling systems.

Electricity

- Smart grids, allowing maximum penetration of renewable generation, electric vehicles charging, storage (including pumped storage), demand management and grid balancing.
- Smart metering and energy management systems.
- Smart appliances (ICT, domestic appliances), lighting (in particular solid state lighting for street and indoor), equipment (e.g. motor systems, water systems)
- Local RES electricity production (especially PV and wind applications) .

▪ Smart Transport

Biofuels

- Introduction of imported or locally produced biofuels into both public and private transport sector
- Testing and deployment programmes for additional low carbon public transport and individual transport systems, including hybrid and electric technologies, smart applications for ticketing, intelligent traffic management and congestion avoidance, demand management, travel information and communication, energy efficient freight logistics, development and building of walking and cycling paths.

▪ SMART WATER MANAGEMENT

- For anhydrous islands, or islands with water supply problems develop actions for sustainable water production through desalination technologies coupled with RES
- Develop and implement water conservation and water demand management programmes

- **SMART TOURISM SOLUTIONS**
 - Efficient energy management in the hotel sector for both heating and cooling applications
 - Intelligent transport solutions for the tourism sector, including the introduction of advanced technologies in the vehicle rental market, including hybrid and electrical cars and corresponding infrastructure (charging stations).
- **SMART WASTE MANAGEMENT**
 - Develop and implement solid waste recycling programmes
 - Exploit the energy content of solid waste
- **SMART AGRICULTURAL PRACTICES**
 - Introduction of more sustainable agricultural practices that use less energy intensive products and processes (fertilisers, planting and harvesting equipment, reduction in the use of pesticides, promotion of organic farming)
 - Introduction of biofuels in the machinery, traction and transport of agricultural equipment
- **SMART FISHERIES**
 - Introduction of low carbon fuels for local marine transport, fishing vessels etc.
 - Promotion of energy efficient equipment and processes in canneries and other fish processing facilities.

3 IMPLEMENTATION

- **NOT ALL ISLANDS ARE THE SAME**

Previous experience has shown that not all islands are the same. Size, geographical location and a number of other economic social and cultural factors play an important role in the ability of an island to plan and implement sustainable programmes and actions.

The Initiative will be modulated according to each island's ambition and capabilities to carry out the Initiative.

We therefore propose to classify the islands in two main categories:

- *Pioneer or leading islands*, are islands that have already acquired significant experience in implementing sustainable actions and projects and have the capacity and the political will to continue undergoing significant technology and organisational transformations and continue leading by example.
- *Ambitious or willing to learn islands* are islands that have the ambition and the political will to continue on the path of

acquiring expertise and the capacity to improve their living conditions and continue on the path of sustainability.

■ PHASES OF IMPLEMENTATION

The implementation of the various facets of the Smart Island Initiative may not take place at the same speed and the same breadth in each participating island.

Based on the fact that each island is different and has its own specific needs and desires, as well as a different level of capacity to implement actions and investments, it is envisaged that each island will be in a position to choose both the pace of implementation as well as the number of sectors that may be involved.

■ INDICATIVE ACTIONS FOR THE 1ST PHASE OF IMPLEMENTATION OF THE SMART ISLAND INITIATIVE (FOCUS ON ENERGY)

At the 1st phase of implementation of the Smart Islands Initiative the following actions in buildings, in energy systems and in transport may be considered:

1. Buildings

- Test new residential and new non-residential buildings for different design options for low or zero energy buildings in different climatic zones. In particular, the focus should be on integrating different design technologies to prove cost-effective solutions (no more than 5% of traditional construction costs), and on monitoring of the performance under real use..
- Test and assess through specific actions and programmes for the refurbishment of at least 50% of existing public buildings (including social housing, non-residential buildings, etc.). In addition, new technologies, innovative financing schemes, and refurbishment methods should be developed and tested.

2. Energy Networks

Heating and Cooling

- programmes for the deployment of RES heating and cooling in islands supplying 40 % of the heat and cooling demand from RES

Electricity

- development and deployment programmes focused on high efficient appliances lighting and smart metering
- development and deployment programmes for smart grids in islands, including priority access for local generation and renewable electricity, smart metering, storage, and demand response.

3. **Transport**

- programmes for the deployment of alternative fuel vehicles, from road public transport and municipal fleets to private passenger vehicles (electric vehicles, hydrogen and fuel cells, low consumption vehicles, natural gas vehicles, biofuels, etc.) including the fuel/energy supply infrastructure
- Development and testing programmes focused on sustainable mobility including advanced smart public transport, intelligent traffic management and congestion avoidance, demand management, information and communication, freight distribution, walking and cycling

4 **PERFORMANCE INDICATORS (PI)**

Overall Key Performance Indicator: participation of 100 islands committing to implement the proposed SMART ISLAND Initiative actions in the 3 sectors - buildings, energy networks and transport and to go beyond the 2020 EU climate and energy targets.

Other sector-specific indicators may be added at a later stage of the implementation of the Initiative.

For buildings

Average RES heating cost at XX€/GJ by 2020 (tbd)

XX% of all heating and cooling needs of buildings from RES by 2020 (tbd)

Specific targets for building refurbishments

For Energy

XX % penetration of Smart demand management and Smart metering systems (tbd)

For Transport

In participating pioneer islands (10 islands) 100% for the municipal fleet running on alternative/clean fuels

In participating pioneer islands (10 islands), low carbon transport projects implemented by 2020

- XX % penetration of biofuels (tbd)
- XX km of walking and cycling paths (tbd)
- Incentives for cyclists

5 **SMART ISLAND CERTIFICATION**

A Smart Island Certification programme is to be developed and communicated to all the islands participating in the Initiative.

Islands that succeed in implementing an agreed minimum number of actions will be entitled to a Smart Island certification.

The certification will be awarded by a panel of independent experts on the basis of predefined criteria.

The Smart Island logo (see communication and dissemination below) and all relevant communication and marketing activities and privileges are expected to be very positive factors for the public image of the island and for tourism.

6 LEAD BY EXAMPLE

It is important that island authorities participating in the Initiative lead by example.

Some examples of first actions that island authorities could initiate are:

- Refurbish municipal buildings and turn them into demonstration sites for good practices
- Municipal fleet initiatives for sustainable mobility (biofuels for buses and waste pick-up trucks – hybrid or electric municipal vehicles)
- Establish good practices within the municipality
 - Green procurement
 - Capacity building workshops
 - MLG working group
 - Cooperation and exchange programmes with neighbouring islands (if applicable)

7 COMMUNICATION AND DISSEMINATION

▪ COMMUNICATION

At the Local & Regional level

- Set up a Communication and Dissemination strategy
- Listen to the islanders' voice
- Set up Local Advisory Committees (LACs) to discuss and promote all aspects of the Initiative
- Set up a MLG forum to discuss and deal with the challenges and the barriers in implementing actions and investment plans of the Initiative

At European level

- Set up a Smart Island management group under the auspices of the Islands Commission of the CPMR or the CPMR Energy Working Group
- Use the CPMR high level contacts and relations within the European institutions to promote the Initiative and explore financing modalities
- Liaise with the Covenant of Mayors Office
- Liaise with the European Parliament and the other EU institutions (Commission, Committee of the Regions) and seek support for the Initiative

▪ DISSEMINATION

- Smart Island logo
- Smart Island website
- Smart Island brochures and posters

Local Dissemination

- LAC promotional activities
- Smart Island info days
- Town hall meetings
- Workshops and seminars
 - Capacity building
 - Specialist training

8 FINANCING THE INITIATIVE

European Funding sources

- Horizon 2020
- Blue Growth
- DG REGIO structural funds

Other funding sources (to identify)

Islands own contributions