

ENERGISE

EUROPEAN NETWORK FOR RESEARCH, GOOD PRACTICE
AND INNOVATION FOR SUSTAINABLE ENERGY 

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MALTA

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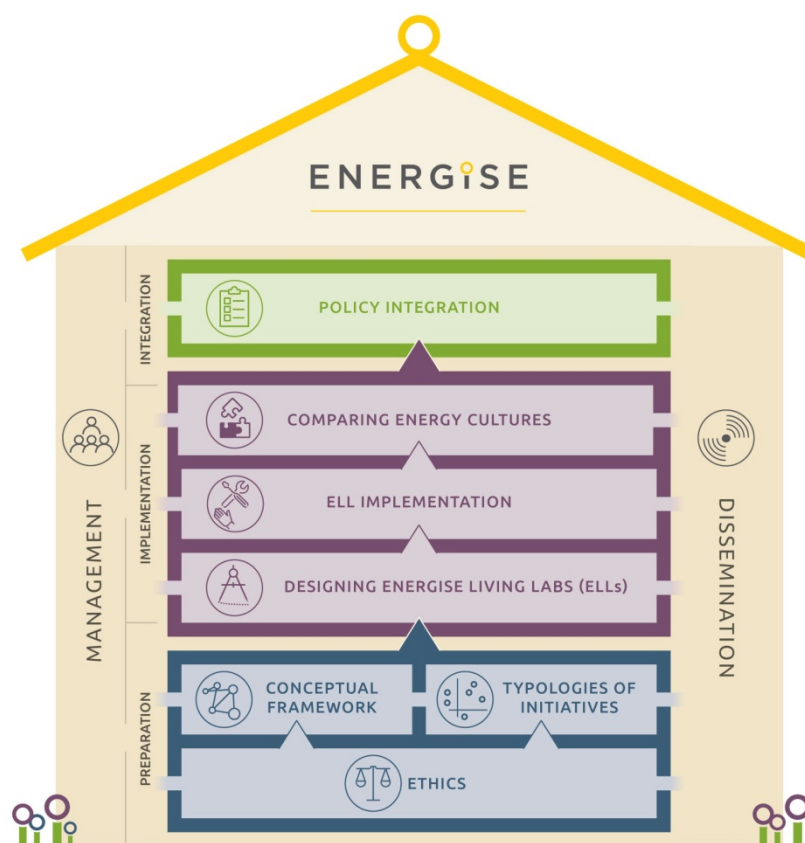
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ENERGISE PROJECT

ENERGISE is an innovative pan-European research initiative to achieve a greater scientific understanding of the social and cultural influences on energy consumption. Funded under the EU Horizon 2020 programme for three years (2016-2019), ENERGISE develops, tests and assesses options for a bottom-up transformation of energy use in households and communities across Europe. ENERGISE's primary objectives are to:

- **Develop an innovative framework** to evaluate energy initiatives, taking into account existing social practices and cultures that affect energy consumption.
- **Assess and compare the impact** of European energy consumption reduction initiatives.
- **Advance the use of Living Lab approaches** for researching and transforming energy-related practice cultures.
- **Produce new research-led insights** into the role of household routines and changes to those routines towards more sustainable energy.
- **Encourage positive interaction** between actors from society, the policy arena and industry.
- **Effectively transfer** project outputs towards the implementation of the European Energy Union.



INTRODUCTION

This document is one of 30 national briefs, demonstrating key aspects of national energy supply and demand dynamics. Each brief is comprised of five sections:

Section 1 summarises the energy profile of the country. The section provides basic quantitative information of demand demographics and usage profiles, market trends and energy supply profiles, as well as qualitative reflections on current national energy policy. ***For all the briefs, the quantitative information is derived from ec.europa.eu/eurostat (2015 data), eea.europa.eu (2015 data), and climate-zone.com, unless otherwise stated.***¹ The qualitative reflections are based on a literature reviews and desk-research. References for the literature review and the desk-research are provided in footnotes or in section five.

Section 2 summarises the nationally based sustainable energy consumption initiatives (SECI) that have been identified as part of ENERGISE WP2 framework (Jensen, 2017). Each SECI has been coded according to the Problem Framing Typology developed in ENERGISE WP2 (Jensen et al, 2017b).

Section 3 provides a *good practice* example of a national SECI that corresponds to category 3: “Changes in Everyday Life” or 4: “Changes in Complex Interactions” in the Problem Framing Typology. Please refer to Jensen (2017) and Jensen et al (2017b) for more information on the way the data for the good practice SECIs has been researched and documented.

Section 4 provides a brief summary of major nationally specific trends and their implication for energy consumption policies.

Section 5 provides an overview of sources used for qualitative assessments, and can be used as inspiration for further reading.

The national briefs provide contextual socio-material information for the further work to be carried out in Work Package 4, Work Package 5 and Work Package 6 in ENERGISE.

1.1 WP2: TYPOLOGIES OF ENERGY INITIATIVES

ENERGISE WP2 is a systematic criteria-guided review and classification of existing sustainable energy consumption initiatives from 30 European countries (EU-28, Switzerland, and Norway), which provides a comprehensive European database of energy initiatives involving households, and related typologies of sustainable energy consumption initiatives. This extensive synthesizing work guides the selection of Living Lab design elements for ENERGISE and future energy consumption research, policy and practice.

¹ Some piecharts will be empty, as no information is available.

This is done in order to

- Construct innovative typologies of sustainable energy consumption initiatives that can inform further research and action.
- Identify key success factors and related indicators, focusing on individual-level, collective, organizational, institutional and societal aspects of energy consumption, which will inform subsequent WP 3 (Designing Living Labs), WP 4 (ENERGISE Living Labs) and WP 5 (Capturing Energy Cultures).
- Progress the goals of the European Energy Union by creating a publicly archived open access dataset of sustainable energy initiatives across 30 countries in Europe.

Suggested further reading:

Jensen (2017) *Identification of key success factors and related indicators*. ENERGISE – European Network for Research, Good Practice and Innovation for Sustainable Energy, Grant Agreement No. 727642, Deliverable 2.2.

Jensen et al. (2017a) *Establishment of a comprehensive open access dataset of sustainable energy consumption programmes and Interventions*. ENERGISE – European Network for Research, Good Practice and Innovation for Sustainable Energy, Grant Agreement No. 727642, Deliverable 2.3.

Jensen et al. (2017b) *Constructions of typologies of sustainable energy consumption initiatives (SECIs)*. ENERGISE – European Network for Research, Good Practice and Innovation for Sustainable Energy, Grant Agreement No. 727642, Deliverable 2.4.

Sources of quantitative statistics (unless otherwise stated):

Climate data:

<http://www.climate-zone.com/continent/europe/>

Demography data:

http://ec.europa.eu/eurostat/statistics-explained/index.php/Population_structure_and_ageing

http://ec.europa.eu/eurostat/statistics-explained/index.php/Educational_attainment_statistics

Dwelling type data:

[http://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Distribution_of_population_by_dwelling_type_2015_\(%25_of_population\)_YB_17.png](http://ec.europa.eu/eurostat/statistics-explained/index.php?title=File:Distribution_of_population_by_dwelling_type_2015_(%25_of_population)_YB_17.png)

Energy demand and supply quantitative data:

http://ec.europa.eu/eurostat/statistics-explained/index.php/Energy_consumption_in_households

Final energy consumption of households per capita data: <https://www.eea.europa.eu/airs/2017/resource-efficiency-and-low-carbon-economy/household-energy-consumption>

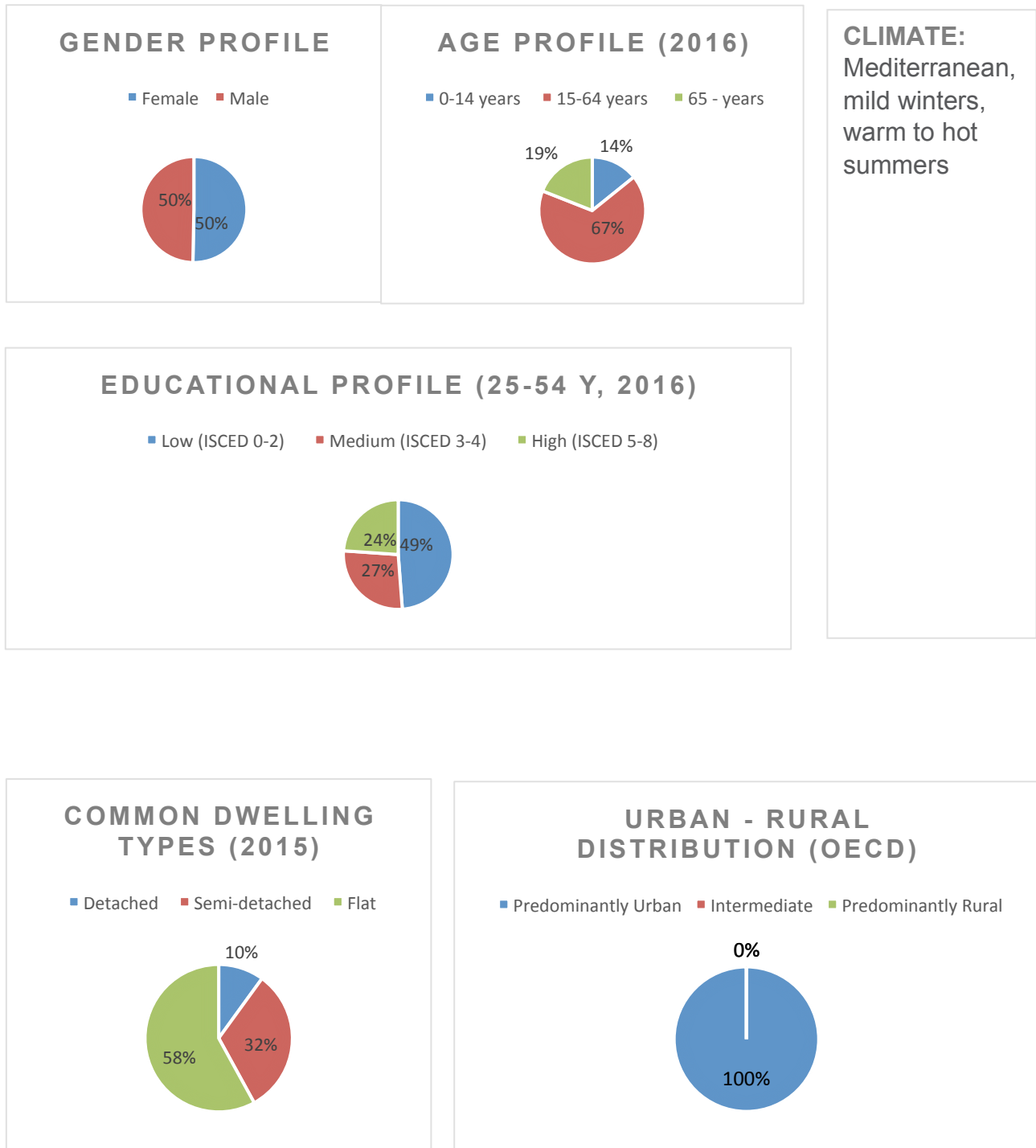
MWh conversion data:

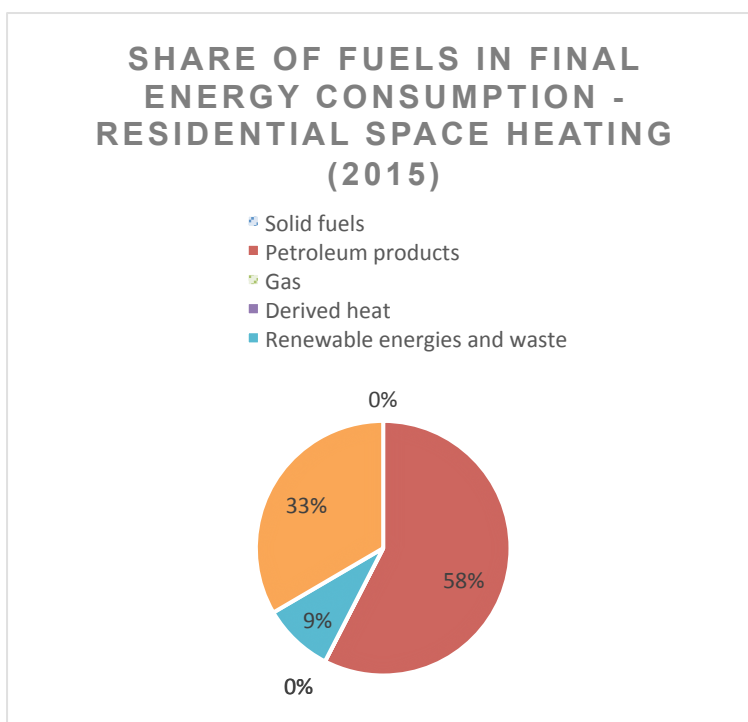
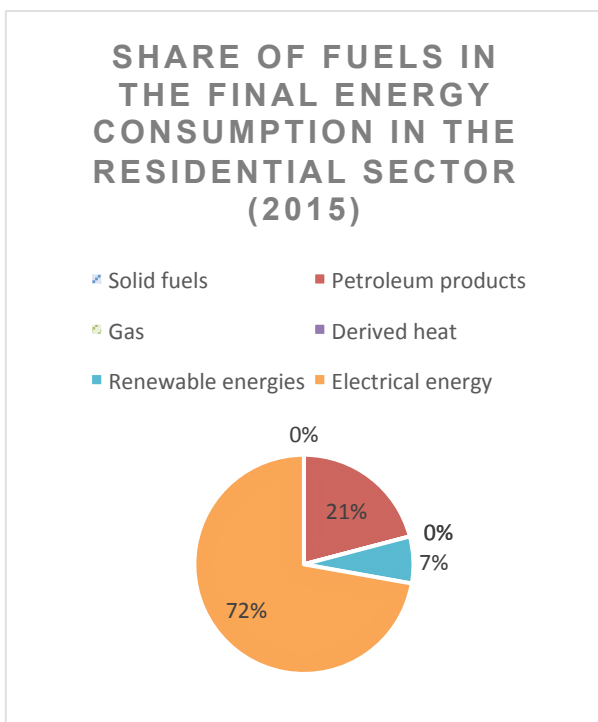
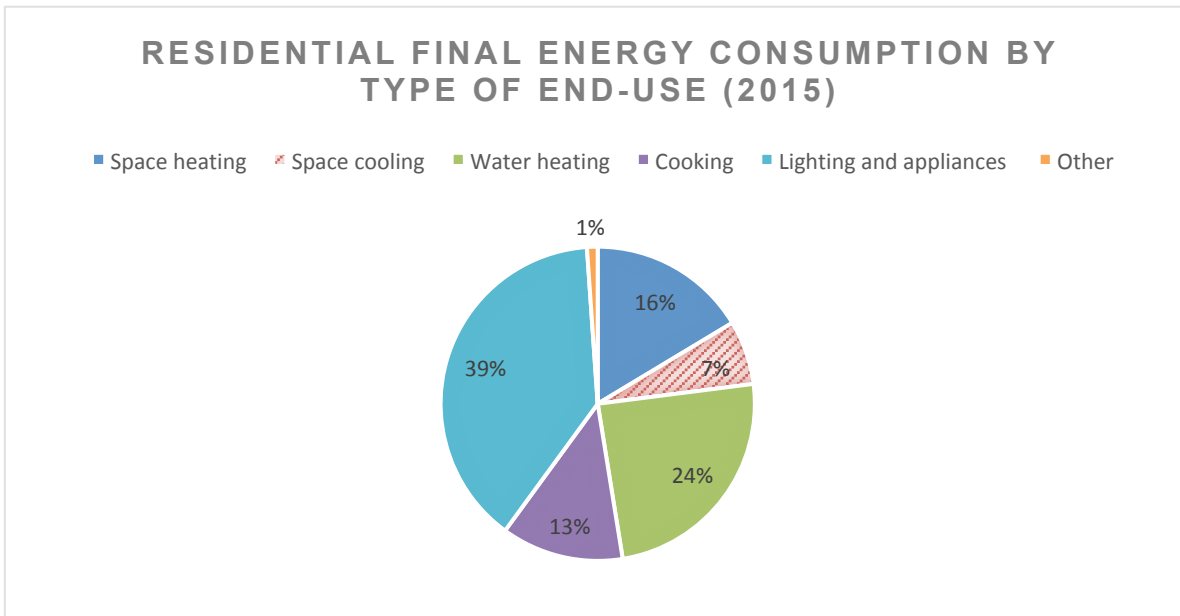
<https://www.unitjuggler.com/convert-energy-from-toe-to-MWh.html?val=893.9>

MALTA

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DEMOGRAPHY, ENERGY CONSUMPTION AND ENERGY SUPPLY





FINAL ENERGY CONSUMPTION FOR HOUSEHOLDS, PR CAPITA (2015)

2.093 MWh

ENERGY SYSTEM AND ENERGY POLICY TRENDS

Energy system

The energy sector in Malta is almost 100% dependent on a single source of energy, oil, which is entirely imported. Malta has almost no resources and its island location limits its trade.

Malta has no production and no reserves of hydrocarbons. However, its waters are bordering areas with known reserves, both on the Tunisian side and near Sicily. For this reason, oil exploration efforts have been carried out in Maltese territorial waters. Eleven offshore wells and two wells on the island itself were drilled from 1959 to 2014, mostly dry, but some showing traces of oil or gas, but not commercially exploitable deposits.

Enemalta plc has the electric monopoly in the country. This company owns two power plants: the Delimara power station in Marsaxlokk, and the Marsa power station in Grand Harbor. Until April 2015, these two plants, which burned petroleum fuels (heavy fuel oil and distillate), supplied all of Malta's electricity. Since then, an electrical interconnection with Sicily has been put into operation, enabling 200 MW of electricity to be imported from Italy. An electric cable connects the island with the European continent, and ensures a long-term security of the Maltese network, which knew various prior difficulties.

Between 2005 and 2015, renewable energy production in Malta grew by an average of 40.3% per year, although the absolute level of production remained by far the lowest in the European Union. In 2015, the use of renewable energy in Malta is only 4.7% of primary energy demand. The use of RES is also not very diversified and is almost entirely limited to photovoltaics.

Particular socio-material aspects that influence energy consumption

The Maltese oil market is dominated by the consumption of heavy fuel oil (674 million tonnes of heavy fuel oil, or around 30,700 barrels/day in 2013). The insular specificity of the country means that many individuals own a ship or a boat. Two-thirds of heavy fuel oil consumption is used to refuel ships and one-third is used for electricity generation.

Before the connection with Italy in 2011, Malta set up around 250,000 smart meters among electricity and water consumers, to encourage a reduction in consumption. With tourism development, the Maltese energy networks were no longer able to provide all the island's users with electricity and drinking water. IBM-France has proposed and implemented smart meters whose stated objective is that each inhabitant can visualize its actual consumption and thus reduce it. In the same idea, owners of large plots are encouraged to set up rainwater harvesting systems.

Because of the warm climate and climate change there is higher need for energy for cooling in the summer months.

Malta has always been faced with a lack of water (the island does not have a lake or river), a problem that is likely to increase with climate change. The island is experiencing rainfall deficits, it has overexploited its groundwater. With rising demographics the demand for water is rising. To deal with this problem, three desalination plants have been set up. They have become the second largest source of drinking water in the country (after groundwater), but they are not a long-term solution as they operate thanks to (a lot) of fossil energy.

Current Trends in Energy Policy

In 2012 the Government of Malta has launched a new national energy policy following wide consultation with different stakeholders. The policy is based on a series of objectives aimed at diversifying the energy mix used in Malta while accelerating a shift in the energy culture. The policy is based on four main principles: diversification, security of supply, efficiency and affordability. As the EU member state that is most dependent on fossil fuels, Malta is placing some importance on the use of RES, especially the sun, to produce energy.

In August 2016, the European Commission approved the renewable energy production aid schemes in Malta. State aid is granted to the operators of photovoltaic installations and onshore wind turbines in the form of premiums in addition to the market price. Proponents of onshore wind power may also qualify for assistance if an eligible site receives development approval during the life of the plan. The total budget for the measure will be 140 million over the 2016-2020 period. This plan should enable Malta to reach a target of 10% renewable energy in its energy mix by 2020, an objective set by the European Union.




Trends in national campaigns













Government has in recent years run campaigns on RES, related to the national RES support scheme. Apart from that there were campaign focused on energy efficiency, and water conservation, as especially water is scarce on the island.

Other non-governmental stakeholders and actors run campaigns on RES projects, civil society has campaigns on community (RES) projects, energy efficiency, water conservation, energy poverty and sustainable mobility.

OVERVIEW OF NATIONAL SECIS

Below please find a list of Maltese (?) SECIs that have been researched and documented through WP2 of ENERGISE. The SECIs are researched, selected and documented based on a set of requirements and research interests (please see Jensen 2017 for details). The list should not be regarded as exhaustive or representative of all kinds of energy initiatives carried out in the country.

European Citizens Climate Cup (ECCC)		Changes in Individuals' Behaviour
ELIH MED - A EURO-MEDITERRANEAN PROGRAM TO FIGHT ENERGY POVERTY		Changes in Technology
EEPLIANT : Energy Efficiency Complaint Products 2014		Changes in Technology

Smart-up project		Changes in Individuals' Behaviour
Instigating Simple Energy Efficient Behavioural Practices in Schools (FLICK THE SWITCH)		Changes in Individuals' Behaviour
Common appliance policy – All for one, One for all – Energy Labels (COMEON LABELS)		Changes in Individuals' Behaviour
European Network of Information Centres promoting Energy Sustainability and CO2 reduction among local COMMunities (ENESCOM)		Changes in Individuals' Behaviour
Eco Gozo		Changes in Complex Interactions
energycalculator from enemalta		Changes in Individuals' Behaviour
DAWL – Energy, Employment, Empowerment.		Changes in Individuals' Behaviour
EkoSkola		Changes in Everyday Life Situations
YAECI (Yearly Appliance Energy Cost Indication)		Changes in Individuals' Behaviour
energy efficiency program		Changes in Individuals' Behaviour
European Sustainable Energy Award for Prisons (e-seap)		Changes in Technology
Xrobb I-Għajin		Changes in Technology

‘GOOD PRACTICE’ EXAMPLE OF MALTA SECI

Eco Gozo



Introduction

Gozo plans to become an eco-island and wants to reduce pressure on the environment and has set a range of other ecological and social objectives.

Brief Description

Eco Gozo is a concept which summarises the Government’s vision for the future of the island. It is a vision, which aims at transforming Gozo and Gozitan society into a sustainable reality in its wider sense – not only environmentally, but also socially and economically. Gozo aims to become an eco-island by 2020, supported by an engaged and committed sustainable community.

Brief Contextualization

The eco-island of Gozo is an exercise in foresight on the future of this island, which generated a near-general consensus. The larger majority of stakeholders on the island see the ecoGozo project as a historic opportunity for the island and its enduring prosperity. Government launched action on ecoGozo in 2008, stating clearly that through this Sustainable Development strategy, it intended to trigger a community project with long-term vision and a commitment from the grassroots.

Aims and objectives

Aims and objectives of this strategy are referring to a broad field of topics and aspects and are not covering only energy or environment related ones:

- a better quality of life
- a society exerting less pressure on the environment
- a wholesome natural and cultural environment
- more sustainable jobs
- a caring society for all
- more quality investment
- an enhancement of the island’s identity.

More specifically, objectives related to energy include:

- identifying optimal sites for small onshore wind farms and developing small onshore wind farms with a limited number of turbines,
- utilising rooftops of public buildings and other spaces such as public car parks for renewable energy projects involving solar energy,
- carrying out energy audits on all public buildings,
- converting all lighting systems in offices and public places to energy-saving lighting,
- providing free consultation to people on how to convert their houses to be energy efficient,
- awarding companies, households, villages and streets committed to energy-saving with a ‘Green Award’.

Methods for Intervention

Preparation of the island's development strategy, and inclusion of various stakeholders and citizens in the process of its preparation through public consultation process.

Steps of implementation

The strategy/vision is being implemented in various different forms and in various different fields, from environment, society, economy, and culture and identity.

Results/outcomes

The main result of the process was preparation of the document: *A vision for an eco-island: ecoGozo* (available here: file:///home/tomi/Prejemi/A%20Vision%20for%20an%20Eco-Island_Ministry%20for%20Gozo_August%202013_low.pdf) and, after that, implementation of the written vision and strategy for the island development.

The role of the households

Throughout this whole process of developing the vision for Gozo, the crucial protagonists have been – and remain – the Gozitan population. In the few years that the Government has been working on this new venture, they have sought to involve Gozitan families and the island's stakeholders at large in the implementation of this strategy and many have taken up the invitation to participate actively in the implementation of the ecoGozo objectives. Households are also included in implementation part of the strategy, as they are targeted for energy refurbishment of their houses and implementation of RES projects.

Location

Island of Gozo (Malta).

Textual and communicative aspects of initiative

The main textual output of the initiative is the common written vision for an eco-island. The most important communication / dissemination tool is the webpage, where more publications and material can be found.

Shared understandings related to initiative

Government's view on the common or shared understanding goes in line, that the larger majority of stakeholders on the island – though not necessarily in agreement on the finer detail – see the ecoGozo project as a historic opportunity for the island and its enduring prosperity. In implementing a strategy to achieve higher levels of sustainability, policy setting and academic input are two central contributors. Yet, in addition to these, grass-roots endorsement and participation, is a fundamental requirement. There is simply no manner in which a community can become more sustainable if the persons forming it are not committed and involved in this ideal. EcoGozo is a People's vision and a People's project. In launching ecoGozo, the government has given a name, perhaps developed a brand, to a vision which the people of Gozo themselves have communicated to the Government over the years. EcoGozo is a vision of the people of Gozo for the transformation of their island into a sustainable reality. In this process, Government has taken up the role required to consolidate and formalise this vision, and at a second stage, organize and coordinate its implementation.

CONCLUDING REMARKS AND POLICY IMPLICATIONS

The energy sector in Malta is almost 100% dependent on a single source of energy – oil, which is entirely imported. Therefore trends in Malta's energy policy are aimed at diversifying the energy mix and accelerating a shift in the energy culture. The policy is based on four main principles: diversification, security of supply, efficiency and affordability. Government has in recent years run campaigns on RES, but this aspect is not so well represented in the identified SECIs. The most visible link of policy and SECIs is in the field of energy efficiency. There are several SECIs oriented towards energy efficiency awareness raising and change of behaviour.

In terms of targeting particular socio-demographic profiles, or specific aspects of energy use, the identified SECIs do not go completely in line with major challenges, which are lack of water, high consumption of heavy fuel oil (for fuelling the ships and boats) and higher need for energy for cooling because of the warm climate. Majority of the SECIs are focusing on energy efficiency, there are several projects on energy poverty, but none of the identified was focusing solely on the specifics that were recognised as the national particularities.

The SECIs are implemented by national authorities, municipalities, civil society organisations and energy agencies. The majority of SECIs (8) are run at a cross-national level, several of them are run on the national level and few of them on local level. The SECIs mainly work towards changes in individual behaviour (9 of the identified), there are several working towards a change in technology (4 of them), while focus on changes in complex interactions and changes in everyday life situations is scarce (1 and 1 respectively).

The highlighted SECI shows us an example of a community – the whole island of Gozo – that has aspirations of becoming a sustainable society. Gozo plans to become an eco-island, wants to reduce pressure on the environment and has set a range of other ecological and social objectives. The initiative represents a concept – a governmental strategy – of future development of the island. The main lesson learned from this SECI is that if the decision-makers want to prepare a development strategy that will have real life effect and that people will follow it, they need to involve those citizens – in this case the whole island's community – in the process of preparation and adoption of the strategy. Only with inclusion can implementation of the concept be successful.

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<http://www.davidzahra.com/2012/new-national-energy-policy-launched/>

<http://www.ecogozo.com/index.php?lang=en>