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Middle–out intelligent agents, strengthening energy community ecosystem capacity

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Contributors

The Soft Energy Applications Laboratory was founded in the late 80's and has been housed permanently at its present site since 1991. From that time on its presence has been constant with the participation of scientific and educational staff. In 2000 it was renamed to *Soft Energy Applications and Environmental Protection Laboratory (S.E.A. & E.P. Lab)*, giving emphasis on the environ mental parameter of modern society and reflecting its activities in the field of environmental protection.
Laboratory and its partners have opened their sails for a challenging and yet beautiful journey into the world of knowledge, contributing sign ificantly to the development of the Laboratory through progress on a series of technological activities and development for the benefit of the country and society.
SEALB aims to the promotion of technological research and the implementation of scientific findings to resolve technology-oriented energy and environmental problems aspiring to act as a centre of excellence with special emphasis on renewable energy and low carbon technologies supporting the socio-technical energy transition.

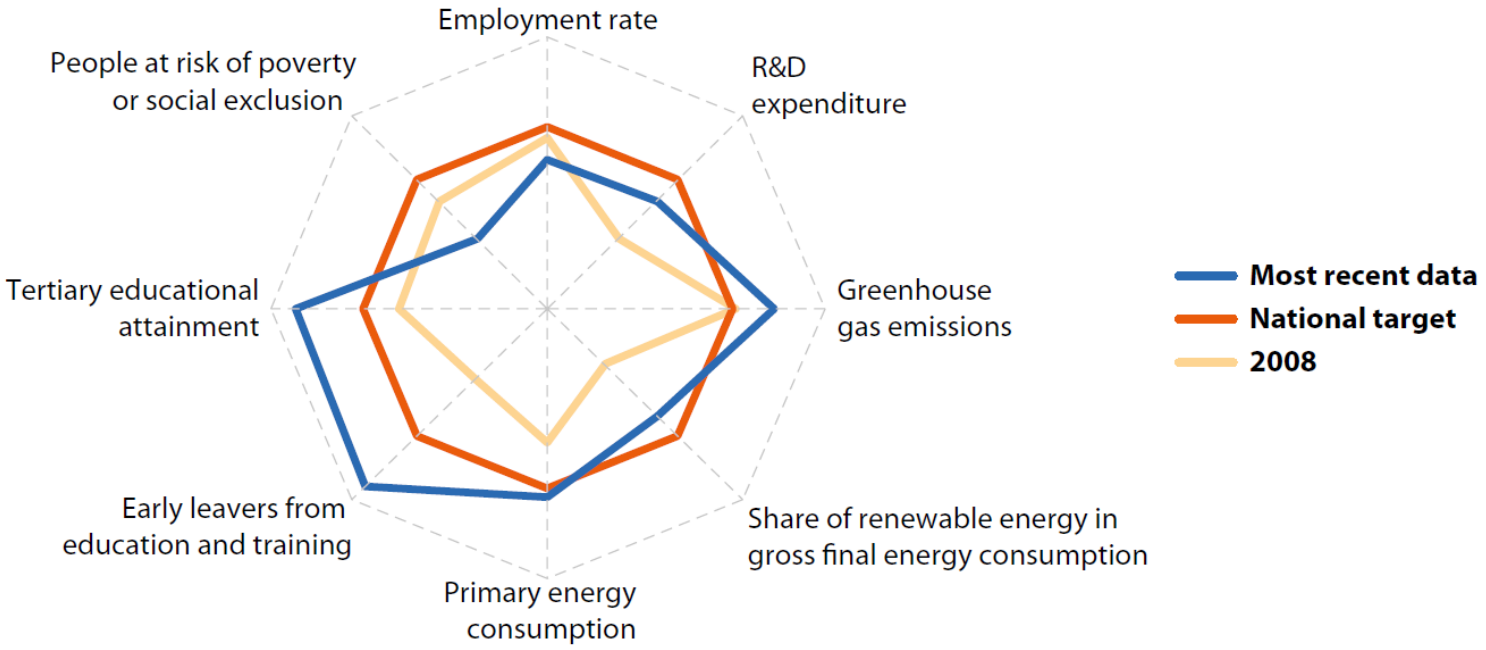
The Social Cooperative Enterprise aims to promote collective actions and the protection of collective goods through development, economic and social initiatives of a local, regional or wider field.

Main goal is our contribution to "green growth". We will work in cooperation with Institutions in the energy field to install renewables (Photovoltaics, Wind Generators, Hydroelectric, Geothermal and Biodiesel conversion units) and distribute free electricity to those affected, from the financial crisis.

The subsidiary companies Gaiaose Renewable Energy Sources have been established in 2011 and are 100% owned by Gaiaose S.A. These are: a) Gaiaose Photovoltaics Larisas S.A. b) Gaiaose Photovoltaics Attikis & Viotias S.A. c) Gaiaose Photovoltaics Karditsas S.A. The main scope is the production and sale of electricity from renewable energy sources. Also, the study, construction and installation of renewable energy sources (PV, wind energy, biomass, biogas, etc.) and synergies with companies of similar activities .
Companies are specialized in creating energy communities in cooperation with public and private sector. Three energy communities are under construction in three cities of Attica Megara, Mandra and Ag. Anargyroi.

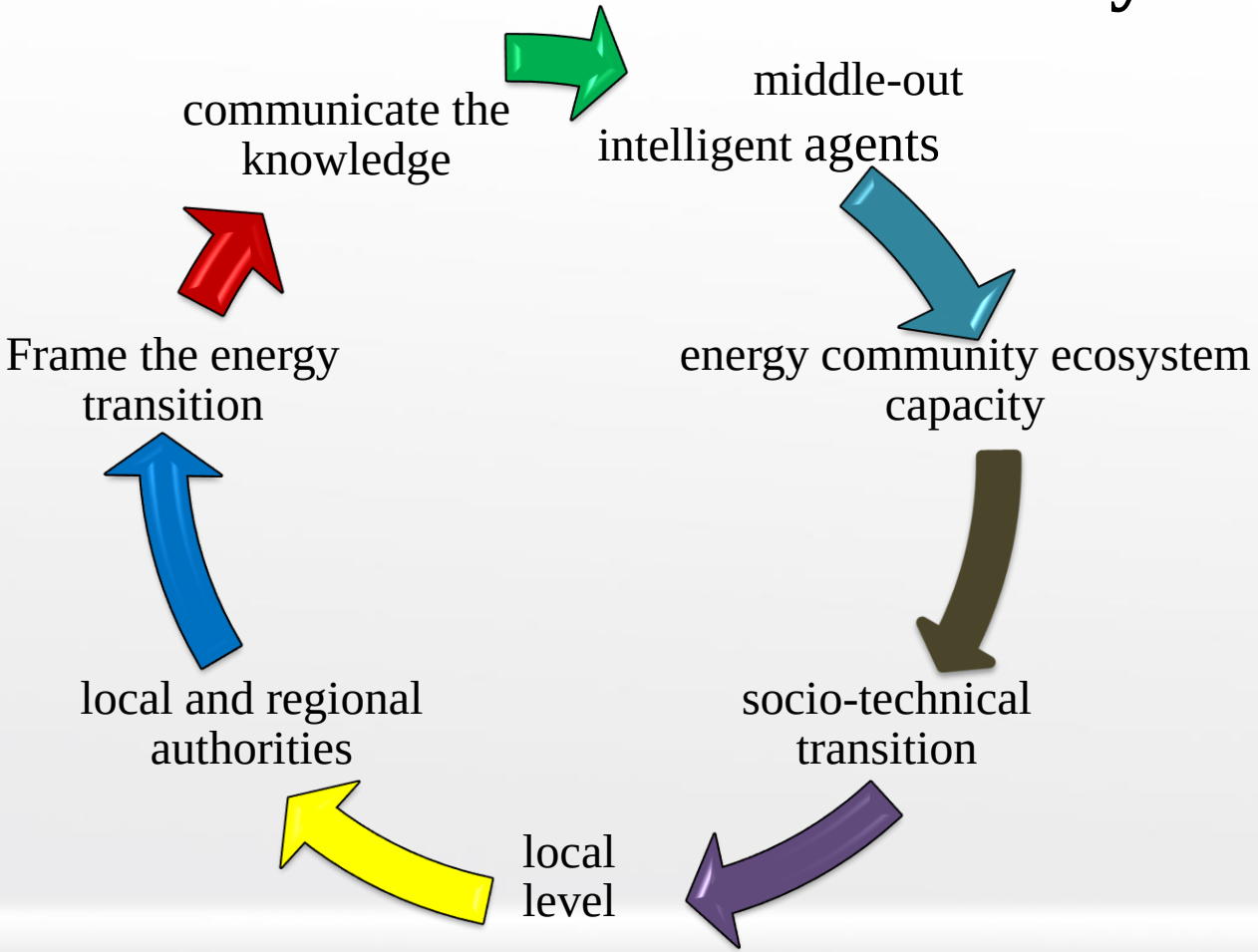
Greece 2018

Change since 2008 in relation to national targets



	Data	Year	Target
Employment rate age group 20–64 (%)	57.8	2017	70
Gross domestic expenditure on R&D (% of GDP)	1.01	2016	1.2
Greenhouse gas emissions in non-ETS sectors (% change since ESD base year)	– 25.7 (1)	2016	– 4
Share of renewable energy in gross final energy consumption (%)	15.2	2016	18
Primary energy consumption (million tonnes of oil equivalent)	23.5	2016	24.7
Early leavers from education and training (% of population aged 18–24)	6.0	2017	10 (2)
Tertiary educational attainment (% of population aged 30–34)	43.7	2017	32
People at risk of poverty or social exclusion (thousands)	3 789	2016	2 596

PROACTIVE MENTOR local ecosystem capacity



PROACTIVE MENTOR objectives (1/2)

- ✓ improve public officer’s capacity skills
- ✓ help to create policies
- ✓ use technology transfer as key tool to deliver Energy Union targets
- ✓ provide innovative sustainable energy solutions
- ✓ promote energy efficiency measures
- ✓ accelerate socio-technical transition at local level
- ✓ mobilize public engagement in the energy transition

PROACTIVE MENTOR objectives (2/2)

Energy Efficiency Directive

✓ Article 3

harmonisation of energy savings calculations

✓ Article 7

implementing Energy Efficiency Obligation Schemes

✓ Article 15

higher efficiency of the generation, transmission, distribution systems including demand

The need of innovative socio - technical excellence

Technology Innovation for the Local Scale
Optimum Integration of Battery Energy Storage

Report on long-term strategy for mobilising investment in the renovation of the national stock of residential and commercial buildings, both public and private.
(Article 4, Directive 2012/27/EU)

Athens, December 2014

ECO

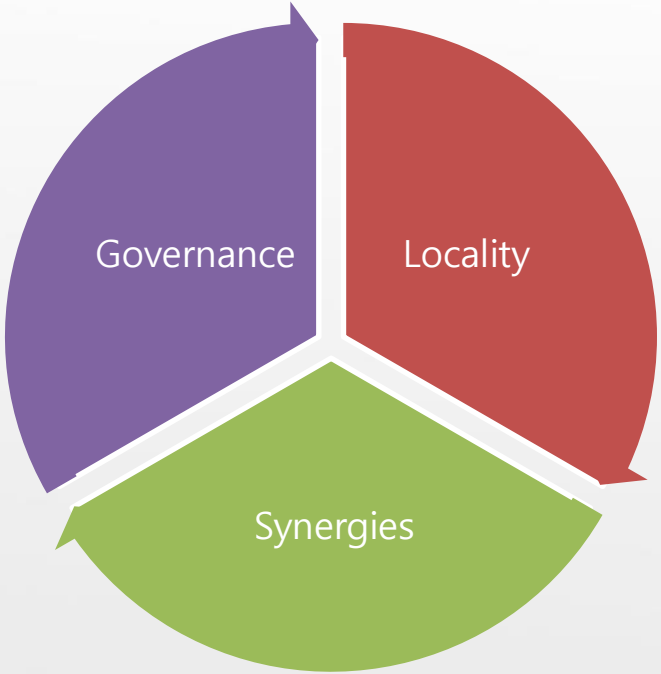
Europe 2018

The EU imports 54% of all the energy it consumes, at a cost of more than €1 billion per day. Energy also makes up more than 20% of total EU imports. Specifically, the EU imports:

- 90% of its crude oil
- 69% of its natural gas
- 42% of its coal and other solid fuels
- 40% of its uranium and other nuclear fuels.

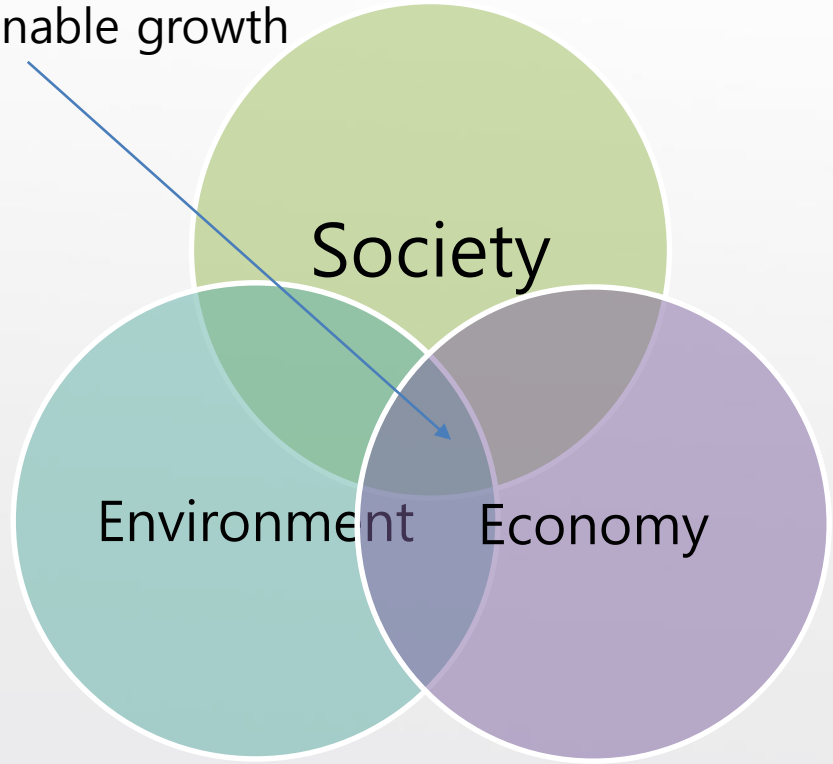
According to the European Commission, by 2030 more than 50 GW wind and more than 50 GW solar could be owned by energy communities

Greece Energy Communities law 4513/2018
Local and Regional Authorities

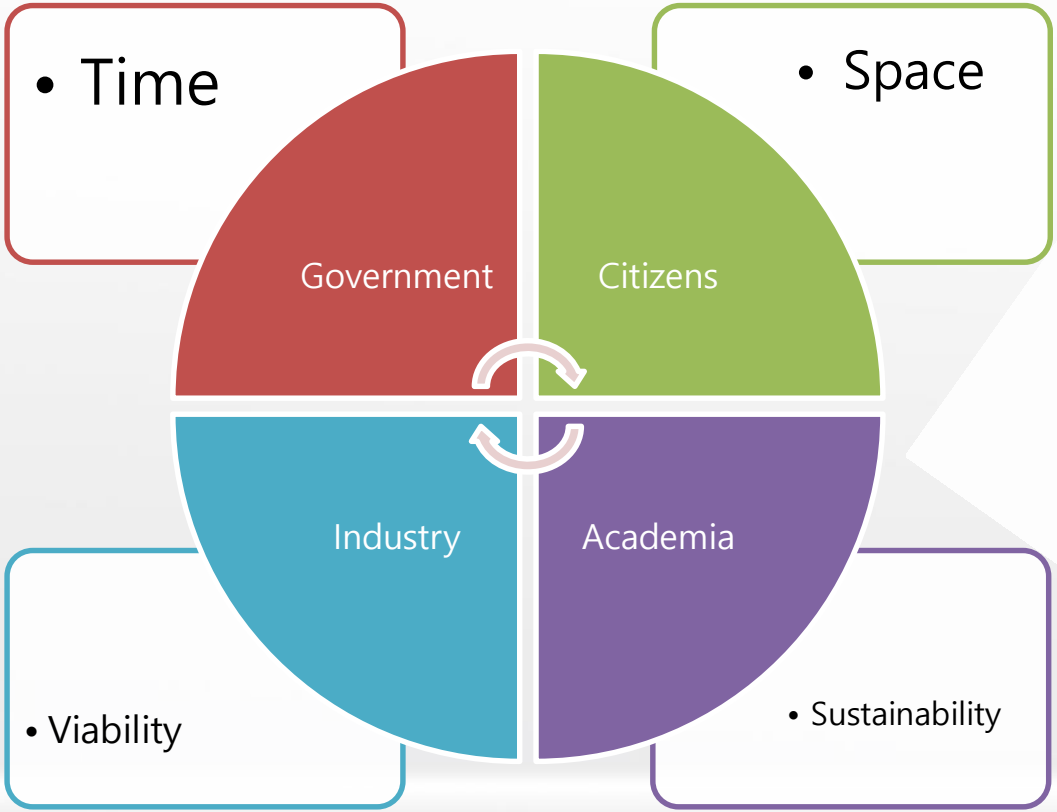


Energy Transition
Socio-technical Transition

Sustainable growth



Quadruple Helix Synergies Model Communicate the Knowledge



Living Lab
Energy Ecosystem Capacity

- ✓ On going process
- ✓ Multidisciplinary field (STEM & SSH)
- ✓ Scientific approach, recording & processing data
- ✓ Creating a paradigm

Energy community ecosystem

Working package

- Data, Information and Standardisation
- Measurements, Recording, Schemes.

Working Package

- Education _ Citizens & Public Authorities
- Awareness-raising and communication Coordination and support Services

Working Package

- Implementation
- Designs studies for new infrastructure, Security of Supply, Access to Energy

Working Package

- Dissemination, policy dialogues, networking
- Paradigm change, strategic planning

Consortium

Energy Communities Local Level

WHY:
- ✓ paradigm
- ✓ replicate
- ✓ scale-up

WHERE:
- ✓ Local - National – European - International

HOW:
- ✓ socio-technical transition
- ✓ experiential knowledge...

WHO:
- ✓ QH Actors
- ✓ local community engagement

WHAT:
- ✓ Energy Transition
- ✓ Living lab

WHEN:
- ✓ On going

Paradigm change, replicate, scale up Mechanism

✓ Which are the best practices public authorities and local citizens engagement in Energy Transition?

✓ How can we establish an ecosystem at local community level to support flourish the Energy Transition benefits?

PROACTIVE MENTOR
Frame the energy transition

- ✓ Energy Transition
- ✓ Excellence
- ✓ Motivation for Innovation
- ✓ Improvement with New Solutions
- ✓ Empowerment Innovators

Providing standards from which particular coherent traditions of scientific research springs.

PROACTIVE MENTOR
Middle-out Intelligent Agent

Energy efficiency targets, energy efficiency schemes, energy transformation, sustainable, secure and affordable energy for all can be achieved by building energy communities, bringing together society under a common goal and joining forces of top down and bottom up policies.

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