

Cyprus local authorities towards a low carbon future

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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**.*
- *Island local authorities have realised early the need to become important partners in the common global fight against climate change to reduce **CO₂ emissions**.*



Introduction

The introduction of sustainable energy and transport systems in island communities will serve three main objectives:

- *to make a significant contribution in achieving EU sustainable energy and climate change targets, such as the reduction of CO2 emissions by 20% or more and the improvement of energy efficiency by 20% or more by 2020,*
- ***to help protect the islands ecosystems and increase their energy and water supply independence;***
- ***to help enhance local economic development, job creation and reverse the decline of the local population.***





PACT OF ISLANDS

European Initiatives



Pact of Islands

- Committed to developing Island Sustainable Energy Action
- Meeting or exceeding the EU sustainability target of reducing CO₂ emissions by at least 20% by the year 2020.
- Recognised by the European Parliament (Declaration 37/2011),
- Currently there are 12 participating groups of European Islands (over 100 islands) involved.

Covenant of Mayors

- European movement involving local and regional authorities, voluntarily committing to increasing energy efficiency and use of renewable energy sources in their territories.
- Aim to meet and exceed the European Union 20% CO₂ reduction objective by 2020.
- 6,400 signatories in Europe, 24 in Cyprus



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	Local Authority	Covenant of Mayors	Pact of Islands	Population	Households
1	Strovolos	√	√	67,904	25,813
2	Lefkosa	√		55,014	22,833
3	Larnaca	√	√	51,468	19,649
4	Paralimni	√	√	14,963	5,324
5	Lakatamia	√	√	38,345	12,519
6	Engomi	√	√	18,010	6,601
7	Aglantzia	√	√	20,783	8,184
8	Latsia	√	√	16,774	6,058
9	Aradippou	√	√	19,228	5,665
10	Agios Athanasios	√	√	14,357	4,789
11	Dali		√	10,466	3,394
12	Yeri		√	8,235	2,683
13	Deryneia	√		5,844	2,013
14	Ergates		√	1,792	547
15	Episkopi	√		3,681	1,233
16	Polis Chrysochous	√	√	2,018	757
17	Lythrodontas	√	√	3,043	960
18	Agros	√		806	268
19	Platres	√	√	239	107
20	Psimolofou		√	1,626	504
21	Lefkara	√	√	762	275
22	Kyperounta	√	√	1,516	430



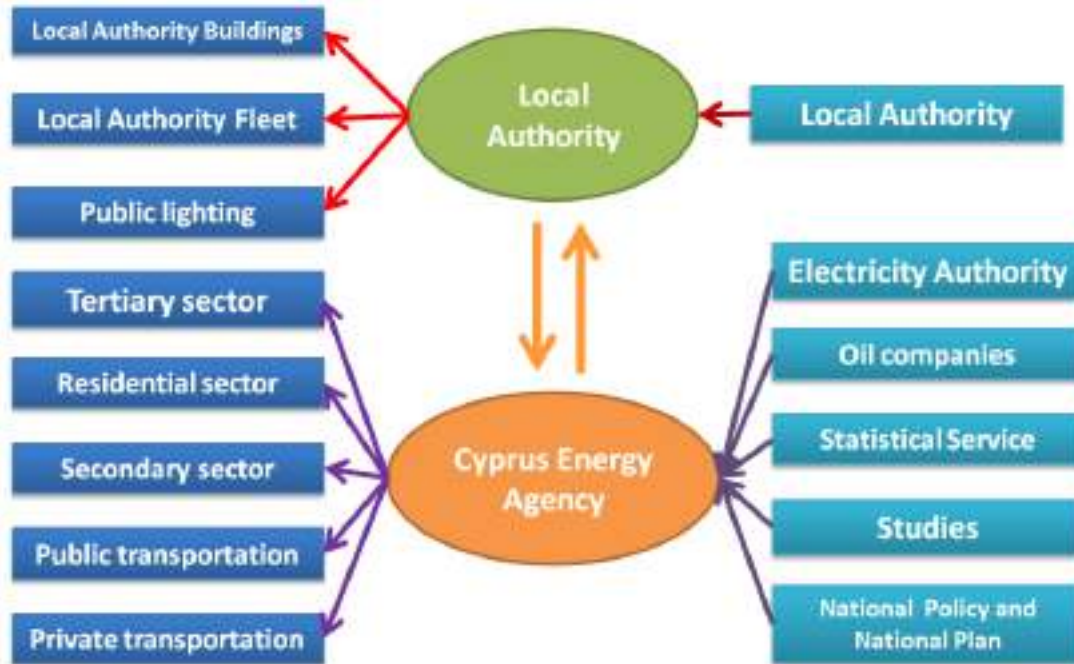


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Data collection



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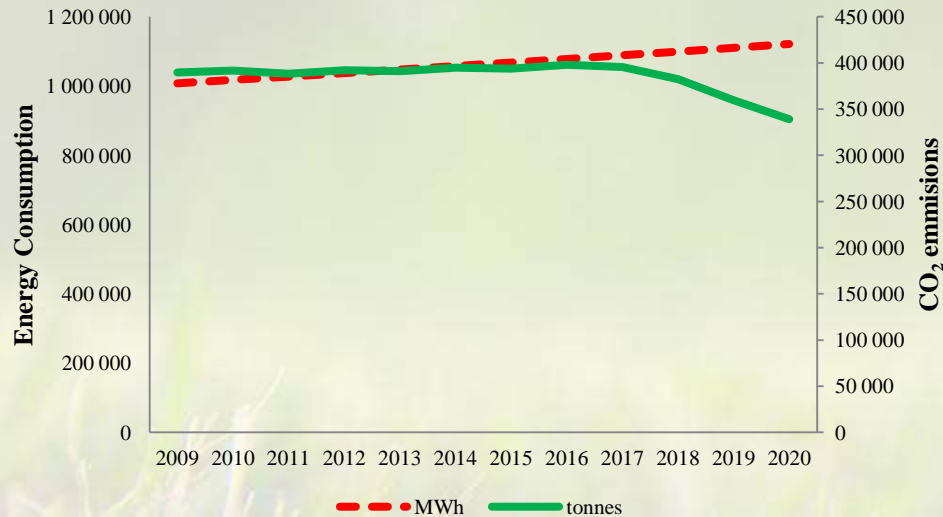


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Energy modelling

Scenario Business As Usual



In order to forecast the CO₂ emissions for the period 2010 to 2020, the scenario of expected CO₂ emissions evolution was established where it is possible to estimate the future CO₂ emissions if no taking any measures for energy savings, energy efficiency, sustainable transport and renewables. The contribution of national energy policies and strategies are also taken into account in the scenario.

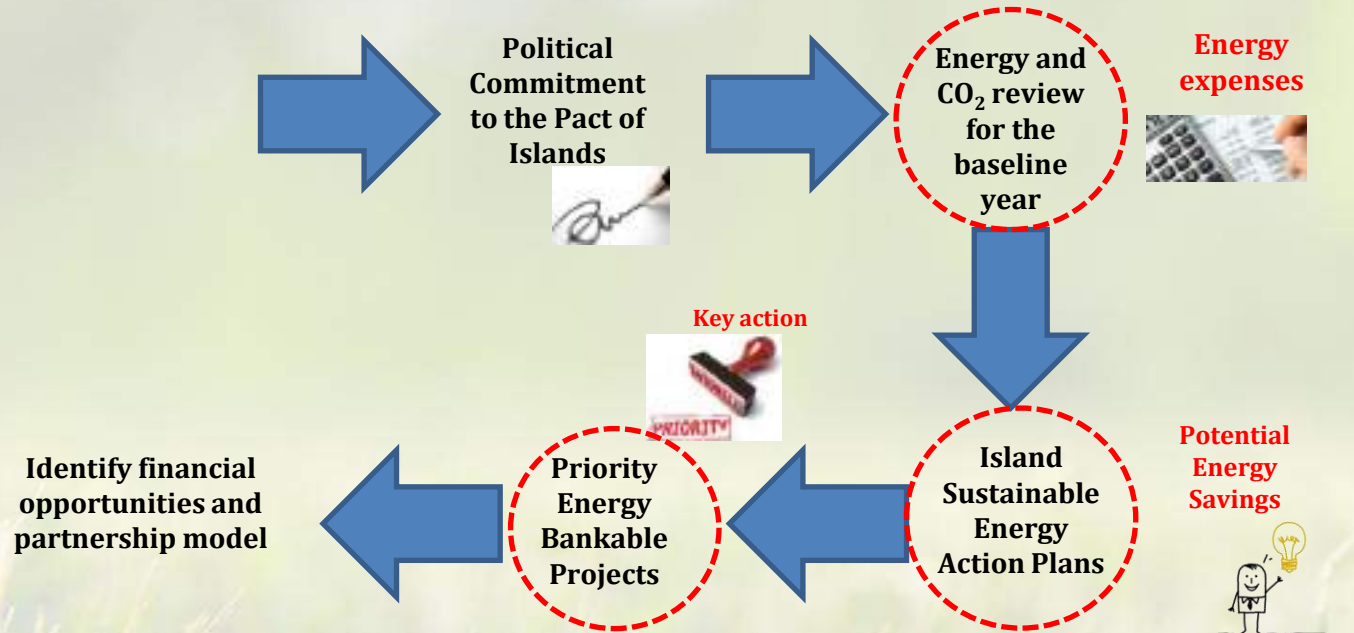


Sustainable Energy Action Plan

- A Sustainable Energy Action Plan is the key document in which the Local Authority outlines how intends to reach its CO₂ reduction target by 2020. It defines the activities and measures set up to achieve the targets, together with time frames and assigned responsibilities.
- A Local Sustainable Energy Action Plan must be approved by the Municipal (or Communal) Council ensuring the **strong political commitment** and a wider acceptance and support by the political representatives of the Local Authority.



Project idea conception and initiation



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SEAP sectors/actions



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SEAP sectors/actions

Street lighting project:

- 13 Municipalities and 7 Communities
- High Pressure Sodium, Metal Halide, Low pressure sodium, Compact Fluorescent Lights
- Capacities 20W, 70W, 150W and 250W
- In total 89 street and avenues
- More than 350 lighting fixtures
- More than 15,000 lighting measurements



Dirty light covers



Open or broken light covers



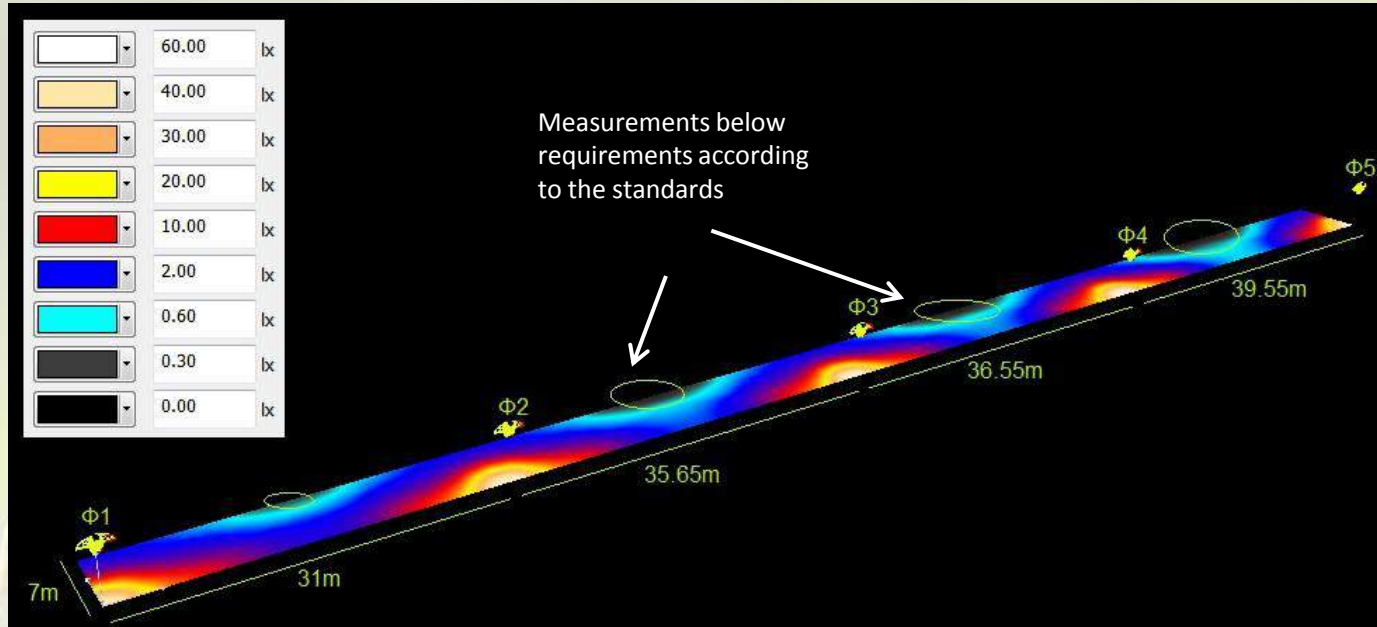
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Existing situation with HPS 70W



DIALUX outputs



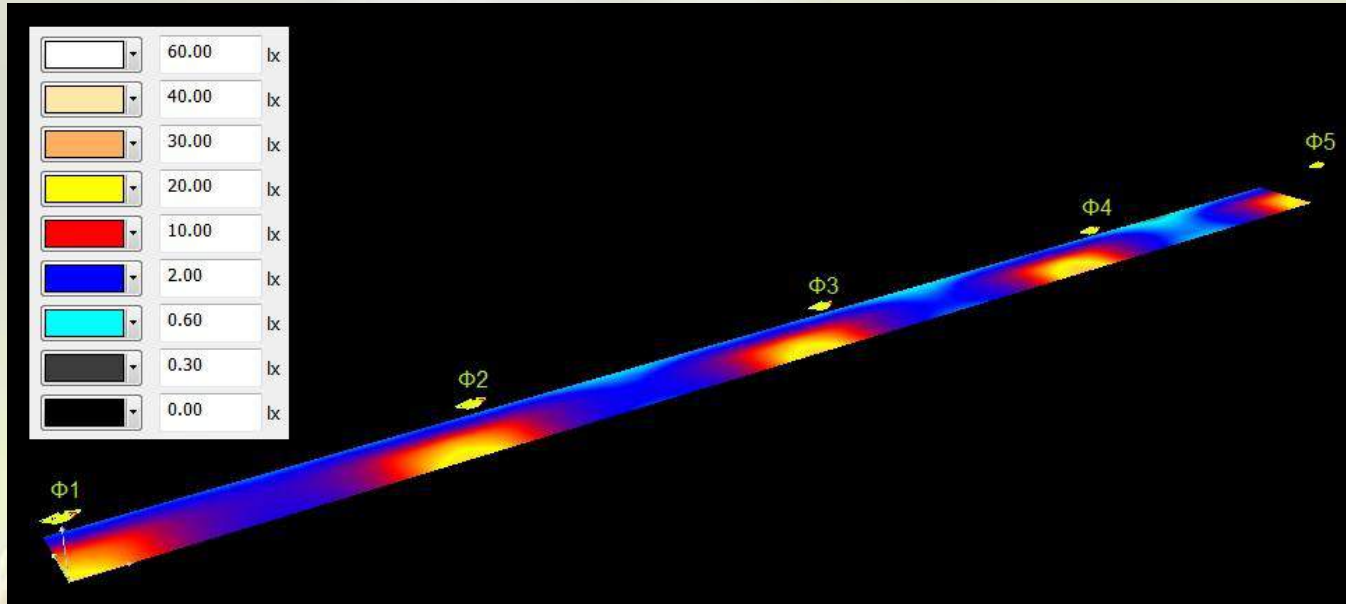
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Replacement scenario with LED 32W



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2020 objectives

- The estimated annual CO₂ emissions reduction for 2020 by the successful implementation of the 22 Sustainable Energy Action Plans amounts to **600,000 tons**.
- The impact of the reduction to the Business As Usual Scenarios will result to a reduced amount of local annual CO₂ emissions of 2,200,200 tons by 2020.
- That is, **35% lower** with respect to those in the reference year 2009. The 600,000 tons of CO₂ emissions reduction will be the result of **2 millions MWh planned energy savings and 90 thousands of MWh energy to be produced by renewable energy**.



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SEAPs monitoring in Cyprus 2009-2014



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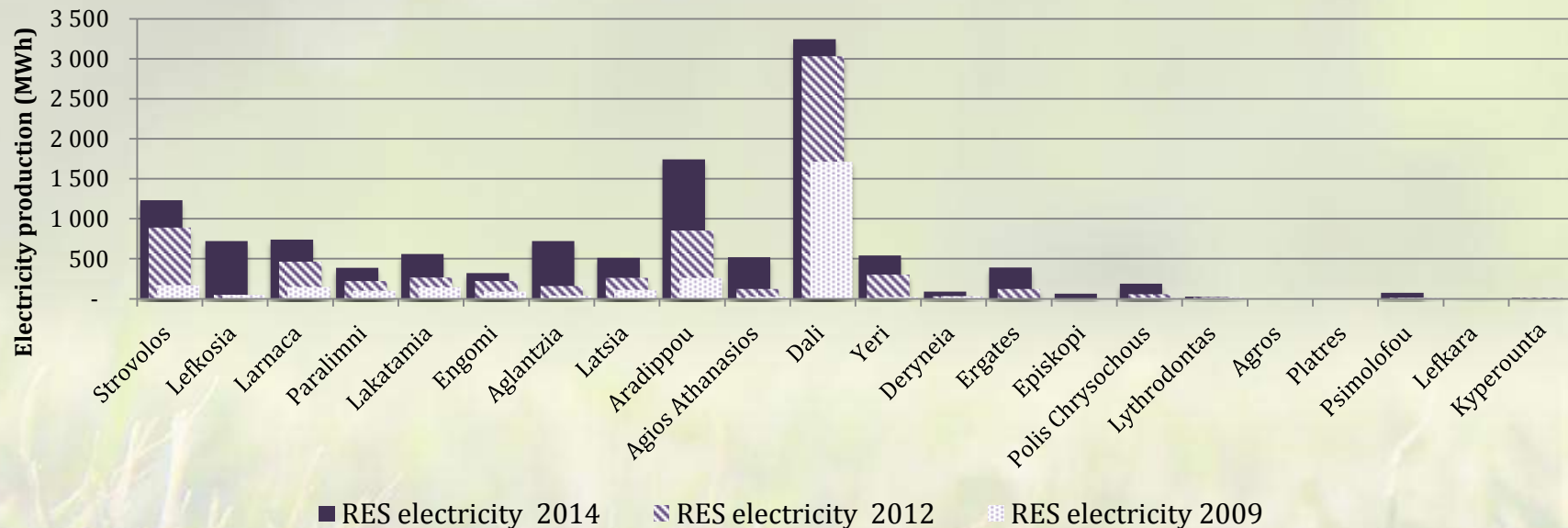


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SEAPs monitoring in Cyprus 2009-2014

Electricity production from Renewable Energy Sources 2009, 2012 and 2014



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Conclusions

The reduction of the equivalent CO₂ emissions during the period 2009-2014 it is a result of the local actions but also the effect of other externalities such as the current financial crisis and the business activities *downturn*. It is estimated that the reduction in energy consumption is the result of the following:

- Awareness campaigns, educational activities and training
- The introduction of the new public transportations systems
- The promotion of sustainable transport
- The promotion of energy efficiency technics and renewable energy sources for households
- The financial crisis and energy prices



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