



# Cyprus Local Authorities Towards a Low Carbon Future

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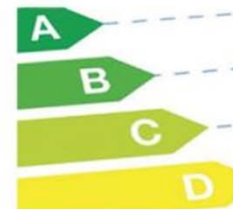
***Nicosia, Cyprus***



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# Presentation Outline



- Introduction
- The Covenant of Mayors, Mayors Adapt and the Pact of Islands
- Development of Sustainable Energy Action Plans (SEAP)
- Sustainable Energy Action Plans in Cyprus
  - Data collection, Modelling, Actions, Identified Best practices, Barriers to the successful implementation of SEAPs
- Conclusions



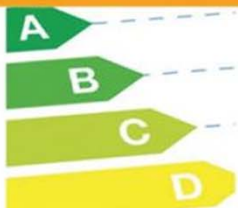
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# Introduction



- 3.5% of the European citizens live in islands and this percentage increases significantly during the high tourism season
- 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; and
  - to help enhance local economic development, job creation and reverse the decline of the local population.
- European island local authorities, including local authorities from Cyprus, have made the commitment to signing either the “Pact of Islands” or the “Covenant of Mayors”, or both and working together with the European Commission, energy experts and financial institutions, to identify bankable projects with the view to implementing sustainable energy actions in their territory.



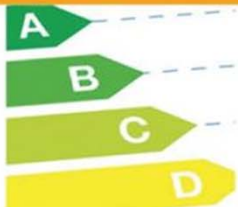
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# Introduction



- Cyprus local authorities, in order to translate their political commitment into concrete measures and projects, notably undertake to prepare a **Baseline Emission Inventory** and develop a **Sustainable Energy Action Plan** outlining the key actions they plan to undertake until 2020 and the CO<sub>2</sub> emissions saved by each action.
- Beyond energy savings, the results of their actions are manifold:
  - creation of skilled and stable jobs,
  - healthier environment and quality of life,
  - enhanced economic competitiveness and
  - greater energy independence.



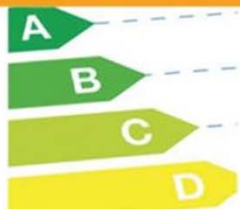
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# The Covenant of Mayors



The Covenant of Mayors is the mainstream European movement involving local and regional authorities, voluntarily committing to increasing energy efficiency and use of renewable energy sources in their territories. By their commitment, through energy efficiency measures and investment in renewable energy Covenant signatories aim to meet and exceed the European Union 20% CO<sub>2</sub> reduction objective by 2020. In February 2014 the number of signatories was about 5,500 in Europe, 21 in Cyprus and the number is constantly increasing.



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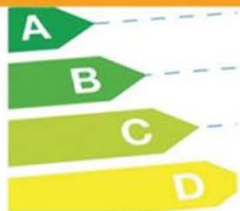


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# Mayors Adapt



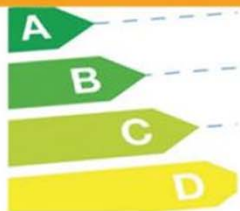
- The Covenant of Mayors approach relies on multi-level governance and bottom-up action as a way of achieving the EU's 2020 CO<sub>2</sub> reduction objective. After the resounding success of the last six years – with close to 6,000 cities committed to local sustainable energy – the Covenant model will now be leveraged by cities to develop local climate adaptation strategies. Indeed, a new initiative, called “**Mayors Adapt**” has just been launched by the Climate Directorate of the European Commission (on 19<sup>th</sup> of March 2014).
- Numerous local authorities have already shown interest in the initiative, including Naples (Italy), Manchester (United Kingdom) and Hasselt (Belgium), all already Covenant Signatories.
- Mayors Adapt supports local adaptation action via a dedicated helpdesk, guidance and various networking opportunities. It provides a platform for sharing knowledge and expertise, offering support and visibility, and facilitating peer-to-peer learning.



THE COVENANT OF MAYORS INITIATIVE  
ON ADAPTATION TO CLIMATE CHANGE



# The Pact of Islands



The ISLE-PACT project is committed to developing Island Sustainable Energy Action Plans and a pipeline of bankable projects with the aim of meeting or exceeding the EU sustainability target of reducing CO<sub>2</sub> emissions by at least 20% by the year 2020. The project's duration was 34 months, 1 February 2010 – 30 November 2012. The recognition of the role of island communities in the mobilisation against global warming by the European Parliament which in its Declaration 37/2011, recognised the Pact of Islands as an EU initiative parallel to the Covenant of Mayors. Currently there are 12 participating groups of European Islands (over 50 islands) involved.



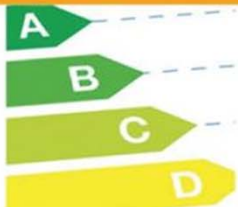
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# Development of Sustainable Energy Action Plans (SEAP)



A **Sustainable Energy Action Plan (SEAP)** is the key document in which the Local Authority outlines how it intends to reach its CO<sub>2</sub> reduction target by 2020. It defines the activities and measures set up to achieve the targets, together with time frames and assigned responsibilities.

**Baseline Emission Inventory (BEI)** is a quantification of the amount of CO<sub>2</sub> emitted due to energy consumption in the territory of a Local Authority within a given period of time. It allows identifying the principal sources of CO<sub>2</sub> emissions and their respective reduction potentials. The BEI and subsequent inventories are essential instruments that allow the local authority to have a clear vision of the priorities for action, to evaluate the impact of the measures and determine the progress towards the objective. It allows maintaining the motivation of all parties involved, as they can see the result of their efforts.



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# Development of Sustainable Energy Action Plans (SEAP)

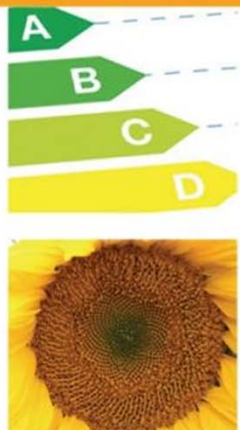


Table 1: Baseline emission inventory in Strovolos Municipality

BASELINE INVENTORY 2009								
Residential	Primary	Secondary	Tertiary	Public lighting	Transports	TOTAL (MWh)	RES electricity	Emission Inventory 2009
MWh	MWh	MWh	MWh	MWh	MWh	MWh	MWh	tonnes CO <sub>2</sub>
337,881	1,358	26,542	231,008	6,809	635,212	1,238,810	171	507,409

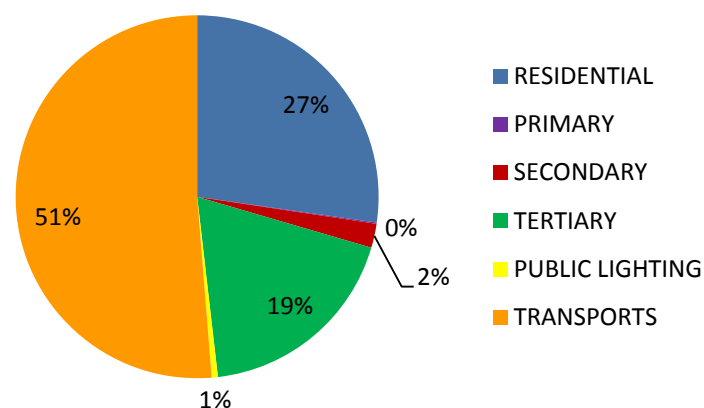


Figure 1: Share of final energy consumption by sector for the year 2009 in Strovolos Municipality



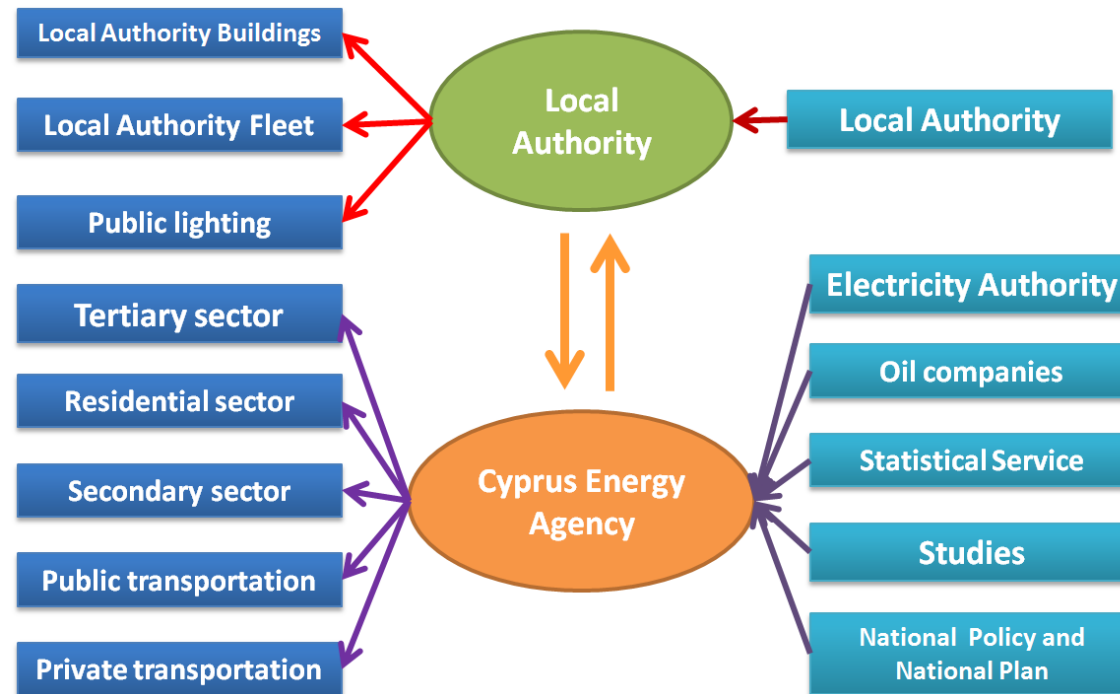
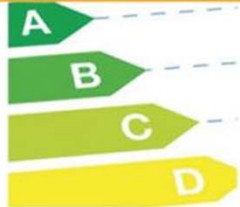
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# Sustainable Energy Action Plans in Cyprus



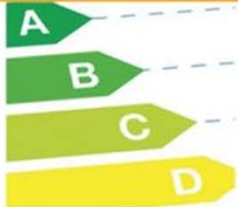
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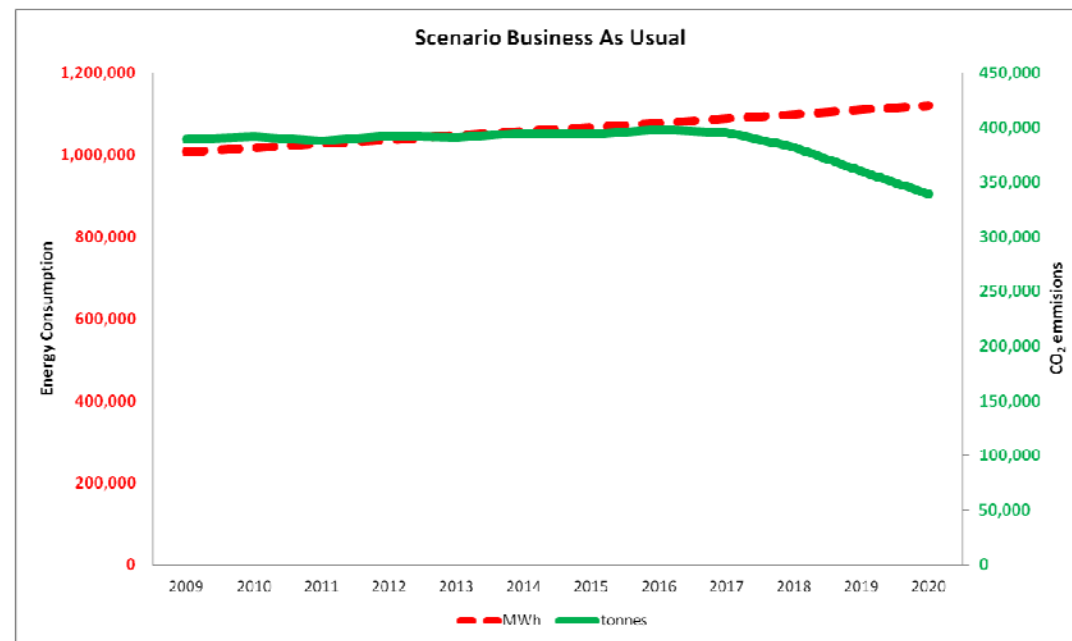


# Sustainable Energy Action Plans in Cyprus



- **Energy Modeling**

In order to forecast the CO<sub>2</sub> emissions for the period 2010 to 2020, the scenario of expected CO<sub>2</sub> emissions evolution was established where it is possible to estimate the future CO<sub>2</sub> 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. The following figure shows the example of Larnaca Municipality.



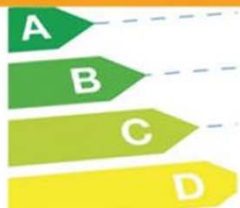
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# Sustainable Energy Action Plans in Cyprus



- **Energy Actions**

The SEAPs contains clear outline of the strategic actions that the local authority intends to take in order to reach its commitments in 2020. It contains:

The long-term strategy and goals until 2020, including clear commitments in areas like buildings equipment and facilities, land-use planning, transport and mobility, public procurement, actions for new/renovated buildings, citizens involvement etc.

Detailed measures for the next 3-5 years which translate the long-term strategy and goals into actions. For each measure/action, a description is provided, the department or person responsible, the timing (start-end, major milestones), the cost estimation and financing/source, the estimated energy saving/increased renewable energy production and the associated estimated CO<sub>2</sub> reduction.



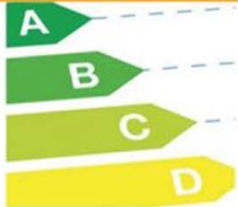
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# Sustainable Energy Action Plans in Cyprus



The main **funding sources** for the implementation of the SEAPs are:

- Local Authorities own contribution
- Establishment of Local green tax
- Savings that occur due to energy savings measures in buildings, vehicles and street lighting in the Local Authority.
- Revenues originating from investments on Renewable Energy technologies.
- Funding of some action by the Grant Scheme of the Ministry of Energy, Commerce, Industry and Tourism for the promotion of Renewable Energy and Energy Conservation
- Potential funding from:
  - the structural funds.
  - the Fund created for the Emissions Trading Scheme.
  - from European programs.
  - Public-Private partnerships
- Projects implementation with the contribution of Energy Services Companies (ESCO)



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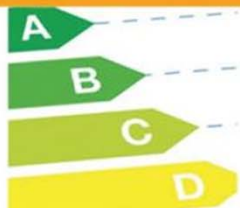


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# Elaboration and progress achieved



Cyprus Energy Agency has already prepared and submitted the SEAPs for 16 Local Authorities in Cyprus (fourteen municipalities and two Communities).

In addition, Six more SEAPs are now under preparation and it is estimated to be finalized by April 2014. Also, Cyprus Energy Agency cooperates with local authorities for SEAPs implementation and monitoring.

	Local Authority	Covenant of Mayors	Pact of Islands	Population	Households
1	Strovolos	✓	✓	67904	25813
2	Larnaca	✓	✓	51468	19649
3	Lakatamia	✓	✓	38345	12519
4	Paralimni	✓	✓	14963	5324
5	Aradippou		✓	19228	5665
6	Aglantzia	✓	✓	20783	8184
7	Agios Athanasios	✓	✓	14357	4789
8	Latsia	✓	✓	16774	6058
9	Dali		✓	10466	3394
10	Yeri		✓	8235	2683
11	Engomi	✓	✓	18010	6601
12	Polis Chrysochous	✓	✓	2018	757
13	Lefkara	✓	✓	762	275
14	Deryneia	✓		5844	2013
15	Lefkosia	✓		55014	22833
16	Platres	✓		239	107
17	Agros	✓		806	268
18	Kyperounta	✓		1516	430
19	Lythrodontas	✓		3043	960
20	Episkopi	✓		3681	1233
21	Ergates		✓	1792	547
22	Psimolofou		✓	1626	504

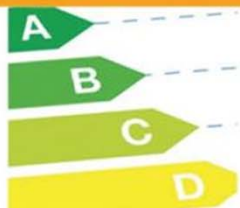


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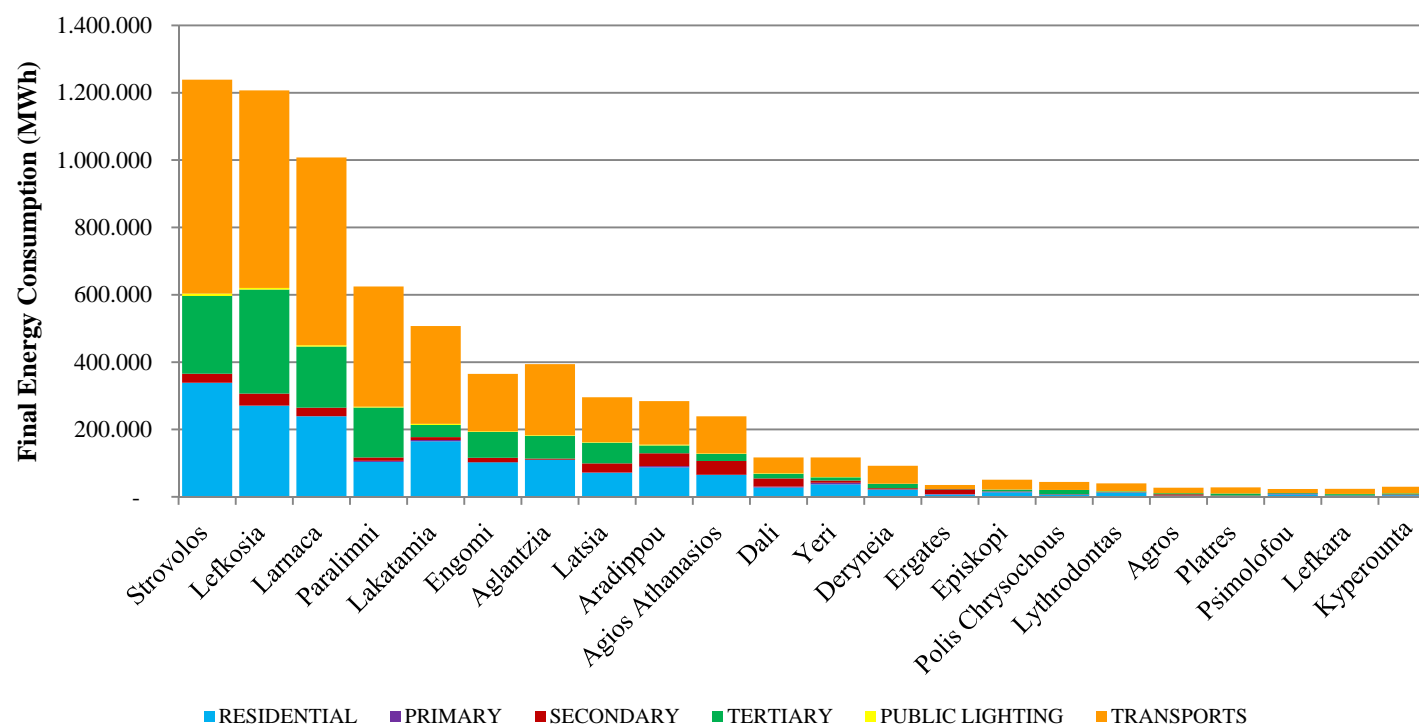


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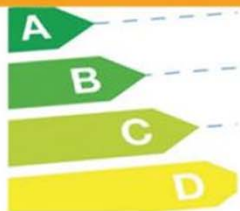
# Results for the period 2009-2012



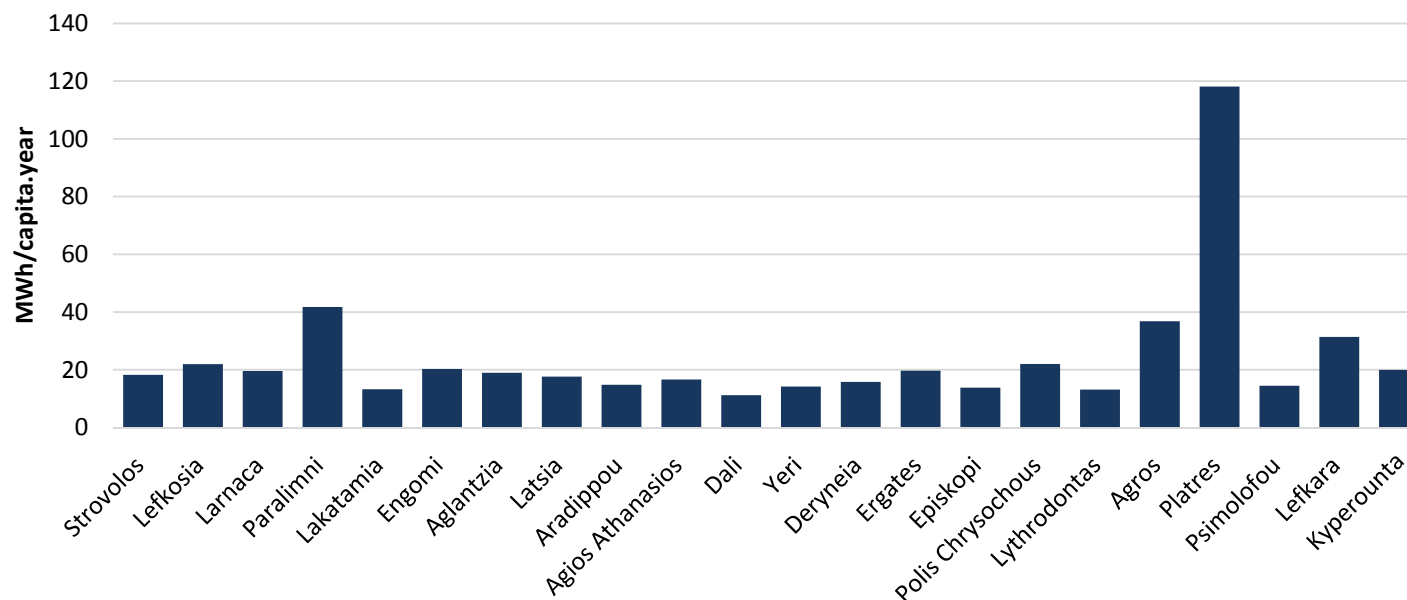
Baseline Energy Inventories (year 2009)



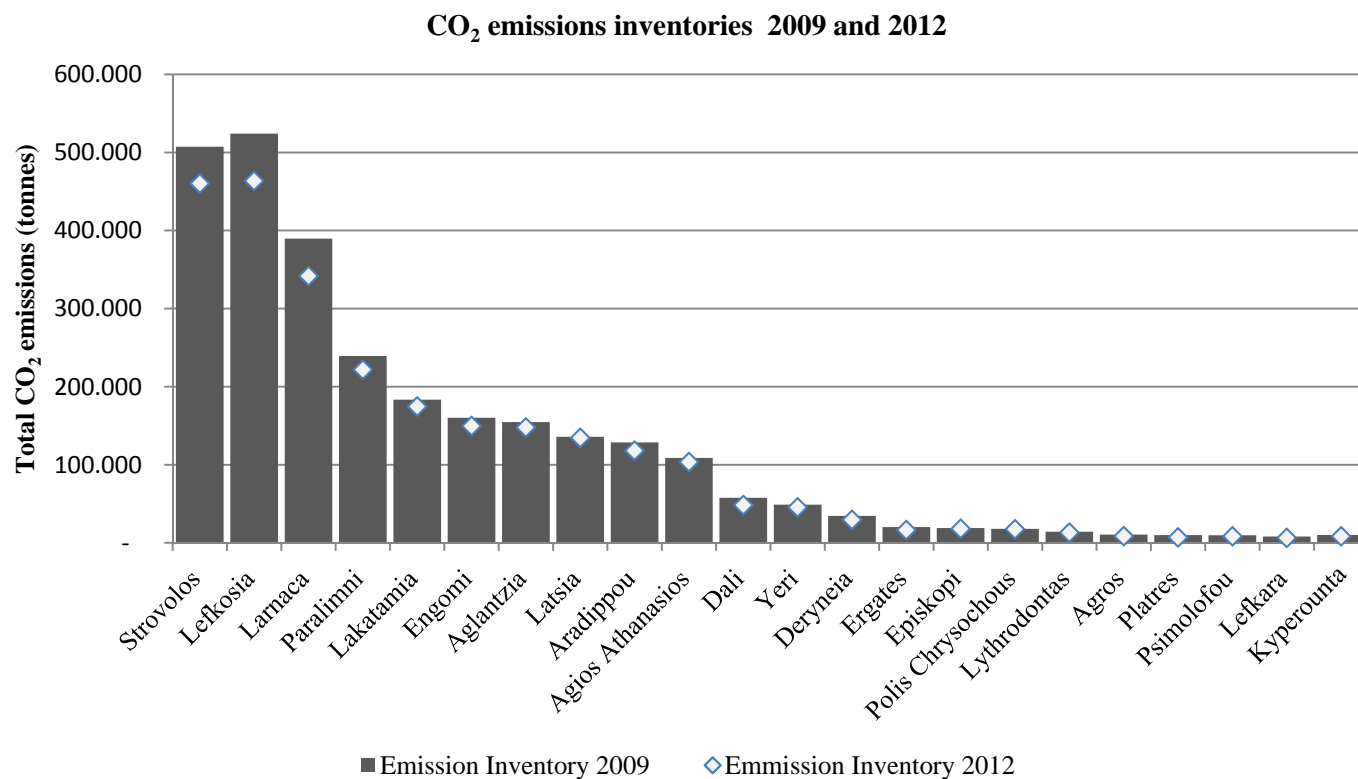
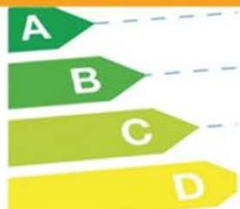
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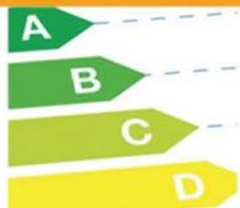
Energy consumption per capita (year 2009)



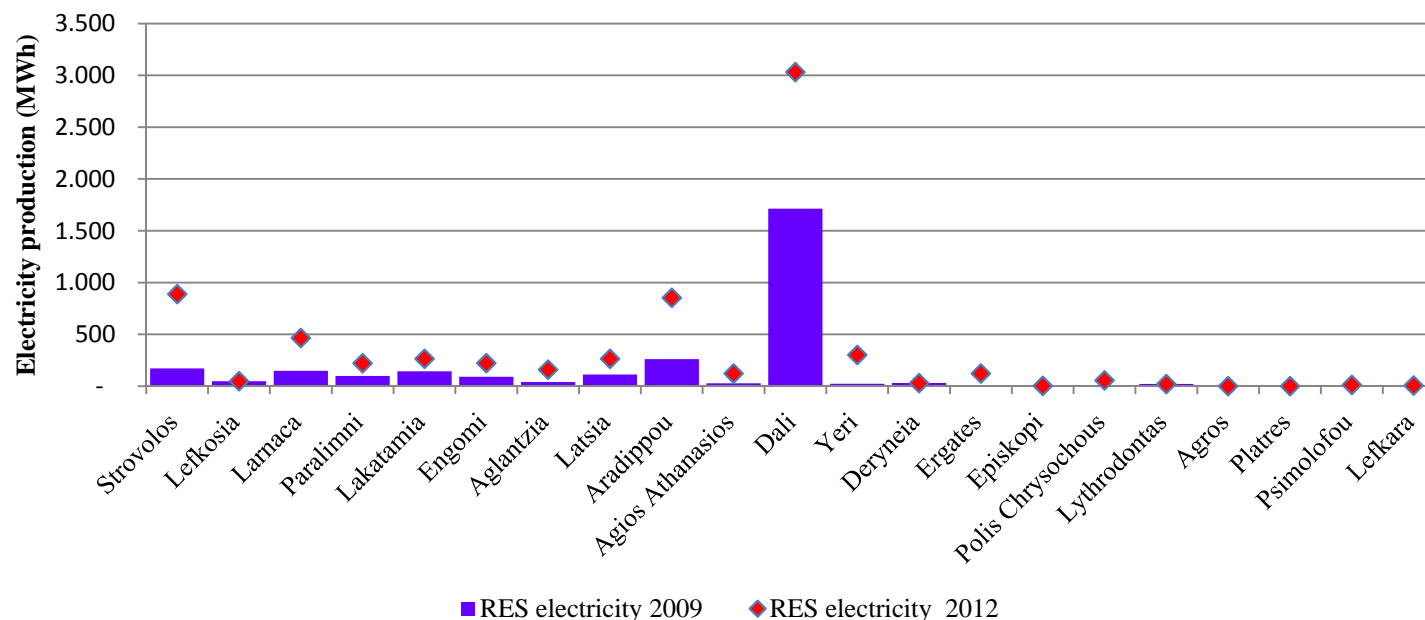
# Results for the period 2009-2012



# Results for the period 2009-2012



Electricity production from Renewable Energy Sources 2009 and 2012

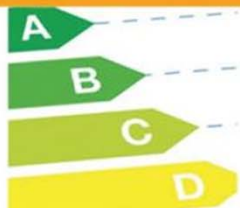


It is estimated that the reduction in energy consumption is the result of the following:

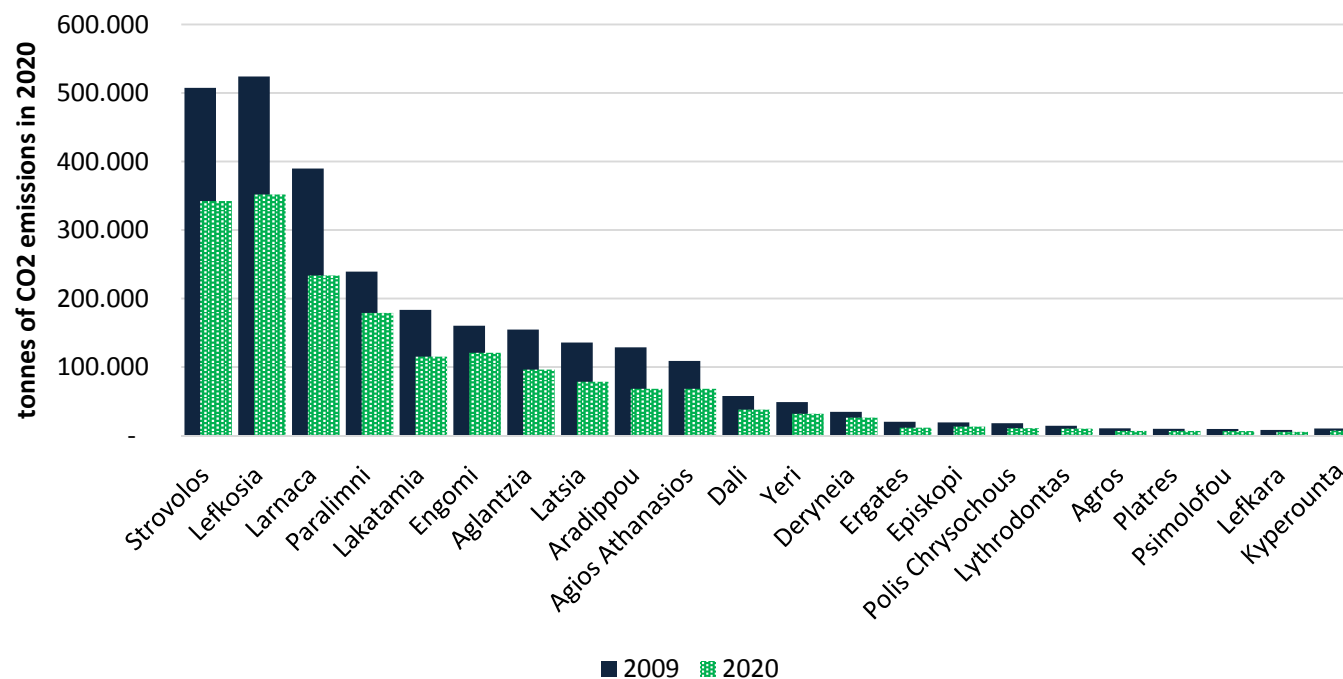
- Awareness campaigns, educational activities and training
- The introduction of the new public transportations systems
- The promotion of sustainable transport
- The promotion of energy efficiency technics and renewable energy sources for households
- The financial crisis and energy prices



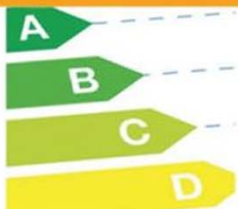
# 2020 Objectives



2020 CO2 reduction objectives



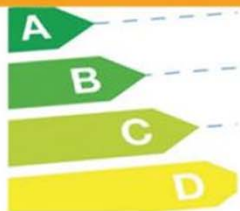
# Identified Best Practices



- Energy Efficiency Public buildings – Strovolos Municipality's Library
- Promotion of bicycle parking places and park-ride in new buildings permits – Larnaca Municipality
- Promotion of Sustainable transport – Lefkosia greater area bike sharing
- Pay as you throw – Aglantzia Municipality



# Barriers to the successful implementation of SEAPs



The main barriers identified to the implementation of SEAPs in Cyprus are:

- the lack of Local Authorities competences.
- the absence of sufficient cooperation between different levels of governance (i.e. National, local).
- the lack of resources and expertise on energy within the Local Authorities.
- local authorities are phasing difficulties to identify and mobilize National and European funds for financing sustainable energy projects.
- the existing limitations for Local Authorities to participate in local investment schemes or to establish a local green tax for funding SEAPs actions or to grant citizens for energy efficiency applications.

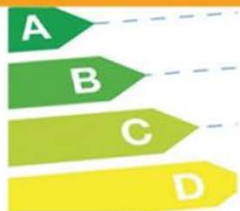


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# Conclusions



- Sustainable Energy Action Plans (SEAPs) have become a powerful tool for Local Authorities.
- Through SEAPs Local Authorities can implement measures in a structured and integrated way, allowing them to systematically monitor their efforts in going beyond national legislation in these fields.
- A SEAP is also an instrument for local authorities to communicate to stakeholders the importance of energy and climate protection, and to encourage citizens and other relevant actors to take a part in the city's ambitions.
- The 22 Sustainable Energy Action Plans can bring **600,000 tons** of CO<sub>2</sub> emissions savings in 2020 and contribute to the National objectives for energy savings, increased share of Renewables and CO<sub>2</sub> savings.
- New skilled and stable jobs creation, energy savings and enhance economic development both for Local Authorities and their citizens.
- The cooperation between different levels of governance and the capacity buildings of personnel within Local Authorities can have a key role to play towards reaching the 20-20-20 EU goals in the area of energy and climate change.



*Thank you!*



*Questions please?*



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