



# Municipalities bundling energy efficiency investments in Athens Metropolitan area

*Seven municipalities, Greece*

## IN A NUTSHELL

*Five municipalities directly involved in the PRODESA project and two replicating ones have created a regional network for bundling energy efficiency projects, pooling financing resources and leveraging private investments. The work of the network has already resulted in 116 building retrofits, 22,000 new street lighting bulbs, and improved capacities for local government staff to implement energy performance contracting.*

## Building a market for energy performance contracting in Greece

Energy Performance Contracting (EPC) allows municipalities to accomplish large-scale energy efficiency or renewable energy projects without the financial resources needed for upfront investment. This financing mechanism offers a high potential to help municipalities of all sizes achieve their decarbonisation targets as part of the Covenant of Mayors. However, few EPC projects have been carried out in Greece so far – especially in the public building sector – since the Energy Service Company (ESCO) market is still at an early stage of development. This is partly due to a lack of available funds and financing products tailored to energy efficiency investments through EPC. Other factors jeopardising the development of EPC projects are:

- Lack of standardised procurement procedures for EPCs
- Unclear budget and accounting rules
- Absence of historic data for energy consumption
- No standardised measurement and verification procedures
- Lack of awareness and capacities in municipalities to be able to use financing mechanisms



Building retrofit in Agios Dimitrios.  
© Municipality of Agios Dimitrios

## 7 MUNICIPALITIES IN METROPOLITAN AREA OF ATHENS, GREECE:

**Alimos:** (Covenant of Mayors signatory 2013, greenhouse gas (GHG) reduction target 22% by 2020 )

**Agios Dimitrios:** (Covenant of Mayors signatory 2010, GHG reduction target 22% by 2020)

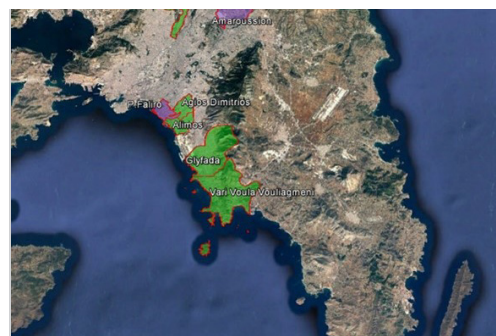
**Glyfada:** (Covenant of Mayors signatory 2014, GHG reduction target 20% by 2020)

**Vari-Voula-Vouliagmeni:** (Covenant of Mayors signatory 2014, GHG reduction target 23% by 2020, 40% by 2030, 82% by 2050)

**Agii Anargiri-Kamatero:** (Covenant of Mayors signatory 2018, GHG reduction target 20% by 2020, 41% by 2030)

**Palaio Faliro:** (CoM Signatory 2010, reduction to be revised)

**Amaroussion:** (CoM Signatory 2011, 20% by 2020)



Map of participating municipalities. © EUDITI

**Population:**

447,601 (2011)

**Area**

100.7 km<sup>2</sup>

## Technical support to facilitate energy investments in municipalities

Launched in 2017, the PRODESA project was set up to overcome barriers to energy performance contracting in Greece. A partnership of seven municipalities in the Metropolitan Area of Athens together with the Centre for Renewable Energy Sources and Saving (CRES) and other technical partners ran the project, funded through the 'Project Development Assistance' instrument of Horizon 2020. Out of these seven, five municipalities have been involved as active implementers, and two as replicators. The five active municipalities received assistance during the project development phase. This phase is the most difficult to finance, given that, due to the economic crisis, resources were allocated to more pressing needs. Investing in energy efficiency project development was ranked as a second priority.

The project partners developed a comparative assessment of economic schemes and guidance on applying innovative financial mechanisms. They were assisted in launching tenders and contract signing and preparing templates of tender documents to support the implementation and replication by the municipalities. These tools were complemented with support for facilitating public-private dialogue between ESCOs, financial institutions, the municipalities, and the national government.

## Bundling energy investments

The role of the project was to facilitate project bundling, make sizeable projects, and pool together complementary financial resources including private funds. The municipalities created eight bundles of five energy efficiency and three streetlighting projects for a total investment of €25.5 million. Each bundle grouped 10 to 35 buildings (with an investment of €1.1-4.4 million each), or 0.85MW-3.2MW of streetlighting capacity (comprising €3.1-5.7 million each).

The financing schemes included a mix of public and private resources specific to each bundle, with EPCs being one of the main pillars, and based on a guaranteed level of energy savings (verified by CRES). EPC financing was complemented by public grants, debt financing, and/or equity.

### Building Renovation

Municipality	No of buildings	Investment (m€)	Financing Scheme
Alimos	10	1.99	Guaranteed Savings EPC financed by public grant and equity
Agios Dimitrios	35	2.43	100% financed by ESCO through EPC
Glyfada	26	1.1	not yet completed
Vari Voula Vouliagmeni	28	1.25	100% financed by ESCO through EPC
Agii Anargiri Kamatero	23	4.39	Split into two projects i) €4.3 million with Guaranteed Savings EPC financed by a 12.9% public grant and an 87.1% by ESCO ii) €0.875 million financed by a 72% public grant and 28% equity
<b>Total</b>	<b>135</b>	<b>11.16</b>	



### KEY FIGURES

Improved capacities of **185 local governments** on energy performance contracting

**5** municipalities

**2 + 30** cities learning from the approach

**€20,240,000** total investment by 2022

**116 building retrofits** completed, 135 in total

**22,000** street lighting lampposts

**8 EPC** contracts with ESCOs

### Streetlighting

Municipality	Investment (m€)	Financing Scheme
Alimos	3.09	10-year Guaranteed Savings EPC, 100% paid upon completion against 50% guarantee to be annually released conditional to energy efficiency target
Glyfada	5.7	Under investigation
Agii Anargiri Kamatero	4.71	10-year Guaranteed Savings EPC, 70% paid upon completion and 30% through annual installments
<b>Total</b>	<b>11.16</b>	

## Completed building retrofits and streetlighting investments

Providing tailored support from project development to the implementation stage, PRODESA has contributed to real large-scale projects with energy performance contracting. By 2022, over €20,240,000 of total investment will have resulted in 22,000 street lighting posts installed (16,545 tonnes of CO<sub>2</sub>/year reduction) and 135 building retrofits (7,208 tonnes of CO<sub>2</sub>/year reduction). Energy efficiency interventions result in a 40% reduction of energy consumption, while the remaining load is covered on average 45%-55% by renewable energy generation, resulting in an overall energy improvement of approximately 65%.

## Streetlighting

Municipality	Primary energy savings (MWh/y)	CO <sub>2</sub> reduction (tonne CO <sub>2</sub> /y)
Alimos	11,087	3,781
Glyfada	24,196	8,252
Agii Anargiri Kamatero	13,231	4,512
<b>Total</b>	<b>48,514</b>	<b>16,545</b>

## Building Renovation

Municipality	Primary energy savings (MWh/y)	RES generation (MWh/y)	CO <sub>2</sub> reduction (tonne CO <sub>2</sub> /y)
Alimos	502	211	373
Agios Dimitrios	-	3,561	3,522
Glyfada	2,662	600	1,377
Vari Voula Vouliagmeni	104	1,040	1,059
Agii Anargiri Kamatero	1,075	677	877
<b>Total</b>	<b>4,343</b>	<b>6,089</b>	<b>7,208</b>

## Replicating and building capacities through a network of municipalities

PRODESA has enabled the standardisation of the steps and procedures for bundling energy investments and mixing private and public funds among local authorities in Greece.

One of the lessons learned when mixing different funding sources is that particular attention needs to be placed on the terms and requirements of each financing entity. This calls for early identification and planning of financial conditions, such as subsidy caps, grants allocated to specific interventions, and technical requirements, like different energy efficiency evaluation methods. In order to do so, it is essential to equip local governments with the right skills and capacities. Cooperation between the five municipalities has been crucial for peer-learning, as some of the more active departments could share their expertise with the others. The project also established a replication network to facilitate the spread of EPCs and innovative financial schemes to all municipalities in Greece. Currently, 30 municipalities are receiving support through webinars and coaching in project development, as well as preparation of project pipelines to be implemented with EPC.



### FINANCING THE PROJECT

- + **Financing source(s):** 'Project Development Assistance' instrument of H2020
- + **Total amount in Pivka:** €1,058,760 of Project Development Assistance and €20,240,000 of total investment

### USEFUL LINKS

- Project website (in English): <https://www.prodesa.eu/?lang=en>
- Other links: <https://eurocrowd.org/prodesa-energy-efficiency-project-development-for-south-attica>



### CONTACT

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