



European Construction Sector Observatory

Policy measure fact sheet

GREECE

Saving Energy at Home Programme

Thematic Objectives 1 & 3

February 2017

Implementing body:	Ministry of the Environment, Energy and Climate Change (YPEKA)
Key features & objectives:	Government grant and loan scheme to support and incentivise energy efficient upgrades to residential properties.
Implementation date:	01/02/2011 – 31/12/2015
Targeted beneficiaries:	Homeowners– natural persons only.
Targeted sub-sectors:	Residential construction and specialised trades, residential heating and cooling.
Budget (EUR):	396 million – Initial budget 548 million – Budget amendment

In a nutshell

Greece has 3.7 million high energy consuming buildings. 60% of all buildings in Greece were constructed prior to 1980 and prior to the national regulation on insulation coming into force. 27% of those buildings have a low energy efficiency category H (173% energy consumption in relation to the reference building)¹.

Buildings in Greece account for approximately 36% of the country's total energy consumption. Old age, poor maintenance, and a lack of energy efficient improvements and relevant legislation are the main reasons why Greek buildings consume so much energy. The principal problems in Greek buildings relate to:

- Partial or total lack of heat insulation;
- Outdated technology windows/doors (frames/single glazing);
- Lack of sun protection on southern and western sides;
- Inadequate use of Greece's high solar potential;
- Inadequate maintenance of heating / air conditioning systems, resulting in poor performance².

Energy consumption in buildings is also influenced by the behaviour of occupants. Many lack information and knowledge on how to use and manage their energy usage more efficiently. This often results in wasteful energy usage, such as the use of inefficient appliances, poorly maintained heating systems or the installation of individual air conditioning systems without contracting a professional assessment that takes a whole building

view and provides considered energy saving options.

Recognising the energy challenge the country faces and the need to adopt the European directives, the Ministry of the Environment, Energy and Climate Change (YPEKA) developed a set of financial incentives, with co-financing from the European Union, to support energy saving home improvements.

The Saving Energy at Home Programme offered incentives to homeowners to encourage them to carry out energy efficient improvements to their properties. The scheme is a priority measure of the National Energy Efficiency Action Plan for Greece 2014³ and is designed to reduce energy consumption in residential buildings and to contribute to the achievement of Greece's energy and environmental targets.

The programme has been broadly successful. It succeeded in allocating 95% of its EUR 548 million funding pot to support just over 50,000 approved applications – 20,000 short of the initial target of 70,000 applicants. Almost 45,000 projects have been completed or are in progress to date, with an average energy saving of 43%, which surpasses the initial 30% target. On the other hand, the programme has faced many challenges such as complex bureaucracy and administration, legacy issues, and the public's aversion to bank finance. These challenges stress the importance of further improvements looking forward.

General description

The 'Saving Energy at Home' Programme (alternatively referred to as the 'Energy Efficiency in Household Buildings' Programme) is a grant and loan programme that ran between 2011 and 2015 to encourage and support increased energy efficiency in residential buildings. The programme aimed to achieve an average saving of 163.9 kWh/m² in primary energy consumption in residential buildings, with an average surface area of 106.7m². Once completed, it was expected that the programme would help:

- 70,000 eligible homeowners to carry out energy saving home improvements;
- Achieve approximately 1 billion kWh per year in energy

- savings;
- Increase public awareness of efficient and sustainable energy use and environmental protection;
- Improve living conditions in buildings and cities, and the daily lives of citizens.

The programme was open to applications from homeowners (apartments, apartment blocks and houses) that wished to carry out energy saving renovation work on their property. Only natural persons with the right of (full or bare) ownership or usufruct to an eligible residence and that meet specific income-related criteria were able to apply for financial support. Successful applicants received a combination of both grant and loan funding. Three funding options were available, depending on the financial situation of the applicant, as shown in Table 1. The maximum eligible funding per applicant was EUR 15,000.

Table 1: Funding options

	Funding Options (Thousand EUR)		
	A1	A2	B
Personal Income	≤12k	12k – 40k	40k – 60k
Family Income	≤20k	20k – 60k	60k – 80k
Grant	70%	35%	15%
Loan⁴	30%	65%	85%

Source: Ministry of Environment and Energy, 2015⁵

The amount of funding available was dependent on the type of energy saving home improvement works being implemented, as shown in Table 2.

Table 2: Energy saving improvements eligible for funding

Eligible categories/subcategories	Funding (EUR)
1. Replacement of existing frames (windows, doors) and shading systems	
A. Sliding or successive sliding frames	250/m ²
B. Opening frames	280/m ²
C. Only glazing	75/m ²
D. Outdoor shading systems and shutters	Up to 2,500 / household
2. Installation of heat insulation (wall, roof and “pilots”)	
A. Exterior roof & ground floor insulation	40/m ²
B. Exterior wall insulation	50/m ²
C. Internal insulation	25/m ²
3. Upgrading the existing burner/boiler of the central heating installation <i>(per household)</i>	
A. Central heating system	Up to 11,000
B. Individual burner/boiler	Up to 5,000
C. Automated central heating systems	Up to 600
D. Renewable energy systems	Up to 15,000
E. Solar energy systems for hot water	Up to 1,300

Source: Ministry of Environment and Energy, 2015⁶

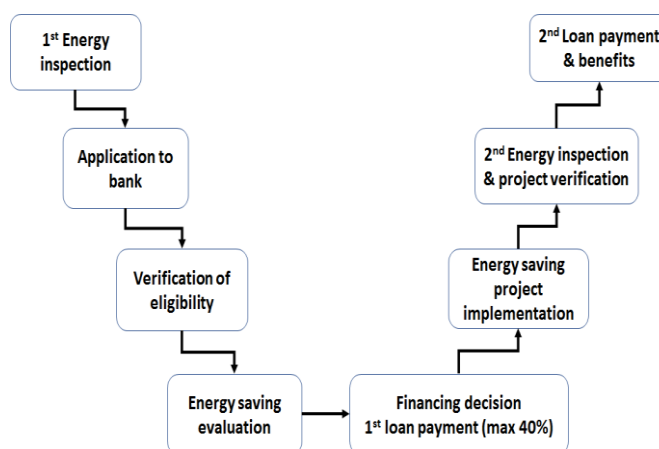
Following satisfaction of the relevant income criteria, applicants were required to engage an energy inspection (provided by the

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Hellenic Energy Inspectorate) and provide an Energy Performance Certificate (EPC) for their property, both before and after implementation of energy saving measures. In the first instance, they establish a starting point and provide an energy saving improvement proposal and a cost benefit analysis. In the second instance, they verify implementation and prove that the energy performance rating had been improved by two categories (i.e.: a flat rated as H should be E after the implementation of measures)⁷. According to market data, the cost of an EPC for an apartment or house typically ranges from EUR 0.5 to EUR 1.5 per m². The average cost of an EPC for an apartment is about EUR 100⁸.

The application and funding process, as shown in Figure 1, then required homeowners to submit their application to one of four banks –National Bank of Greece, Eurobank, Alpha Bank or Piraeus Bank. It was then the responsibility of the banks to reach a decision on financing for each application based on their eligibility and the potential for energy savings. Funding was then delivered in two phases – 40% initial payment and 60% once the energy savings have been verified by the final EPC.

Figure 1: SEH application & funding process



Source: Ministry of Environment and Energy⁹

To be eligible for funding, a property was required to:

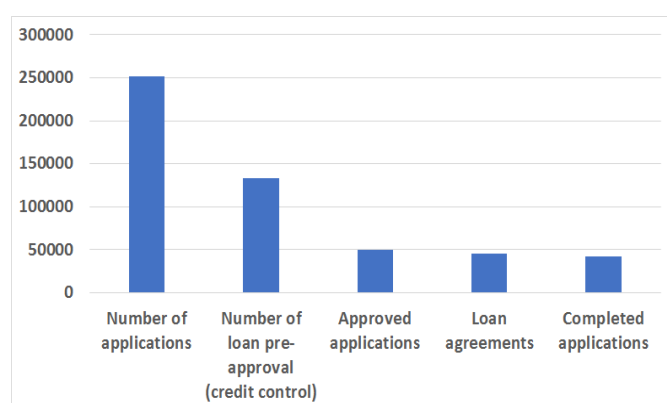
- Be located in areas with an average zone price¹⁰ lower than or equal to EUR 2,100 per m², as set on 31.12.2009;
- Have a building permit or relevant documentation proving that the building is legal;
- Have been classified, according to the Energy Performance Certificate (EPC), as lower than or equal to class D;
- Have not been marked for demolition.

Achieved or expected results

The Ministry of Environment and Energy produced a report¹¹ on the results of the Saving Energy at Home Programme. By October 2015, a total of 251,570 applications had been made, of which 80% were for A1 category funding (70% grant + 30% loan), 19% were for A2 category funding (35% grant + 65% loan), and 1% were for B category funding (15% grant + 85% loan).

As shown in Figure 2, there is a downward curve from the number of initial applications through to the number of completed applications. Compared to the number of applications received by October 2015 (251,570), there were 47% fewer loan pre-approvals (133,628), 80% fewer approved applications (50,175), 82% fewer loan agreements (45,558) and 83% fewer completed applications (42,780). The low creditworthiness of applicants, risk averse financial institutions, a general reluctance in society to trust banks, and the lower than expected attractiveness of this financial support scheme are the main reasons that explain the low number of completed applications compared to the number of initial applications.

Figure 2: Saving energy at home programme results (Oct 2015)



Source: Ministry of Environment and Energy, 2015¹²

The original programme budget was EUR 396 million, which was made up of a revolving loan fund of EUR 241 million and a grant fund of EUR 155 million. An additional EUR 152 million in grant funding was then allocated to the programme, increasing the grant fund to EUR 307 million and the total programme budget to EUR 548 million.

Figure 3: Saving energy at home programme expenditure

Saving Energy at Home Expenditure	Number	Expenditure (Million Euro)					
		Eligible budget	Loans	Expenses	Grants	Energy certificate costs	Consultant costs
Approvals	50,041	521.5	230.2	6.7	291.2	24.8	11.9
Projects in progress / downpayments	1,639		6.1				
Finalised projects / disbursements	43,086	444	188.5		246.5	20.5	8.5
Fund contribution (1/3)			65				
Subsidies (interest rate + expenses)			26.4				

Source: Ministry of Environment and Energy, 2015¹³

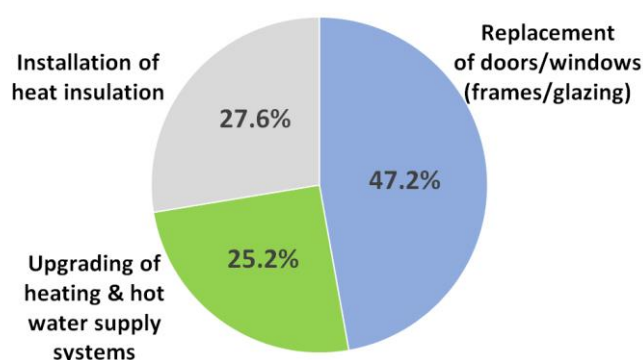
The results report shows that approved total funding (EUR 521.5 million) was slightly below the total available funding (EUR 548 million), with 56% to 44% split between grant and loan approvals.

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Figure 3 shows that 89% of approved projects in October 2015 were either in progress (3%) or had been completed (86%). The average grant approved was EUR 5,819 and the average loan approved was EUR 4,600. By comparison, the disbursement of loans and grants to completed projects equates to a loan average of EUR 4,375 and a grant average of EUR 5,721. There is a slight discrepancy between the Ministry's figures for approved applications shown in Figures 2 and 3. The slightly lower number shown in Figure 3 is likely the result of some projects experiencing delays or not going ahead.

Evaluations of approved applications show that 85% of projects involved the replacement of doors/windows, 75% involved upgrades to heating and hot water systems, and 55% involved the installation of heat insulation. Nearly half of the programme's budget was allocated to approved projects to replace doors and windows, with the remainder broadly split between heat insulation and heating systems projects, as shown in Figure 4.

Figure 4: Budget allocation to approved applications



Source: Ministry of Environment and Energy, 2015¹⁴

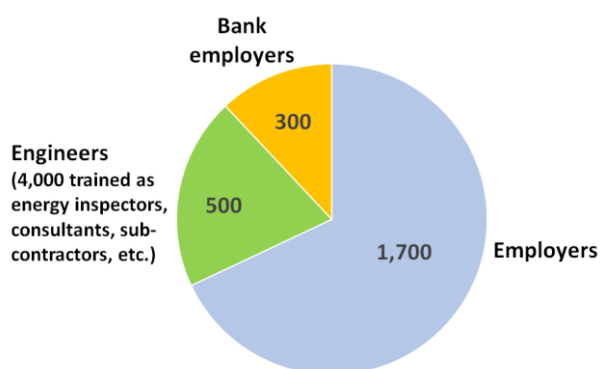
Energy Performance Certificates issued in conjunction with the programme confirm the poor energy efficiency of residential buildings in Greece. As a percentage of completed applications, 9.2% were certified at energy label D, 14.9% at label E, 17.5% at label F and 58.5% at label G. Nearly two thirds of the buildings assessed were certified with the least energy efficient label.

Based on the information provided by the energy inspections and the EPCs carried out on 42,780 completed applications, the programme has achieved a 43% reduction in primary energy consumption in the residential buildings it has supported. This equates to an average annual primary energy saving of 164 kWh/m² and an estimated total annual energy saving 712 million kWh.

Overall, the programme has proven to be relatively successful. A key factor in its success was the provision of 40% advance funding. This meant that applicants were not required to pay upfront for improvement works in their properties. This was an important condition as most could probably not have afforded to do so¹⁵. Funded home improvements have helped recipients to

achieve an average annual saving of EUR 1,200 in household energy costs. The scheme has also helped to create over 2,500 new jobs per year, according to the Ministry, as shown in Figure 5.

Figure 5: New job creation (per year)



Source: Ministry of Environment and Energy, 2015¹⁶

The programme is contributing to the implementation of objectives 1 and 3 of the European Construction 2020 Action Plan¹⁷. It is helping to stimulate favourable investment conditions (Objective 1) by providing and promoting the use of financial instruments and measures to encourage and support renovation projects to improve building energy performance. It is also helping to improve resource efficiency, environmental performance and business opportunities (objective 3) by promoting, encouraging and supporting the uptake of innovative energy saving solutions and best practices.

Perspectives and lessons learned

From a **government perspective**, the Ministry of Environment and Energy consider the scheme to have been successful. It attracted over three times the number of applications than it had envisaged it would fund; however, the final number of completed applications (42,780) actually fell short of the planned 70,000. Nonetheless, 95% of the total programme budget was allocated to those approved applications.

The Ministry also highlights a number of problems that were encountered during the scheme's planning and operational phases. To begin with, the consultations held with numerous stakeholders in the planning phase were too lengthy. Consultations were held with the European Commission, the Managing Authority for Operational Programme 'Competitiveness and Entrepreneurship', financial institutions, ETEAN (Hellenic Fund for Entrepreneurship and Development), the construction industry and building regulation authorities. It is clear that there is a need to streamline the consultation process, when developing schemes like this.

Other challenges that the government has encountered relate to issues of complexity. Implementing European Energy Efficiency Directives and the Building Saving Energy at Home Programme has been a challenge and has required the setup of complex

legislative and administrative frameworks, not least to ensure the responsible use of EC funding. Implementation was more complex because of long standing issues in the Greek construction sector, such as the lack of a legislative framework prior to 1955 and, prior to 1980, the lack of regulations on insulation and the fragmented processes for issuing and managing building permits across different authorities. It was also important and challenging to implement a complex scheme while aiming at providing simplicity for those using it.

From a **private sector perspective**, one of the scheme's four loan providers, Piraeus Bank, says that the majority of their private customers for 'green loans' were sourced through the Saving Energy at Home Programme. According to their Annual Report for 2015¹⁸, the bank provided loans to over 13,000 applicants via the scheme, in spite of the difficult economic climate, with total lending reaching approximately EUR 58 million. Most of the loan agreements were for homeowners on the lower income scale, with a personal income below EUR 12,000 and a family income below EUR 20,000. The Bank says that it had confirmed the eligibility of 30,274 applications by the end of 2015 and that, according to data published by the scheme, the Bank had accounted for 29% of a total of 45,000 application approvals and completions.

From a **homeowners' perspective**, the main issues were related to financial viability, access to finance and a general societal mistrust of banks and financial instruments. Following the economic crisis in 2008, access to finance in Greece has been extremely difficult, due to a general lack of funds, the low creditworthiness of citizens and the reluctance of banks to expose themselves to lending risks. On a societal level, there is also a general lack of public confidence and trust in financial schemes that involve bank financing. Viewed together, these reasons provide an explanation for the low application completion rate, compared to the number of applications initially received. It also provides an explanation for the low uptake of funding options A2 and B, which offered a higher percentage of bank loan funding, compared to option A1.

Endnotes

- ¹ Ministry of Environment and Energy, The Greek Case: 'Saving Energy at Home' Programme, Oct 2015:
<http://www.esd-ca.eu/private-area/plenary-meetings/6th-ca-eed-luxembourg-october-2015/ct1-documents/saving-energy-at-home-greece>
- ² Stotis Dionysios, Internal Report: Energy and buildings in Greece (not available online), the Energy Efficiency at Buildings Programme in Greece.
Home page: <http://exoikonomisi.ypeka.gr/>
- ³ National Energy Efficiency Action Plan (NEEAP) for Greece, Dec 2014:
https://ec.europa.eu/energy/sites/ener/files/documents/EL_NEEA_P_en%20version.pdf
- ⁴ Loans offered at 0% interest (100% interest subsidy until 31 Dec 2015).
- ⁵ Ministry of Environment and Energy, The Greek Case: 'Saving Energy at Home' Programme, Oct 2015:
<http://www.esd-ca.eu/private-area/plenary-meetings/6th-ca-eed-luxembourg-october-2015/ct1-documents/saving-energy-at-home-greece>
- ⁶ Ministry of Environment and Energy, The Greek Case: 'Saving Energy at Home' Programme, Oct 2015:
<http://www.esd-ca.eu/private-area/plenary-meetings/6th-ca-eed-luxembourg-october-2015/ct1-documents/saving-energy-at-home-greece>
- ⁷ G. Markogiannakis, G. Giannakidis, L. Lampropoulou, Centre for Renewable Energy Sources and Savings (CRES), Implementation of the EPBD in Greece, Status in November 2010:
http://www.epbd-ca.org/Medias/Pdf/country_reports_14-04-2011/Greece.pdf
- ⁸ G. Markogiannakis, G. Giannakidis, Centre for Renewable Energy Sources and Savings (CRES), Implementation of the EPBD in Greece, Status in December 2014:
<http://www.buildup.eu/sites/default/files/content/ca3-2016-national-greece-web.pdf>
- ⁹ Ministry of Environment and Energy, The Greek Case: 'Saving Energy at Home' Programme, Oct 2015:
<http://www.esd-ca.eu/private-area/plenary-meetings/6th-ca-eed-luxembourg-october-2015/ct1-documents/saving-energy-at-home-greece>
- ¹⁰ Zone Price as shown on the Single Real Estate Fee (ETAK) or the electricity bill of the Public Power Corporation (ΔΕΗ) or other provider. Where supporting documentation indicates that no zone price has been set, in accordance with the objective values of the Ministry of Finance in the area where the property is located (e.g. in areas not included in town plans or settlement boundaries), the minimum zone price applicable in the area of the first level Local Authorities will be taken into account or, if no zone price has been set in this area, the minimum zone price applicable in the Prefecture where the property is located.
- ¹¹ Ministry of Environment and Energy, The Greek Case: 'Saving Energy at Home' Programme, Oct 2015:
<http://www.esd-ca.eu/private-area/plenary-meetings/6th-ca-eed-luxembourg-october-2015/ct1-documents/saving-energy-at-home-greece>
- ¹² Ibid
- ¹³ Ibid
- ¹⁴ Ibid
- ¹⁵ Ibid
- ¹⁶ Ibid
- ¹⁷ European Commission, Construction 2020 Action Plan, 2012:
<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2012:0433:FIN:EN:PDF>
- ¹⁸ Piraeus Bank, Annual Report 2015:
<http://www.piraeusbankgroup.com/en/investors/financials/annual-reports>