
# Public Procurement of Energy Saving Technologies in Europe

## (PROST)

## Report on the Country Study for Greece:

## Task 2a – Current Public Sector Purchasing, Building, and Replacement Practices

## Task 4b – PICO Feasibility Study

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# 1 Executive Summary

## 1.1 Energy Efficiency in Current Public Sector Purchasing, Building, and Replacement Practices

The Greek government has accepted as a realistic objective for its national programme the restriction of the total increase in CO2 emissions. After the Kyoto commitment of December 1997, the European Union Council of Ministers agreed on 17 June 1998 on the Burden-Sharing Agreement towards achieving the 8% European Union commitment to reduce emissions. In this context, Greece is allowed to increase its emissions by 25% for the 2008-2012 period over the 1990 levels.

The Action Plan "Energy 2001 is the main action taken to comply with the European Directive on reducing carbon dioxide emissions through building energy efficiency programmes (Directive 93/76/EC). The Action Plan also stresses the use of renewable energy sources as a basic prerequisite for sustainable development. The measures anticipated are combined with institutional, administrative and economic incentives, especially in the retrofitting of existing buildings. For public buildings and buildings of the broader public sector measures for the reduction of energy consumption for space heating, cooling and lighting, through insulation improvements, installation of active solar systems, etc. are established. This also involves the mandatory establishment of bodies responsible for energy management, energy audits and studies, etc.

The Greek state, including armed forces, is the largest buyer of all kinds of goods, services and projects. From every day use products, i.e. detergents and food stuffs to office equipment, high-technology products and projects like ports, tunnels and hospitals.

## 1.2 Public Internal Performance Contracting (PICO)

The size of yearly energy bills of Greek public administration building pools together with the big potential for energy savings with proven energy technologies of relatively low overall pay-back times, enhance the option of TPF/EPC. So the Greek government focuses on the TPF/EPC mechanism in the public sector, and so the PICO idea seem not to be very important for Greece. It is stressed that the tight financial conditions of the public sector make it difficult to set up a relevant revolving fund.

# 2 General Information on the Political, Legal, and Economic Framework for Energy-Efficient Public Purchasing

## 2.1 National Targets for Energy Efficiency and/or Climate Protection in the Public Sector

[1]Greece signed the UN Framework Convention in June 1992 and ratified it in April 1994 (Law 2205 on the Ratification of the United Nations Framework Convention on Climate Change, Gazette A/60/15.4.94). The first National Communication to the United Nations Framework Convention on Climate Change (UNFCCC) entitled Climate Change. The Greek Action Plan for the Abatement of CO2 and other Greenhouse Gas Emissions was issued in February 1995.

The Greek government has accepted as a realistic objective for its national programme the restriction of the total increase in CO2 emissions during the 1990-2000 period to 15% +/- 3% (or 12.4 million tonnes). The margin of 3% is to allow for unpredictable domestic or international developments and relevant EU policy actions. The EU community policy on climate change agreed by the European Council of Ministers in March 1997 allows a 30% increase to Greek greenhouse gas emissions (CO2, CH4 and N2O) over the period 1990-2010.

After the Kyoto commitment of December 1997, the European Union Council of Ministers agreed on 17 June 1998 on the Burden-Sharing Agreement towards achieving the 8% European Union commitment to reduce emissions. In this context, Greece is allowed to increase its emissions by 25% for the 2008-2012 period over the 1990 levels.

The second National Communication to the United Nations Framework Convention on Climate Change: Review of the Greek National Action Plan for the Abatement of CO2 and other Greenhouse Gases Emissions was issued in June 1997 under the responsibility of the Ministry for the Environment, Physical Planning and Public Works. It provides a full account of the progress in implementing national policies and measures included or resulting from the National Action Plan.

## 2.2 Policy Programmes on Energy Efficiency in Public Institutions

[2]The **Action Plan "Energy 2001** is the main action taken to comply with the European Directive on reducing carbon dioxide emissions through building energy efficiency programmes (Directive 93/76/EC). Legislation supporting the programme has not yet been

[1] Source: IEA Energy Efficiency Policies 2000, 2001; 2002 (http://www.iea.org/pubs/newslett/eneeff/GR.PDF)
[2] Source: IEA Energy Efficiency Policies 2000, 2001; 2002 (http://www.iea.org/pubs/newslett/eneeff/GR.PDF)

entirely completed. A presidential decree is being prepared on the basis of article 6 of Law No.1512/85 on a "Policy of Incentives" for energy savings. The Action Plan also stresses the use of renewable energy sources as a basic prerequisite for sustainable development. The measures anticipated are combined with institutional, administrative and economic incentives, especially in the retrofitting of existing buildings.

**New buildings**: A mandatory study on the energy performance of every new building is required in accordance with a number of specifications. The study will be combined with the issue of an environmental-energy identity card, the latter forming a necessary document during the licence procedure or for selling, purchasing or renting the building. Inspection of these provisions will be guaranteed by the procedure of the energy-environmental labelling of buildings: **every** new building will be placed in a specific performance category, according to the study carried out and the results of on-site measurements and controls.

**Existing buildings**:

- Residential dwellings: reduction of energy losses through interventions concerning the building's components, installation of passive solar systems for space heating, installation of active solar systems for hot water purposes, space heating and cooling, interventions concerning the improvement of buildings' insulation.
- **Public buildings and buildings of the broader public sector**: Measures for the reduction of energy consumption for space heating, cooling and lighting, through insulation improvements, installation of active solar systems, etc. This involves the mandatory establishment of bodies responsible for energy management, energy audits and studies, etc.

Government and the public sector will be allowed to make use of financing mechanisms which make capital depreciation dependent on achieved savings in energy, such as **Third Party Financing or Financial Leasing**, etc. to facilitate the implementation of large-scale energy efficiency investments.

## 2.3 Co-operative Purchasing by Public Institutions

[3]The Greek state, including armed forces, is the largest buyer of all kinds of goods, services and projects. From every day use products, i.e. detergents and food stuffs to office equipment, high-technology products and projects like ports, tunnels and hospitals.

The procurement and project tenders of the various ministries are handled through the Trade Department, while the procurement of the large state dependent organisations and services (e.g. Public Power Corporation, railways, clean and waste water companies, Hellenic Petroleum, Civil Aviation, etc.) are handled directly.

[3] Source: http://www.dutchembassy.gr/commercialaffairs_tendernews_gb.htm

## 2.4 Energy Management in Public Institutions

By mid-1999, all government and public sector buildings should have organised Energy Management Offices (EMO) in charge of planning energy saving measures. Provision has been made for a specific timetable of action; procedures and responsibilities are specified and plans of action are suggested.

## 2.5 Key Statistical Data

### 2.5.1 Energy Data[4]

| DEMAND (Unit: Mtoe) | | | |
|---|---|---|---|
| **FINAL CONSUMPTION BY SECTOR** | **1990** | **1995** | **2000** |
| **Total Final Consumption** | **15.05** | **16.08** | **20.46** |
| Coal | 1.20 | 1.04 | 1.30 |
| Oil | 10.75 | 11.43 | 14.29 |
| Gas | 0.11 | 0.02 | 0.71 |
| Comb. Renewables & Wastes[2] | 0.46 | 0.55 | 0.55 |
| Geothermal | 0.00 | .001 | - |
| Solar/Wind/Other | 0.08 | 0.11 | 0.10 |
| Electricity | 2.45 | 2.93 | 3.51 |
| **TOTAL INDUSTRY** | **4.62** | **4.47** | **5.39** |
| Coal[1] | 1.18 | 1.01 | 1.26 |
| Oil | 2.18 | 2.27 | 2.20 |
| Gas | 0.10 | 0.01 | 0.61 |
| Comb. Renewables & Wastes[2] | 0.12 | 0.15 | 0.12 |
| Geothermal | - | - | - |
| Solar/Wind/Other | - | - | - |
| Electricity | 1.04 | 1.04 | 1.20 |
| **TRANSPORT[7]** | **5.95** | **6.58** | **8.10** |
| **TOTAL OTHER SECTORS[8]** | **4.48** | **5.03** | **6.97** |
| Coal[1] | 0.03 | 0.03 | 0.04 |
| Oil | 2.63 | 2.60 | 4.00 |
| Gas | 0.01 | 0.01 | 0.10 |
| Comb. Renewables & Wastes[2] | 0.34 | 0.40 | 0.43 |
| Geothermal | 0.00 | 0.01 | - |
| Solar/Wind/Other | 0.08 | 0.11 | 0.10 |
| Electricity | 1.40 | 1.88 | 2.30 |
| **INDICATORS (Unit: Mtoe)** | **1990** | **1995** | **2000** |
| GDP (billion 1990 US$) | 82.91 | 89.73 | 106.45 |
| Population (millions) | 10.16 | 10.45 | 10.50 |

[4] Source: IEA Greece Review 1998

### 2.5.2 Product Data

no information on that

### 2.5.3 General Data

no detailed information on that

## 2.6 Laws and Regulations Governing Product Purchasing and Investments by Public Institutions

### 2.6.1 General Laws and Regulations

By law, all public/state procurement of goods, public works projects and tenders for services are subject to public tendering. Public procurement in Greece follows open, closed and negotiated procedures according to European Union (EU) requirements.

The new regulation on public procurements replaced the old one and is now in compliance with EU requirements. The new regulation introduces new procedures, participation and evaluation criteria, performance guarantees, time-limits and conditions providing for the settlement of legal disputes.

With the exception of some entities, the Ministry of Commerce will control, and in some cases will intervene in the procurement programs of public sector entities, such as ministries, other organizations, agencies, etc. It is hoped that the new procurement system will shorten the length of the bidding procedure and will control government spending.

### 2.6.2 Special Energy Efficiency Regulations for Public Buildings

[5]Public administration facilities are large energy consumers and important energy customers in Greece. The buildings of public services are mainly office type buildings, which are either under Greek State ownership (34% of the total) or rented from individuals or independent legal bodies (66% of the total). State owned building stock consists of around 63,000 buildings. These buildings house the diverse services of Greek central and regional public administration (Ministries – Public Services, Regional Secretariats, Prefectures and Municipalities etc.) and have not been designed with energy efficiency and rational spatial planning criteria. Furthermore, the awareness of most public services top executives, public building managers and civil servants as end-users as well as individual landlords, on energy issues, is still very low despite recent governmental efforts and

[5] Source: SAVE-Third Party Financing of Energy Efficiency in Public Buildings – Pilot Actions and Schemes for Implementation, Final Report, Vienna, April 2000

programmes of energy institutions to introduce energy efficiency and management in public buildings. Therefore, energy is used irrationally in a building environment of poor quality and old construction.

According to the annual General State Budget , the total cost of thermal and electrical energy consumed in the buildings of public administration services, in 1997, amounted, together with building maintenance costs, to around 46 Million Euro. The 96.5% of this amount was spent for the operation of central administration services and the rest 3.5% for the operation of regional administration services, mainly those situated in the most dense prefectures of Greece such as Attiki-Pireaus, Thessaloniki, Achaia and Larissa. The total energy and maintenance cost of buildings which house central administration services has been increased from 1995 by 27% (Figure 1)

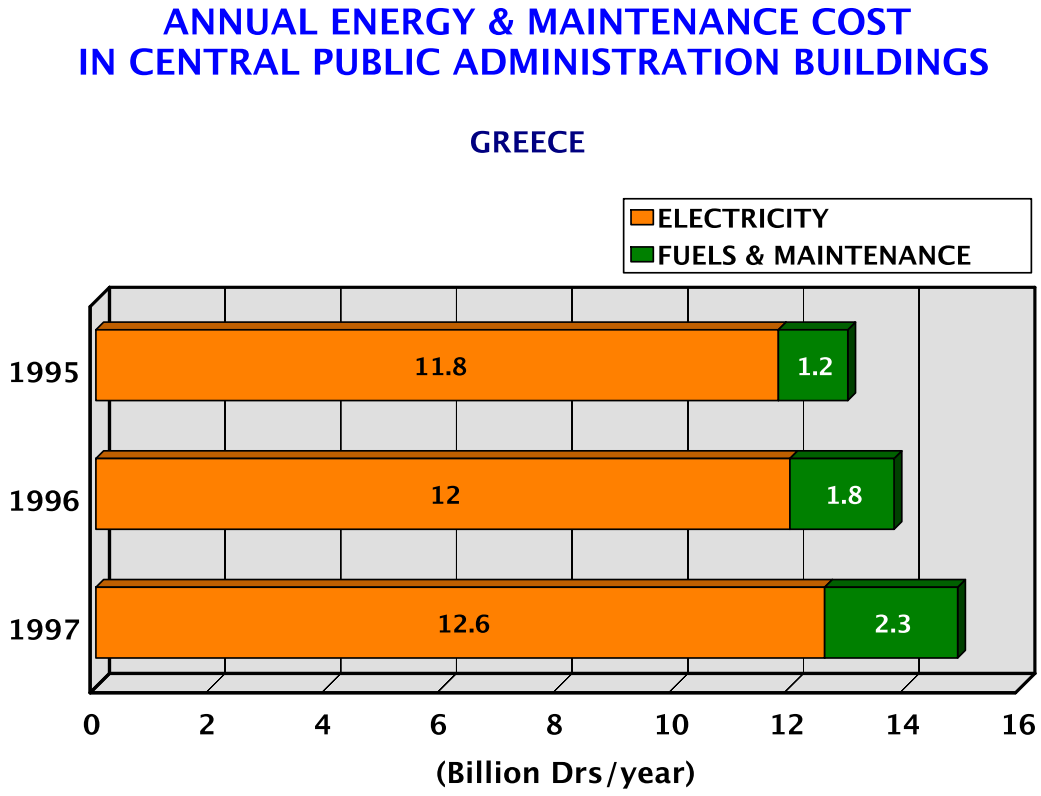


Figure 1: Energy and maintenance cost in central public administration buildings

According to the above figure, electricity consumption in the buildings of central public administration is the critical issue affecting yearly energy cost. A main reason for the high electricity consumption is the uncontrolled and not programmed installation, of different local air conditioning and/or heating units, to overcome the poor quality and bad siting of the existing building envelopes which often lack insulation, air tightness and solar protection as well as the inefficiency of an old and not well operating central heating system during winter. The existing artificial lighting technologies and system operation also greatly affect the electricity consumption. There are still remarkable percentages of incandescent lighting and often lights remain on after working hours due to the low

awareness of people and the absence of automatic control technology. Finally, the penetration of modern office equipment is constantly and rapidly increasing to central public administration, following the international trends in office services.

### 2.6.3 Special Energy Efficiency Regulations for Public Purchasing

no information on that

## 2.7 Organisation of and Decisions on Product Purchasing and Buildings Investments in Public Institutions

no information on that

# 3 Success Stories and Good Examples of Energy Efficiency in Public Institutions

no information on that

# 4 Public Internal Performance Contracting (PICO)

## 4.1 Overall Conclusions on the Usefulness and Feasibility of PICO

[6]The size of yearly energy bills of Greek public administration building pools together with the big potential for energy savings with proven energy technologies of relatively low overall pay-back times, enhance the option of TPF/EPC.

The government focused on the stimulation of TPF/EPC mechanism in the public sector through relevant legal acts concerning energy conservation in the building sector. Up to date a Ministerial Circular (1997) and a new Joint Ministerial Decision (JMD 21475/4707) (1998) introduced TPF/EPC contracting in the public sector, as a proposed integrated means for the reduction of $CO_2$ emissions through the improvement of the energy efficiency of public building facilities within a mandatory and well defined building energy management procedure. The scheme is compatible to the mandates of the EU SAVE Directive 93/76/EEC.

Two pools of public administration buildings have been selected, as pilot projects for TPF of energy efficiency measures. The project design takes into account all the data collected and analysed about the situation of the building envelope, the building services and the final energy consumption indices of Greek public administration buildings, as well as the existing relevant institutional and financial conditions.

Today, major public administration services are beginning to improve their facilities and infrastructure (e.g total upgrading of information facilities, refurbishment of airports, fire and police stations, military services). These activities comply with a new overall modernisation policy for old or/and important public building facilities as well as with the reorganisation of regional government and local authorities which will have considerable and urgent needs for improved infrastructure. All these facts consist main parameters that will soon lead to the deployment of energy efficiency investments within the design of new and the retrofit of existing administrative buildings.

The Greek government focuses on the TPF/EPC mechanism in the public sector, and so the PICO idea seem not to be important for Greece. It is stressed that the tight financial conditions of the public sector make it difficult to set up a relevant revolving fund.

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[6] Source:

SAVE-Third Party Financing of Energy Efficiency in Public Buildings – Pilot Actions and Schemes for Implementation, Final Report, Vienna, April 2000

Kyvelou-Chiotini, Stella and Lytras, Konstantinos: First Steps Towards TPF in Greece, TPF as a Tool for High Environmental Quality and Energy Management in Public Buildings; Proccedings of the SAVE Workshop, Februar 2000, Graz: