

1. Introduction

1.1 It is possible, allowed and practised

How can the day-to-day procurement and building energy management of public sector entities in Europe be directed towards buying energy-efficient products and making public buildings more energy-efficient?

This is the main question, which the PROST study sets out to answer. But why bother about the application of energy-efficient technologies in the public sector? Obviously, there is the double benefit of reducing life-cycle costs of energy using equipment and buildings, and of reducing negative environmental impacts through increased energy efficiency. But perhaps the most important effect of systematic and co-ordinated energy efficiency efforts in the public sector is the potential of an overall impact on the market. If the public sector all over Europe were to systematically procure energy-efficient products and buildings using very much the same performance criteria, the market transformation towards more efficient and sustainable products and building practices of the whole market beyond the public sector would be boosted significantly. This in turn, would have beneficial side effects on energy use, environment and climate as well as employment ¹⁾ in all sectors. A systematic and forceful programme would thus not only help the public sector do its part of the job to reduce energy use and greenhouse gas emissions, but would also make it easier for other parts of the market to achieve the same thing.

In the best of worlds this would already be happening on a broad scale, but it isn't. The study rests on a few assumptions:

- we do not live in the best of worlds: Even cost-efficient technologies and good energy management practices are far from being applied universally in the public sector and a large potential remains untapped
- there are significant – real and perceived – barriers, which prevent energy-efficient public procurement and sound energy management from being generally applied
- however, these barriers are not impossible to overcome, and in fact, many good examples exist within the current legal frameworks
- one way to overcome the barriers is guidelines, simple instructions and model language based on

existing labelling and classification systems. These are not always commonly accepted across Europe but could form the basis for Europe-wide recommendations

- life-cycle cost analyses are needed for larger investments, i.e. the public sector needs to become better at assessing what is economic to own over a period of time rather than at what is cheap to buy today. Specific financing mechanisms and accounting routines are often needed to make this possible.
- policy measures on European and national level are needed to tap the potential

On the other hand, a number of good and relevant examples in Europe and elsewhere exist, which make it possible to claim that public procurement of efficient products is possible today, and that it is being done.

Thus, there seems to be a large potential, which the public sector leaves untapped. Negative environmental impacts and unnecessary expenditure is the consequence. The barriers were known in principle, but which were the most important ones in the eyes of the procurers and energy managers?

Further, even if the size of European sector public procurement is rather well known, the energy-related part of it remained unclear, and it was not well known to what extent the public sector does procure efficient products. The combination of these two issues equals the energy and cost saving potential for the public sector, which is quantitatively estimated for the EU and Candidate Countries for the first time in this study.

It should be noted that the study makes no attempt at estimating the positive energy and CO₂ effects that could be reached through a wider market transformation, although these effects may be significant.

1.2 Methodology and scope of the study

In order to understand these issues, interviews have been performed in most European countries (as well as in a number of countries outside Europe to get some additional references). The aim has been to get an overall picture of energy use in public institutions, the rules and practices that govern it, and to identify the barriers

¹⁾ The employment benefits of energy efficiency in the public sector is beyond the scope of the study, but several studies indicate that energy efficiency investments have a positive impact on overall employment.

that stop it from reaching its energy efficiency potential. But equally important, the interviews also served to identify the good examples and learn from those public administrations that practice energy-efficient procurement and energy management. This includes both public building construction and management practices and public procurement practices of products and appliances.

The resulting Country studies are based on detailed studies and interviews with various key persons involved in public procurement and management of buildings and facilities in various countries. They represent a valuable source of information for the policy-oriented and concrete recommendation parts of the PROST project, through the thorough descriptions of the procurement practices and the presentation of qualitative and quantitative data.

Institutional agencies of different countries and organisational levels are structured in various ways and have relatively complex connections of laws and regulations that regulate public procurement. Efforts have been made to summarise these structures. However, considering the significant diversity of the public sector throughout Europe, it is difficult to see clear patterns.

In total 18 countries were studied: 15 in Europe plus the USA and Japan. The report concentrates on summarising the situation in the eight project partner countries (see Table 1.1 below). Though not covering all EU Member States the study is nevertheless felt to be generally representative of the whole of EU in that it covers most of the larger countries and a cross section of “active” and “less active” states. Unfortunately the study does not cover Denmark, a country that is known to have matured considerable experience in the field of “green procurement” and energy-efficient procurement, especially through the Danish Electricity Saving Trust.

Outside EU, important experience from the USA and Switzerland is highlighted throughout the report. Japan has also developed practices and programmes that provide significant and relevant experience for the EU.

This PROST report is divided in three parts: *Part 1* serves to provide background information for the whole work presented as a survey of cross cutting inter-

national experiences. The information is gathered through interviews with public procurement officials, as well as energy managers in the public sector and through review of the relevant literature and is presented in Country studies provided as annexes to this report. The synthesis of the Country studies aims to:

- identify cross-cutting experiences
- provide a description of the situation in different countries. The survey thus serves as the foundation on which the continued analysis and Policy recommendations of Part 2 rests

Part 2 is policy oriented, in the sense that it aims at developing a number of concrete policy proposals for the European Commission as well as for national governments. It includes:

- a summary of the most important policy conclusions from Part 1
- a summary as well as a detailed description of the proposed policy instruments
- a short justification for the various tools available for policy intervention
- transferability and feasibility of innovative methods for organising and financing energy-efficient refurbishment of buildings
- methods and model guidelines for integrated planning of buildings, lighting and HVAC systems (including benchmarking and target values)
- energy-efficient product procurement

Part 3 includes developed energy and greenhouse gas mitigation scenarios for public sector procurement and energy management activities.

The Annexes include Country studies (see above), detailed guidelines for energy-efficiency in buildings and public procurement of transports.

1.3 What is the public sector?

If programmes defined for the public sector do not have any specific targets, it is difficult to make evaluations and necessary amendments. First, the public sector has to be defined. This is of great importance when outsourcing, privatising and deregulation are major

Table 1.1. Countries covered in the report.

Countries covered in detail in the synthesis – PROST partners	Other countries covered in the synthesis	Countries studied but generally not called upon in the synthesis
Austria	Japan	Estonia
Finland	Switzerland	Greece
France	UK	Hungary
Italy	USA	Ireland
Germany		Slovakia
Netherlands		
Poland		
Sweden		

trends in Europe. The public sector concept is a complicated matter that needs to be thoroughly analysed.

The EU directive on public procurement (93/38/EEC) defines public authorities as the State, regional or local authorities, bodies governed by public law or associations formed by one or more of such authorities or bodies governed by public law.

A body is considered to be governed by public law where it:

- is established for the specific purpose of meeting needs in the general interest
- is not of an industrial or commercial nature
- has legal personality
- is financed for the most part by the State, or regional or local authorities, or other bodies governed by public law, or is subject to management supervision by those bodies, or has an administrative, managerial or supervisory board more than half of whose members are appointed by the State, regional or local authorities, or other bodies governed by public law

This EU definition includes the residential multifamily buildings, that in some member countries are today huge parts of the “public sector”, although large shares of this stock is rapidly being privatised.

One definition to consider is the public sector defined as activities that are publicly financed, such as public administration, healthcare, schools and public service. In this context, privatised utilities such as electricity companies that are financed by the consumer’s fees do *not* belong to the public sector. On the other hand, private schools that are mainly public financed, represent a part of the public sector. Thus there is a wider public sector as defined in EU procurement legislation, and a narrower public sector of the central state, regional, and local public administrations. This study generally covers the wider public sector except where indicated otherwise. The notion “Public Administration”, PA, is used throughout the report, covering all sorts of public bodies.

1.4 Barriers

The Country studies report several barriers for good energy management practices and procurement of energy efficient products:

- *Insufficient Priority*: The lack of priority results in the absence of clear mandates to staff to procure energy efficiency, which is considered by top management (at times political level) principally as an environmental and not an economic issue. This in part may be understandable; annual energy costs generally account for only 1 to 2% of annual budgets of typical public administrations, whereas personnel costs might account for something in the region of 60%. Thus reductions in energy use, even significant, result in only marginal annual financial savings compared to total annual budgets. However, though

relatively small, in absolute terms the energy savings can be significant, for example; a city of 200 000 inhabitants can save some 10 million Euro a year through energy efficiency, and by doing so meet several environmental aims at no cost.

- *Lack of information of energy efficient solutions and their evaluation*: Staff charged with procuring need independent, clear information on the full range of efficient solutions and standard cost benefit analysis procedures to determine the nature of the energy savings that they provide.
- *Legal uncertainty – insufficient knowledge of national and international procurement legislation*: The interpretation of procurement legislation is difficult. There is need for interpretation of national and EC procurement legislation in accordance to the implementation possibilities of green purchasing practices including energy efficiency aspects. This concerns in particular the interpretation that the “economically most advantageous tender” should be the one with the lowest life-cycle costs.
- *Split incentives to managers* to invest in energy-efficiency due to the more or less standard procedure of managing public sector finances by dividing investment and management budgets across different departments (considered in detail in section “Product purchasing, building investments and financial management”). The standard practice is a disincentive to the user departments, which cannot keep the return from investments in energy efficiency in their buildings, and a non-incentive to those in charge of managing the investments.
- *The lack of investment culture*: Public administrations invests in society in the wider sense. Its mission statement is directed by service provision. Investments aimed at yielding direct future economic returns are not a natural part of this culture. This is reflected at the decision level, where priority is directed to improved service levels, and within administrations, which often lack the skills to undertake simple cost benefit analyses.
- *The complexity of public procurement*: Public procurement is complex and increasingly decentralised. Procurement officials work in an environment of conflicting policy objectives, extensive regulations and a variety of pressures. The complexity tends to favour relying on past practices, avoiding risks, which consequentially stifles innovation.

Other problems are occasionally stated. Apart from being less commonly reported than the barriers identified above, they are to some degree consequential to them. Problems are:

- lack of funds, particularly in building maintenance – this may present a major problem, at least in some countries
- lack of personnel resources and time – it is difficult to spend time to reach what is perceived as marginal savings
- lack of motivation

- too much and unclear information (a lot of information is not understandable and practical for every-day use)

1.5 Considerations on improving energy efficiency

Presented here is a collection of procedures that the interviewed purchasers in various public authorities feel might help to overcome problems for energy efficient procurement. Comments received were:

- the promotion of energy efficiency in public procurement needs a well-balanced mixture of voluntary efforts, guidelines, regulations and legislation
- the environmental factors must be transmitted into economic factors additional to direct energy cost savings (However, this would most likely require internalisation of environmental costs, and is beyond the scope of this report.)
- requirements according to a label classification will be preferable to LCC for all products that use energy less than x kWh/year and for which there is adequate EU-wide labelling
- target values or standards also for main installed techniques in buildings (lighting systems, ventilation systems and electrical heaters and coolers), have to be implemented in the national building regulations on either a function or system level
- in order to promote a common European market for top-efficient products, there is a need of common example calculation prices for gas and electricity recommended when procuring appliances or setting energy efficiency standards for building installations
- some procurement officials stated that it would be good if price examples would include external costs
- there is a strong need of a national infrastructure, for example a national organisation or programme for energy-efficient public procurement

There is also a need for:

- clear, specific policies and concrete guidelines at all levels
- simple examples of available tender documents
- tools and data for specific product and product groups
- e-commerce tools that allow inclusion of energy efficiency aspects
- bundling the management and financial responsibility for investments in building energy efficiency and for energy

The policy tools needed to achieve this are presented in Part 2 of this report.

2. National targets, policies and programmes

This chapter sets out to describe national energy reduction and climate targets that are relevant for the public sector. The chapter then goes on to describe various policy programmes within the public sector. Since several of the programmes that were found cover more than the public sector, the policy programme section also covers some general national programmes.

2.1 National targets and strategies

Almost all countries covered in the study have national CO₂ related targets. However, few countries have decomposed these targets in sectoral and sub-sectoral levels. Practically none of the countries has indicated specific interim targets for the public sector. Exceptions to this is the UK, where central government departments has a goal of 1% reduction per year in CO₂ emissions for government estates.

Germany, the UK and Switzerland have set clearly defined quantitative targets for reducing CO₂ and energy consumption in central (federal) administrations. In Switzerland, the cantonal and municipal authorities are also committed to the reduction targets. In Germany, the municipalities have not yet followed and no information is available regarding lower tiers of the public administration in the UK.

Finland and Italy have imposed energy efficiency obligations; but these obligations are not linked to global performance criteria or national objectives, nor are they monitored.

- In Finland, the Ministry of the Industry imposes specific minimum efficiency standards for new and re-structured buildings to be used by the public sector
- In Italy, public administrations consuming more than 1 000 TOE/year are required to identify a “manager for the conservation and rational use of energy”

Where objectives or clear targets are absent, the country studies have identified voluntary commitments to reduction targets. This is more common among local administrations. These commitments may be made as self-declarations by single administrations to respect national Kyoto reduction targets, or participation in the co-ordination of national or international programmes; for example the International Council for Local Environmental Initiatives’ (ICLEI) Cities for Climate Protection Campaign or Climate Alliance

Network, which has a long-term target of 50% CO₂ reduction, not only for the operations of the participating municipalities themselves, but for all energy consumption in their territory. In Switzerland, the new “Association of Major Energy Consumers in the Public Sector” (‘Energho’, including hospitals, cantonal buildings, large federal government energy consumers) plans to reduce the energy demand by 10% within the next ten years.

Table 2.1. shows energy reduction targets for some partner countries for which central (or federal) sector commitments have been identified. The table is not exhaustive and needs to be complemented with targets from all participating countries.

2.2 Energy efficiency policies and programmes in public administrations

Energy efficiency policies seem to be generally sporadic and based on voluntary agreements. However, there is a trend of raising awareness for energy efficiency in national policies and some interesting examples may serve as inspiration for further policy-making.

In Switzerland, a quality label for advanced energy policy for municipalities has become widely accepted. UK has incorporated energy efficiency into public procurement for central Government departments, which has resulted in a considerable decrease of energy use in these organisations.

Policy programmes including energy requirements and eco-labelling in public procurement appear in some of the studied countries. Guides for environmental criteria exist in Austria, Germany, France (under development), Ireland the Netherlands, Japan and Sweden. US policy programmes provide support to federal, state and local agencies to comply with energy-efficient purchasing requirements.

Some policy programmes include financial incentives for energy-efficient measures. Examples given are Hungary, where support is given by preferential credits or non-reimbursable grants, the Netherlands, Poland and Sweden (investments for municipalities). Energy efficiency investments are also funded in Slovakia, however symbolical, compared with EU member countries.

The presented examples include policy programmes with activities such as analyses of office equipment, the

Table 2.1. Examples of CO₂ and energy reduction targets for central (or federal) government.

Country	Kyoto CO ₂ National Reduction Targets (burden sharing)	Central (Federal) Administration Target	Targets for other public areas
Finland	0%	10-20% improvement in energy efficiency by 2010	10-20% improvement in energy efficiency by 2010
Germany	-21%	25% CO ₂ reduction between 1990 and 2005 for all federal agencies	some states same target; some municipalities similar targets
Poland		medium-term objectives (by 2010): reduction of energy consumption per GDP unit by 25% against the year 2000 level ¹⁾ long-term objectives (by 2025): reduction of energy consumption per GDP unit by 50% against the 2000 level	
UK	-12.5% (with voluntary goal of achieving -20%)	1% per annum reduction target for CO ₂ from 2000 onwards. Previously 20% energy efficiency target w.r.t. 1990	limited
Switzerland	-8%	10 % of CO ₂ reduction below 1990 levels between 2000 and 2010.	The objectives of the "SwissEnergy" programme has been adopted by the federal, government, all cantons and all municipalities.
USA	-	Reduce energy intensity by 30% in 2005 and 35% in 2010, compared with 1985 levels. Reduce greenhouse gas emissions from facilities and other operations (mainly vehicles and "weapons platforms") by 30% in 2010, compared with 1990 levels. Reduce energy intensity in industrial and laboratory facilities (based on appropriate floor space or output indicators) by 20% and 25% in 2005 and 2010, respectively, compared with 1990	

¹⁾Achievement of energy consumption indicators expressed per GDP unit and per production volume in individual production sectors (expressed as production physical volume or production value) as well as energy consumption indicators in major household equipment and appliances not exceeding the average indicators in the OECD countries.

development of interactive information systems, education, research and investments. Common policy tools are energy management units, procurement guidelines and building regulations.

In the following chapters, we have tried to summarise some of the most striking examples of policy programmes for energy efficiency presented in the national reports. It may still not be an exhaustive summary, i.e. some important programmes might have been left out. The aim is to provide an overview of recent trends and provide a starting point for further discussions.

2.3 Policies and programmes in EU

2.3.1 Austria

Policy programmes in Austria include projects targeting district heating, power generation, living, mobility and city administration. Other items are environmental purchasing criteria and a best practice competition for municipalities, targeting organisational structures and renewable energy sources.

The Climate Protection Programme of Vienna (KLIP), a programme prepared by the municipality of Vienna,

was introduced in 1996. It includes 36 sets of measures in the sectors of district heating, power generation, living, mobility, city administration and companies. Each of the measures comprises single projects.

Some of the points of the programme are:

- climate protection in municipal authorities: reduction of the heating energy by at least 10%, stabilisation of the power consumption; reinforced changeover to district heating, renewable sources of energy and natural gas
- “mobile municipal authorities” i.e. investments to exchange the vehicles used by municipal authorities to the best fuel-saving models
- integration of environmental protection when planning and tendering performances of the City of Vienna
- total ban of fluorinated/chlorinated hydrocarbon-foamed building materials
- reduction of material flow, use of reusable products, recycled and renewable raw materials

The Vienna Climate Protection Programme also formulated the necessity to offer purchasers an instrument for eco-friendly procurement, which resulted in environmental criteria for products, materials and services.

The “*es-Landesprogrammen*” for energy-conscious municipalities is a best practice competition. It was commissioned in 1998 by the government of the province Vorarlberg and is managed by the Energy Institute of Vorarlberg.

The targets of the programme are:

- promotion of energy-efficiency
- increase of the use of new, renewable energy sources
- organisation and maintenance of structures and processes that guarantee sustainable energy policy

2.3.2 Finland

In Finland, a framework agreement between local and national administrative levels has been signed by a significant number of authorities. It includes energy-auditing and follow-up activities and aims to reduce energy consumption by 15% until 2010. Energy conservation in Finland is part of the *Finnish Climate Change Strategy*, and not a programme co-ordinated separately.

The voluntary framework agreement on energy conservation was concluded between the Association of Local authorities and the Ministry of Trade and Industry (MTI) in 1997. In 2001, approximately 50 municipalities had signed energy conservation agreements with the MTI and approximately 52% of all building stock owned by municipalities and local governments were covered by the agreement.

The objectives of the agreement are to:

- cover as much as possible of the municipalities’ activities
- reduce heat consumption from 1990 by 10% until 2005 and 15% until 2010

- stop the increase of energy consumption in buildings and bring it to decrease before 2005
- perform energy auditing and follow-up activities in 80% of the public buildings in municipalities until 2010

2.3.3 France

In France, a policy programme aims to integrate environmental concerns in public administrations’ activities related to issues like buildings, energy management and environmentally friendly procurement. Important tools are information, training and environmental criteria for public procurement.

The general objective of the *Administration Greening Programme* is to integrate environmental considerations into the activities of public administrations and includes eight fields of activity:

- buildings
- developing a management function for the environment reaching all staff members and activities
- undeveloped sites
- energy management
- water management
- waste management
- environmentally friendly procurement
- vehicle fleet

The Programme focuses on information and training, with the objective of changing the general administration organisation and raising awareness in environmental themes. It is co-ordinated by the Ministry of Environment and Land Management, which is now preparing a study targeting 36 product families to establish essential environmental criteria for each family and guide public procurement services.

Apart from this national programme, ADEME (the French Agency for Environment and Energy Management) has set up various activities to support public administrations in their energy efficiency activities, including funding of energy audits and building refurbishing.

2.3.4 Germany

In Germany, there is a number of activities that provide energy efficiency information to all public administrations and some incentives for local authorities from the state (Land) level. Examples are guidelines for green purchasing, energy agencies and information services to schools. These activities are, however, not integrated through a comprehensive programme on energy efficiency in public administrations.

- The Federal Environmental Agency (Umweltbundesamt) issues a comprehensive guidebook on “green” purchasing, including energy efficiency criteria as priority in the area of appliances, cars, and buildings (see under 5.2.3)
- the energy agencies of several States offer advice and

- consulting to local authorities, e.g. energy audits for existing buildings, consulting on energy efficiency and efficient energy supply for new building projects
- there have also been a number of incentive programmes from the Federal States to local authorities for energy audits, creation of energy management units, school energy efficiency projects, and investments in energy efficiency
 - in the framework of the project “*Energy School NRW – Saving Energy Thought Improved building Use*”, the energy agency of North Rhine-Westphalia (NRW) offers services such as advice and information to schools and school administrations

2.3.5 Greece

In Greece, a policy programme that accentuates the use of renewable energy will include institutional and financial incentives for sustainable development.

The *Action Plan Energy 2001* is the main action in Greece to comply with the European Directive on reducing carbon dioxide emissions through building energy efficiency programmes (Directive 93/76/EC). The action plan stresses the use of renewable energy sources as a basic prerequisite for sustainable development. The anticipated measures are combined with institutional, administrative and economic incentives, especially in the retrofitting of existing buildings.

2.3.6 Ireland

Ireland has policy programmes that include eco-labelling, green procurement and Building Management Systems for public buildings. A number of EU energy programmes have been promoted by the Irish Energy Centre, who co-ordinates and implements national energy policies and provides research and advice related to energy efficiency.

A programme that include green procurement in Ireland is “*Comhar – the national sustainable development partnership*” – which was established in 1999. The programme is the forum for national consultation and dialogue on issues referring to sustainable development. The 25 members of Comhar are drawn from a wider range of representative bodies across Ireland's economy and society. Examples of issues that may be examined by Comhar are eco-labelling, eco-auditing policies and green procurement.

The *State Building Programme* was drawn up in 1994 and outlined the framework for the implementation of action within public buildings. The last ongoing development of the programme is the installation of a Building Management System, which enables the Office of Public Works to monitor energy consumption in a number of public sector buildings.

The *Irish Energy Centre* (IEC) is considered as the main instrument for Ireland's energy efficiency policy. Together with the energy utilities, the IEC co-ordinates and implements national objectives and policies relating to energy efficiency and renewable energy sources.

In the period of 1994-99, the IEC has promoted a number of EU energy programmes. Examples of tasks of the IEC are to carry out research relating to consumption of energy and to advise the government and ministers on measures for economically sustainable use of energy.

2.3.7 Italy

In Italy, the 1988 *National Energy Plan* (NEP) has, with the principle objective of increasing national self-sufficiency, identified the rational use of energy as the first of five strategic national objectives. The application of these requirements predates the concepts of sustainability formalised with Agenda 21 and subsequently the Kyoto reduction targets.

The NEP resulted in legal requirements for public administrations to appoint energy managers, apply energy efficient solutions and evaluate energy saving potentials. The Federation of Energy Managers (which groups public and private sector energy managers) undertakes various activities to support the energy managers, such as training courses, consultancy and programmes.

Post Kyoto, a national policy programme in Italy identified rational use of energy as one of the most important tools for meeting the national Kyoto targets (to cover roughly 30% of the total objective). However, no specific targets were set for the public administration on a national level. Where CHG reduction objectives exist within the public sector, these have been developed autonomously by local government (for example by the Turin City Provincial Administration).

Otherwise there are a number of sporadic activities underway by local government; for example voluntary agreements between local councils and schools that attempt to overcome split incentives in energy reduction have been tested in the City of Modena and the Provincial Administration of Bolzano.

2.3.8 The Netherlands

Policy programmes for energy efficiency in the Netherlands consider environmental management systems, operated by public administrations, as a starting point for the implementation of green procurement practices. They also include financial incentives, purchasing guidelines, advice and a toolbox with environmental specifications for public procurement. There is a general consensus of Dutch public administrations as models for environmentally sound behaviour.

In the first *National Environmental Policy Plan* (NEPP) in the Netherlands, issued in 1990, the government explicitly acknowledged public procurement as an instrument of approaching environmental problems. According to the plan, public administrations should set example for environmentally sound behaviour. Environmental Management Systems (EMS) were considered to provide a good starting point for the implementation of green procurement practices. The government has provided financial incentives to stimu-

late compliance with the policy plan.

Acknowledgement of the environmental potential of public procurement was backed up by an attempt to set up a product information centre (which unfortunately failed).

Duurzaam Inkopen (Sustainable Procurement Programme) was set up to draw up purchasing guidelines and to provide advice on public procurement, which is given in the form of information (non-compulsory guidelines) about available energy-efficient appliances. Duurzaam Inkopen was established by two national Ministries (the Ministry of Housing, Spatial Planning and the Environment and the Ministry of Economic Affairs) in order to encourage energy efficient procurement in public administrations at governmental, regional and local levels.

The core of the Sustainable Procurement Programme is a web site providing a toolbox with environmental specifications (<http://www.inkopers.net>). It is largely based on a bottom-up approach centred on the idea of exchanging experiences between procurement officers.

The objectives of the programme are to:

- set an example for others
- achieve direct environmental benefits
- influence the market by creating a demand for environmentally less harmful products and to stimulate product innovation

2.3.9 Sweden

In Sweden, voluntary programmes provide financial support, training courses and information to municipalities. Other tools are green procurement activities and a labelling system including targets for low energy consumption.

The *Local Investment Programmes (LIP)* has been an incentive for municipalities to make energy efficient investments. Financial support has been available for municipalities awarded after quality control from relevant authorities. LIP is currently being reorganised as the *Climate Investment Programme (KLIMP)* and entirely targeted towards climate change prevention measures.

A voluntary programme for municipalities – *EKO Energy Programme* – aims to encourage municipalities to improve energy and climate work within municipal properties, administrations and companies. Benefits as training courses, information on energy systems and tools to obtain energy statistics are offered the participating municipalities.

The Committee for Ecologically Sustainable Procurement – EKU-delegationen (active during 1998-2001) was given the task of promoting ecologically sustainable procurement within public administration. It consisted of representatives from various state holder groups, such as local authorities, county councils, government agencies and the suppliers of goods to the public sector. One of the main tasks of the Committee has been to influence EU legislation in order to make

environmental requirements applicable on all public procurement. It has also developed an instrument for green procurement (see under 5.3.5).

The Swedish Confederation of professional Employees (TCO) has developed a labelling system – the TCO'95, later revised as TCO'99. The requirements refer to external environment and work environment and include targets for low energy consumption and minimising of chlorinated and brominated flame retarding substances and heavy metals. Although this programme is not targeted towards the public sector it has great impact due to the public sector's large market share of IT equipment procurement.

2.3.10 United Kingdom

In the UK, a policy programme of green procurement includes energy efficiency aspects. However, purchasing of energy-efficient products in Government departments is limited and is only just beginning to develop. In public administrations outside central Government departments, procurement of energy-efficient products is uncoordinated but some authorities have set out procedures, which are actively in operation.

According to the *Second Annual Report of the Green Ministers Committee*, by March 1999, an improvement of 18.9% in energy consumption had been achieved against 1990/01 levels in Government Departments. These have an ongoing target to reduce energy consumption by 1% per annum from 2000/01. They must also comply with the UK legal target to reduce its greenhouse gas emissions to 12.5% below 1990 levels by 2008-12 and reach a domestic goal of 20% reduction in carbon dioxide emissions by 2010. Government Departments must make an annual monetary efficiency savings of 3%.

To meet its targets, the Government has instigated a policy of green procurement in line with *Value for money (VFM)*, following EU procurement policy. Within this context, central Government places a high priority on the introduction of environmental issues in purchasing decisions. As part of this rationale, the Government has incorporated energy efficiency objectives into procurement.

2.4 Policies and programmes in EU Candidate Countries

2.4.1 Hungary

A Hungarian action programme for energy efficiency has defined energy saving targets and includes education, research and financial support. A UNDP programme aims to remove barriers for energy efficiency in public buildings and to identify and finance energy efficiency projects in municipalities.

In 1999, a new *Energy Saving and Energy Efficiency Action Programme* was adopted in Hungary. This new

programme defines energy saving and other targets until 2010 and includes a number of specific actions, in the areas of:

- fund rising
- education and awareness promotion
- research and development
- industrial energy audits and energy-related modernisation
- energy management in municipalities, least cost planning
- energy efficiency in transport
- heating system modernisation and promotion of renewable energy sources

The Programme intends to mobilise some 200 billion HUF (750 million Euro) of investments, by providing 50 billion HUF (187 million Euro) of support over a ten-year period. Support is provided either by preferential credit (subsidised interest rate) or as non-reimbursable grants.

In parallel to the Energy Saving and Energy Efficiency Action Programme, the UNDP/GEF *Public Sector Energy Efficiency Programme* aims at helping Hungary to improve energy efficiency in the public sector. The programme seeks to remove barriers to improve energy efficiency in municipal buildings, including schools, hospitals and other public buildings. The Programme, which has a budget of approx. 4.6 million Euro, also intends to reach out to municipalities and local advice centres and networks.

The main objectives of the programme are:

- to improve the development of energy efficiency policy, increase awareness and improve co-ordination of energy efficiency policy
- the identification, development and financing of energy efficiency projects in municipalities
- to improve the knowledge base on energy management and energy efficiency technologies. The Energy Centre is the implementing agency of the project, under the authority of the Ministry of Economic Affairs.

2.4.2 Poland

In Poland, there is no official programme on energy efficiency but a systematic increase of public share (state budget and other funds) in implementation of energy-efficiency-focused programmes. A modernisation fund for energy savings in buildings and a fund for environmental protection supports ecological activities adapting Poland to EU standards.

In 1988, the Polish Parliament established a *Thermal Modernisation Fund* (TMF) to promote energy savings in buildings in 1998. TMF support is granted if an energy audit shows that the investment can be paid back within 10 years using energy savings. The investor is required to contribute 20% of the total project cost, including the cost of the audit. After commissioning of the investment, 25% of the loan is forgiven. Projects in

conversion to renewable fuels can also be considered by the TMF.

Additionally, Poland appears to have an efficient way of supporting selected energy efficiency investments by the *National Fund for Environmental Protection and Water Management* (NFOS) and the *Environmental Protection Bank* (BOS). Through subsidies and preferential loans, the National Fund supports initiatives that serve the improvement of the state of nature. Special attention is given to ecological activities adapting Poland to the European Union Standards and fuel conversion from coal to gas and biomass. The National Fund is the largest institution financing environmental protection projects in Poland. The mission of the Fund is to provide financial support for undertakings on a national or interregional scale.

2.4.3 Slovakia

There are not many effective legislative, economic or fiscal instruments to influence energy consumption or reduce energy intensity in Slovakia. The funds allocated in the state budget supporting national energy use are only symbolical, especially compared with EU countries.

The most recent comprehensive *National Policy Plan* of the Slovak Republic was prepared in 1999 and includes targets as:

- transformation of the energy sector
- establishment of the Slovak Independent Regulation Office (regulation of prices, conditions for marketing, issuing permission for fuel conversion etc.)
- increase the use of renewable energy sources and energy efficiency
- decrease the consumption of primary energy sources

Other policy programmes are the *National Programme for Regional Development*, the Programme for the Support of Energy Efficiency and the Use of Alternative Energy Sources (1999).

2.4.4 Estonia

In Estonia, a national policy programme includes certification of building consumption, energy auditing schemes and optimisation of heating systems.

The *Energy Conservation Target Programme* started in 1992 and has resulted in decreased energy consumption from 7.2 TWh/a in 1991 to 5.8 TWh/a in 1998. The new energy conservation target programme was drafted in the year 2000 and is quite in line with the EU SAVE directives and recommendations. The main points of the proposed activities are the following:

- certification of building energy consumption
- energy auditing schemes
- improved energy metering
- revised building code
- boiler testing
- optimisation of heating systems
- training campaigns and international co-operation

2.5 Policies and programmes in other countries

2.5.1 Japan

In Japan, a programme for purchasing and building energy management includes eco-labelled purchasing, guidelines and target values for energy efficiency. Another programme sets targets for energy-efficient products, representing some 70% of the total residential power consumption.

Japan is implementing a *Top Runner programme*, which sets targets for 12 products (passenger vehicles, motor trucks, air conditioners, fluorescent lamps, television receivers, copy machines, computers, magnetic disc devices, video cassette recorders, refrigerators and freezers). These products represent some 70% of the total residential power consumption and about 80% of the total power consumption of office automation equipment. The target values are based on whether a product has the highest energy efficiency of all the products in the same group, which are currently in the market.

The “*Action Plan for Greening Government Operations*” contains regulations for training of officers, a scheme for product databases, guidelines and target values for energy efficiency. The programme, which refers to both purchasing and building energy management, was succeeded in 2001 with the Law on Promoting Green Purchasing (see under 5.1.6).

Examples of actions specified in the programme are:

- purchasing of eco-labelled products
- promoting of use of electronic mail
- installing energy-efficient lights
- utilising rain water
- conditioning appropriate temperature in office space

2.5.2 Switzerland

Switzerland has a policy programme including a quality label for advanced energy policy, the implementation of energy management systems, seminars and energy monitoring systems.

Switzerland has over the ten past years followed an energy policy under the programme “*Energy 2000*”. However, only a part of the quantitative goals of the programme have been met, wherefore the “*Swiss Energy*” programme was launched in 2001 in collaboration with cantons, municipalities, industry and environmental organisations. Policy programmes on energy efficiency are a part of the programme, for which the Federal Council exercises supreme authority. The task of Swiss Energy is to fulfil the national climate and energy objectives and to initiate a sustainable energy supply based on innovation and new technologies.

The Federal Office of Energy (SFOE) manages the day-to-day affairs of Swiss Energy and co-ordinates all the activities of the programme nation-wide. It will also implement an environmental management system

called “Resource and Environmental Management in the Federal Administration” (RUMBA). Initially, offices, office equipment and official journeys will be analysed in each organisational unit with respect to their direct and indirect environmental impacts.

A part of the Energy 2000 programme – the *Energy Town project* – has become a widely accepted quality label for advanced energy policy. An “Energy Town” has to fulfil specific criteria defined according to a standardised catalogue of energy policy measures. The catalogue comprises six important areas:

- building and planning
- energy supply
- water and heat
- traffic and transport
- public relations
- internal organisation

134 municipalities are members of the Energy Town organisation and 66 of them have received the quality label. In order to achieve the fullest possible participation, the programme will be promoted and further developed under the name “Swiss Energy at the local level”.

Swiss Energy also provides other activities to municipalities, e.g. energy conservation weeks, seminars for schools and the implementation of energy monitoring, and accounting systems.

2.5.3 USA

In the USA, energy-efficient purchasing is promoted by a federal programme, providing technical support, design assistance and support to comply with energy-efficient purchasing requirements.

The Department of Energy’s *Federal Energy Management Programme* (FEMP) promotes energy-efficient purchasing by helping federal agencies to comply with the energy-efficient purchasing requirements of the 1992 Energy Policy Act (among others). Major elements of the FEMP include facility issues like on-site audits to identify energy- and water-saving measures, technical support in planning and undertaking energy-saving performance contracts, design assistance to help agencies build more energy-efficient and sustainable facilities (see under 7.8.1).

Another programme is the EPA/DOE *Energy Star Purchasing Program*, which encourages similar policies and practices for energy-efficient purchasing by state and local agencies, with the help of the utility-sponsored Consortium for Energy Efficiency.

Table 2.2. Overview of policy programmes for energy efficiency with focus on the public sector

	National Programmes for energy efficiency	Activities
Austria	Climate Protection Programme of Vienna	Measures in the sectors district heating, power generation, living, mobility, city administration and companies
	e5-Programme	Best practice competition
Estonia	Estonian Energy Conservation Target Programme	Certification, energy auditing schemes, revised building code, training, campaigns etc.
Finland	The Government Energy Conservation Programme	Energy efficient requirements for public procurement, voluntary framework agreement on energy conservation
France	The Administration Greening Programme	Training, raising awareness in environmental themes
	The National Programme Against Climate Change	Provide public administrations with best practice, ideas about funding
	The National Programme for Energy Efficient Improvement	Promotion of energy efficient activities and investments
Germany	No specific energy efficiency programme but the Umweltbundesamt guidebook on "green" procurement and energy efficiency activities on the Länder level	Länder energy agencies providing consulting and advice to local authorities
Greece	The Action Plan Energy 2001	Anticipated measures of institutional, administrative and economic incentives
Hungary	Energy Efficiency Action Programme	Education, research, investments etc.
Ireland	Comhar	Eco-labelling, green procurement
	Irish Energy Centre	Research, advice, implementation and co-ordination of policies, advice
	State Building Programme	Building Management Systems
Italy	Energy managers	
	Voluntary agreements	
Japan	Top Runner Programme	Sets target values for 12 products
Poland	No policy programme but a Thermal Modernization Fund (TMF) for energy savings in buildings and the National Fund for Environmental Protection and Water Management	
Slovakia	Energy Policy of the Slovak Republic	
	National Programme for Regional Development	
	Programme for the Support of Energy Efficiency and the Use of Alternative Energy Sources	
Sweden	Climate Investment Programme (KLIMP)	Grants for energy efficient investments
	The Committee for Ecologically Sustainable Procurement	Environmental purchasing guidelines
	TCO'95	Labelling system
	EKO Energy Programme	Seminars, information, education
Switzerland	Swiss Energy	Analyses of office equipment, developing an interactive information system, labelling (Energy Town)

	National Programmes for energy efficiency	Activities
UK	VFM administered by Treasury Circular Government departments requirement	quantified reduction target for central government Government departmental regulation to buy on basis of "Value for Money" (lifetime least cost) "Green Ministers" for each government department with annual review
USA	The Department of Energy's Federal Energy Management Programme (FEMP) EPA/DOE Energy Star Purchasing Program	Technical support, facility audits, design assistance, technical assistance, training, recommendations, tracking and reporting Encourages energy efficient purchasing by state and local agencies
The Netherlands	Duurzaam Inkopen (Sustainable Procurement Programme)	Development of a toolbox for procurement officers including environmental specifications

