

**Public Procurement of
Energy Saving Technologies
in Europe
(PROST)**

Report on the Country Study for Sweden:

Current Public Sector Purchasing, Building, and Replacement Practices

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1. Executive summary

1.1 Introduction

The PROST study – Public procurement of Energy Saving Technologies in Europe – is a project sponsored by the European Commission's SAVE programme and a number of European national governments, agencies and institutions.

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

The participants of the study share the hypothesis that energy-efficient public procurement and building management will have positive environmental benefits and save tax payers large sums, since efficient products and building technologies tend to have a lower total cost of ownership than those bought on a low first cost as the main criterion. One of the aims of the study is to verify this hypothesis. Experiences from public sector entities in Europe and the US, however, indicate that few public entities actually give energy and low life cycle cost issues high priority in public procurement and investments in their buildings.

In order to understand these issues interviews have been performed in most European countries (as well as a number of countries outside Europe to get some additional references). In Sweden six interviews have been performed. They are presented in chapter 3, which also includes data from a survey made by the Swedish Environmental Protection Agency.¹

The PROST project can be divided in three fields with different targets:

- 1 The first target of the project is to get an overall picture of energy use in public institutions, the rules and practices that govern it, and all barriers and possibilities to making it more energy efficient. This includes both public building construction and management practices and public procurement practices of products and appliances.
- 2 The second target is a general overview and analysis of all kinds of policy action (EU and national level; existing good practice examples, and possible innovative policies) that we consider important and helpful to overcome the barriers detected in the national surveys.
- 3 The third target is to prepare more detailed concepts for a set of policies that we feel are important, and which are going to be recommended to the European commission and our national governments.

1.2 National targets and strategies

The Swedish Climate bill was presented to the parliament on the 6th of December 2001. The approval of the Kyoto Protocol was thus proposed, so that Sweden can ratify it during 2002. According to the bill, the Swedish emissions of greenhouse gases shall be at least four percent lower in 2010 than in 1990. By doing so, Sweden is undertaking a greater commitment than required under the protocol, where the low amount of emissions per capita entitles Sweden to an *increase* of emissions by four percent.

¹ Miljöanpassad offentlig upphandling - En enkätstudie

The Swedish climate strategy includes the currently applicable energy and transport policy decisions, the Government's infrastructure bill and proposals for the next energy bill in the spring of 2002.

A Committee for Ecologically Sustainable Procurement (EKU-delegationen) has been given the task of promoting ecologically sustainable procurement within government agencies, local authorities and county councils. The Committee has developed a common, Internet-based instrument and a proposal for an ecologically sustainable public procurement policy for the entire public sector.

The 15th of March 2002 the government presented the Energy Bill². According to the bill, information efforts will be carried out in order to facilitate the prerequisites for energy related requirements in public procurement. Additional resources will be given to municipal energy counsellors and the role of regional energy managements units will be intensified.

Furthermore, the Energy bill recommends the promotion of energy efficient technologies, stimulation of existing technologies and support to procurement and market introduction of energy efficient technologies.

1.3 Energy Efficiency in Public Procurement

Public procurement occurs at all levels and in various types of organizations. A wide range of solutions are adapted to different situations in the public sector. During the past years, public procurement in Sweden has gone through radical changes. It has become more important as a consequence of increased purchasing and decreased production in public authorities. Moreover, privatisation and decentralization of procuring units has resulted in altered conditions for public procurement.

As for the agencies interviewed in this study, it is not possible to generalize tendencies within public authorities (due to the limited number of interviews) although some examples can be illustrating.

A minority of the organizations interviewed has their departments charged for used energy. Rental agreements may include energy costs, which make them hard to distinguish from other costs. Saved costs are usually not transferable to the next budget year and costs saved by energy efficiency are normally not followed up.

Among the interviewed, the general perception of the legal framework is that it is *not* a barrier for energy efficient procurement. However, the EU interpretative document on environmental concerns³ is sometimes seen as an obstacle for "green" procurement.

One of the barriers for energy efficient *building* investments is lack of knowledge. Other obstacles are conflicts of interests and financial barriers. The competence that is needed requires additional financial means.

Perceived obstacles for energy efficient *product* investments are lack of knowledge and difficulties to calculate the energy efficiency gains of different products. Long-term energy prices are also uncertain.

The division of responsibilities within the organizations is seen as another barrier for energy efficient procurement, since it hampers the financial motivation for energy efficient

² Prop 2001/02:143; Samverkan för en trygg, effektiv och miljövänlig energiförsörjning. No official name in English found this far

³ (COM(2001)274final)

procurement. The different departments tend to focus on their own expenses, and also consider energy costs irrelevant if included in rental costs. The delegation of procurement to various units as a result of decentralization also implies that there is a lack of knowledge and organizational prerequisites for environmental requirements in public procurement.

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

2.1 Administration structure

Sweden has three democratically elected levels of government: the Parliament at national level, the county council at regional level and the municipality at local level. Each of them has different areas of responsibility and duties.⁴

2.1.1 Municipalities

The municipality (kommun) constitutes the popularly elected local level in the country. There are 289 municipalities in Sweden that are responsible for local issues in the immediate environment of the citizens, e.g. primary, secondary and upper secondary schools, childcare, care of the elderly, roads, water, sewage and energy. The number of inhabitants of the municipalities vary in size from 3000 to approx. 700 000 and the median size is approx. 16 000 inhabitants. The median surface area of a Swedish municipality is approximately 700 km²

The supreme decision-making body is the Municipal Council (kommunfullmäktige), which is directly elected every four years. The Municipal Council of Stockholm has 81 members and the median size of councils in Sweden is 51 persons. The Council appoints committees with about 15 local politicians, of which some also have a seat on the Council. Important delegations are the Executive Board (kommunstyrelsen), and the committees of Environment and Healthcare, and Education⁵.

2.1.2 County councils

The popularly elected regional level in the country is the county council (landsting), which is responsible for carrying out common tasks of the region. In Sweden there are 21 county councils, whose main function is to assume responsibility for all health and medical care in the country. The county councils are also responsible for managing public dental care and - together with the municipalities - public transport.

The counties are headed by county administrations that are linked to central authorities. The County Administration Board (Länsstyrelsen) a state agency operating under general directives issued by Parliament and the Government, is completely independent to take decisions within its own framework. The County Administration may also act as a court. A Governor (landshövding), appointed by the Government for a period of six years, is the head of the county and chairman of a board of 14 members (länsstyrelsens styrelse).

⁴ Information about Swedish authorities from the website www.sverigedirekt.riksdagen.se/sprak/off_sekt_eng.asp

⁵ Byggnadsnämnden, miljö och hälsoskyddsnämnden och utbildningsnämnden

2.1.3 National government authorities

Sweden has more than 400 committees, boards and authorities under various departments. Their function is to execute the decisions made by the parliament and the government. The Ministry of Industry, Employment and Communications is responsible for energy issues. Government authorities are mentioned in part three as some of the interviewed partners⁶. The Swedish term for government authorities in this context can be referred to “statliga myndigheter”.

The Swedish government departments are relatively small. The Ministry of Environment that is responsible for the environment, planning and building, has 125 employees. A number of central authorities or boards⁷ are each responsible for a sector of the community. There are six different major central authorities (with approx 1500 employees) that support the Ministry of Environment and execute its policies.

The Government is not allowed to steer the decisions of the authorities in individual cases, but can give them instructions concerning their policies and activities. In this respect the authorities are independent of the Government. This division between political and executive competence is characteristic for the Swedish constitution.

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

2.2.1 The 2002 Climate bill

The 6th of December 2001 the Climate bill was presented to the Swedish Parliament (Riksdag). The Government proposes the approval of the Kyoto Protocol so that Sweden can ratify it during 2002.

According to the bill, Swedish emissions of greenhouse gases shall be at least four per cent lower in 2010 than they were in 1990. This goal is to be achieved without the use of carbon sinks and flexible mechanisms (trade and environmental investments in other countries). The Government can propose a complementary goal, including flexible mechanisms in connection with a review in 2004.

Sweden is thus undertaking a greater commitment than required under the Kyoto Protocol. With relatively low emissions per capita, Sweden is entitled to increase its emissions by four per cent (excluding forest sinks), but is now committed to four per cent reduction. This reduction refers to six greenhouse gases: carbon dioxide, methane, nitrous oxide, HFCs (hydrofluorocarbons), sulphur hexafluoride and perfluorocarbons. A number of measures are proposed in order to attain these objectives e.g.:

- Climate investment programmes in the municipalities that will replace the local investment programmes (see LIP under 2.2.2)
- Information so awareness of the climate issue will be increased
- A strategy for alternative fuels

⁶ The Swedish Integration Board and The National Board of Housing, Building and Planning

⁷ myndigheter, verk eller styrelser

- Electricity from renewable sources of energy through so-called green certificates will be promoted
- The climate work of the authorities will be co-ordinated by The Environmental Objectives Council (presented in the Swedish environmental objectives bill in May 2001)
- Instructions will be given to Government property owners to describe possibilities of increased energy efficiency and reduced dependence on fossil fuels

Other measures proposed in the bill are the possible introduction of green certificates for alternative motor fuels and the inclusion of emissions of carbon dioxide in aircraft landing and take-off charges. A review of the Planning and Building Act will treat the question of external shopping centres and their impact on transport. Measures to reduce emissions will include economic policy levers (environmental taxes, subsidies, removal of subsidies), legislation and voluntary agreements. According to the bill, there is a need for the development of sectoral responsibilities to clarify the responsible authorities for climate policy in a specific area, e.g. transport, industry and electricity and heating.

Furthermore, the climate strategy includes the currently applicable energy and transport policy decisions, the Government's infrastructure bill and proposals for the energy bill (see below).

2.2.2 The 2002 Energy bill

The 15th of March this year the government presented the Energy bill⁸, which introduces new and different means of control for energy supply in Sweden. The bill contains a new method to promote the proportion of renewable energy in the Swedish electricity supply system. The aim is to increase the level of ambition, stimulate the development of technologies and minimize expenses. A system with so-called green certificates⁹ will be introduced, where producers of renewable electricity receive an extra income through the certificates.

According to the bill, information efforts will be carried out in order to ameliorate the prerequisites for energy related requirements in public procurement. This will be achieved through education of personnel involved with public procurement. In addition, tools and methods will be developed, which facilitates the identification of new solutions and estimation of costs. Examples of such tools are energy surveys, methods of calculations of LCC-costs and third part financing. A more efficient management of residences and commercial buildings will be promoted by education and information adapted to different actors (companies, households and public sector).

Additional resources will be given municipal energy counsellors and the role of regional energy managements units will be intensified. Municipalities will, according to the bill, be able to apply for grants to educate personnel involved with energy counselling. This aims to broaden their knowledge so that information can be passed on to minor companies and industries.

The Energy bill also recommends the promotion of energy efficient technologies and the stimulation of existing technologies. Support will be given to procurement and market introduction of energy efficient technologies. The need of resources is estimated to

⁸ Prop 2001/02:143; Samverkan för en trygg, effektiv och miljövänlig energiförsörjning. No official name in English found this far

⁹ gröna certifiat

approximately €36 million (SEK 325 million) within a five years period from the 1st of January 2003.

2.2.3 LIP and KLIMP

The Local Investment Programmes (LIP) have been a measure to motivate the municipalities to energy saving investments, which are estimated to save energy equivalent to about 2 billion kWh annually, which corresponds to the annual energy use of 92.000 homes.¹⁰

The municipalities have been able to apply for financial support/grants from the government for their local investment programmes. The Swedish Ministry of the Environment and experts has granted the best applicants government awards after quality control inspections from the relevant authorities. 142 of Sweden's 289 municipalities have received the grant.¹¹, which generally covers approximately 30% of the total cost of the investment.

Sweden has reserved approximately 694 million euro (SEK 7.2 billion) to LIP for the years 1998-2003. Approximately 45 % have been used for investment in energy efficiency and a more sustainable use of energy.

LIP will be reorganized as The Climate Investment Programme, KLIMP, in 2002, and entirely targeted towards climatic measures. A special council, responsible for LIP and KLIMP, will be created at the Swedish Environmental Protection Agency. The council will consist of actors related to climate issues, such as represents from the authorities STEM¹² and The Swedish Environmental Protection Agency.

The Swedish Institute for Ecological Sustainability¹³ will provide information about the programmes and the results. The organization works to increase co-operation between different participants in the overall Swedish environmental effort.

2.2.4 The Committee for Ecologically Sustainable Procurement

The Government gave the Committee for Ecologically Sustainable Procurement the task of promoting ecologically sustainable procurement within government agencies, local authorities and county councils. The committee was active during the years of 1998-2001, and is now substituted by an interim steering group. The intention is to establish a permanent organization for ecologically sustainable procurement.

The Committee consisted of representatives from various interest groups, such as local authorities, county councils, government agencies, the business sector and environmental organizations and has been supported by a large number of working groups. Seminars were organized for purchasers and other interested parties at various venues The Committee has also held three international seminars on EU legislation and environmentally sound public procurement.

Energy issues have been treated by one of the Committee's working groups (see below under 2.7.1). If the group's proposals for procurement criteria concerning energy efficiency are implemented¹⁴ savings can be made of a total of 0.5 TWh annually.

¹⁰ Ministry of Environment, Local Climate protection measures in Sweden, p.2

¹¹ until September 2001

¹² Swedish Energy Agency

¹³ Statens institut för ekologisk hållbarhet (IEH), <http://www.ieh.se/>

¹⁴ see below under 2.7.1

One of the main tasks of the Committee has been to influence EU legislation and people's interpretation of it in order to make stringent environmental requirements applicable on all public procurement. It has been monitoring the work of the European Commission to draft an interpretative communication on environmental requirements in public procurement and the ongoing work in the EU to review the procurement directive.

2.2.3.1 An internet-based instrument

The Committee for Ecologically Sustainable Procurement has developed an instrument/guide to help public-sector organizations integrate environmental concerns into their procurement of goods, services and contracts. A system of environmental requirements from the Swedish Association of Local Authorities in the county of Västernorrland¹⁵ has partially served as a basis for the instrument.

The instrument is a joint mechanism to be used by the entire public sector and includes proposals for environmental requirements that can be applied on different product groups. It is not compulsory and public-sector organizations decide themselves whether and to what extent they wish to use the proposed requirements.

The aim of the instrument is to simplify the use of environmental requirements in public procurement (including energy efficiency). It is available at www.eku.nu. Presently, it is free of charge, but the introduction of a fee for users is now discussed.

Environmental requirements were available for about 70 different product groups such as batteries, food, furniture and cleaning services. However, the prerequisites for the instrument have changed considerably in the concluding stages of the Committee's work due to the interpretative document on environmental concerns in public procurement, recently presented by the European Commission. A great number of the environmental requirement is no longer a part of the instrument.

The EKU instrument contains proposals of environmental requirements that can be used in public purchasing. The proposed requirements are specifically designed as environmental specifications (miljövarudeklarationer) for each product, service and contract. They are divided in mandatory requirements ("skall-krav"), evaluation criteria and sometimes conditions of contracts (referred to the performance of a contract). There is also an information section with questions on internal environmental activities, which may serve as a basis for the evaluation of suppliers.

2.3 Policy Programmes on Energy Efficiency in Public Institutions

2.3.1 Miljöanpassat kontor

"Miljöanpassat kontor" - The Green Office Project - was a project led by NUTEK¹⁶ in the beginning of the 90's. The goal was to set up procurement criteria for everything an office worker could need. The criteria were set to embrace three types of criteria; energy efficiency, working environment and external environment. Three organisations co-operated in the work; NUTEK, TCO (one of the largest unions in Sweden, see below) and The Swedish Society for

¹⁵ Västernorrlandspärmen av Kommunförbundet i Västernorrlands län

¹⁶ Swedish Business Development Agency

Conservation of Nature¹⁷. The project has not been updated since the beginning of the nineties.

The project resulted in a checklist – “How green is your office”, a manual – “Green your office” and “Ask about the environment”, a document with procurement criteria for a large number of products/services¹⁸. It consists of different product declarations, which can be used by companies and authorities for requirements of energy efficiency, working conditions and external environment. The declarations are questions that can be posed to the supplier and keys of interpretation for the procurer.

2.3.2 TCO'95

The Swedish Confederation of Professional Employees (TCO) consists of 19 affiliated trade unions and unites 1.3 million Swedish white-collar workers from all areas in society. Apart from issues like job satisfaction and opportunities for professional development and training, TCO works for a good working environment, e.g. computers that fulfil ergonomic demands.

The basic principle of TCO'95 – the TCO labelling system - was to create better working conditions for PC users. The requirements of TCO'95 refer to external as well as work environment. As for external environmental requirements the TCO labelling system of computer equipment includes:

- Low energy consumption
- Minimizing of chlorinated and brominated flame retarding substances and heavy metals
- The product's preparation for pre-separation and recycling

TCO'99 is a revision of TCO'95. The TCO'99 requirements embrace the same products though some requirements have been added or made more stringent.¹⁹

2.3.3 LCC - Energi

In the beginning of the 90's NUTEK was the leader of a project on life cycle cost and Guidelines for LCC calculations were published as the “ENEU 94”. The guide has not been used very much, but it has led to a change in the view of economics/profitability in some large companies. In November 2001 a new version – LCC Energy²⁰ - replaced the ENEU 94.

The ENEU 94 Guidelines can be seen as a first attempt to set up requirements for energy efficiency in procurement related to buildings and energy consuming equipment. The guidelines had different versions for municipalities and industry, while LCC Energy is applicable for both. The system can be used for (in principle) all energy consuming equipment, but eight areas are presently described in detail. Additional information on LCC energy can be found at www.industrilitteratur.se or through www.stem.se²¹

¹⁷ Naturskyddsföreningen - the largest environmental organisation in Sweden

¹⁸ These are only available in Swedish as: “Hur grönt är kontoret”, “Miljöanpassa kontoret” and “Miljöfrågan”

¹⁹ Source: TCO Development website; www.tcodevelopment.com/

²⁰ only available in Swedish as sLCCenergi eller Kalkylera med LCCenergi

²¹ also through www.stem.se

2.3.4 EKO Energy Programme for Industry

The objectives of the EKO Energy Programme for Industry (in Swedish Eko-energi industri), which are currently ongoing projects, are to improve the efficiency of industrial electricity use. The participating companies have an agreement with STEM where they can undertake to draw up long-term energy and environmental policies and to analyse energy consumption so that strategies can be developed and concrete objectives set. Energy flows of the companies are reviewed and analysed by STEM, which in its turn, contributes with training material (such as the LCC Energy guidelines, see above) and information needed for fulfilling requirements of energy and environmental policies to meet the requirements of EMAS or ISO 14001.

2.3.5 EKO Energy Programme – EKO-kom

A voluntary program for municipalities, EKO-kom (in Swedish Eko-energi kommuner) includes energy efficiency where 10 of 248 municipalities participate. The programme includes product procurement and building energy management and is coordinated by STEM²².

The aim of the EKO Energy Programme is to encourage municipalities to improve energy and climate work within municipal properties, administrations and companies. The objective of the programme is that a growing number of municipalities shall make revisions of internal energy use status, improve energy efficiency and increase the use of renewable energy.

Various benefits are offered to the participating municipalities. Examples are training courses including elements of information on energy systems and tools to obtain an energy statistics. The municipalities undertake to develop strategies and objectives for future energy use and routines for energy efficient procurement. The aim is to include a growing number of municipalities each year.

2.3.6 National targets for public buildings

In Sweden there are no national targets for public buildings regarding energy efficiency. Co-operation between STEM and the public real estate owners will be initiated to investigate prerequisites for and possibilities of increased energy efficiency in management of buildings. This is aimed to serve as a basis for measures that will limit environmental impacts in the built environment.

²² Swedish Energy Agency

2.4 Laws and Regulations Governing Product Purchasing and Investments by Public Institutions

2.4.1 General Laws and Regulations

2.4.1.1 The Public Procurement Act

The Public Procurement Act²³ and the EU directive on public procurement regulate practically all public procurement of goods, services and works in Sweden.²⁴ This legislation must be applied by the public sector for all public procurement of goods, services and works contracting. The National Board for Public Procurement²⁵ is the supervisory authority for these activities.

Public procurement is in this context defined as procurement made by government agencies²⁶, and utilities²⁷ within transport, energy, water supply and telecommunication. These are utilities, which are in the public sector or which (although in the private sector) carry out the specified activity on the basis of "special or exclusive rights".

The EU Procurement directives are valid for procurement over certain threshold values, which are higher for the utilities than for the government agencies. The Public Procurement Act has implemented the directives whose contents have systematized the law.

Since the EU has signed the Government Procurement Agreement (GPA), a treaty between different states within the WTO, states outside of the EU have to be taken into consideration. This applies also to the EES treaty.

2.4.1.2 The Local Government Act

The Local Government Act has a regulation about balanced budgets²⁸, the so-called "Balanskravet". It prevents municipalities and county councils from having a debt in their budget from one year to another. This law makes it harder to invest in energy efficiency measures, which will profit in the future.

"Balanskravet" is to be seen as an instrument to prevent a continuous deficit of the economy of municipalities and county councils. It aims to create opportunities for a long-term financial development. The underlying thought is to guarantee that each generation shall bear the costs of the service it has decided on and consumes. It also aims to strengthen the confidence of suppliers and give opportunities for credit giving.

The law states that municipalities and county councils shall draw up a budget for the coming fiscal year.²⁹ The budget shall include a plan for the activities and economy of the agency and revenues have to exceed expenses. If the expenses of a fiscal year exceed the revenues, the

²³ Lag (1992:1528) om offentlig upphandling - LOU

²⁴ Sources to the Public Procurement Act chapter: Falk – Miljöanpassad upphandling – offentlig och privat and personal contact with Linda Dahlström at the National Board for Public Procurement

²⁵ Nämnden för offentlig upphandling - NOU

²⁶ such as municipalities, county councils, government and municipal authorities and companies etc.

²⁷ försörjningssektorerna

²⁸ Section 8, §4

²⁹ Section 8, §4

negative result has to be regulated and the capital (according to showed calculations) has to be restored within the two following years.

This regulation affects the possibilities of energy efficient investments, since they have to be profitable within a short period in order to keep the budget balanced. As energy savings seldom is the reason for changing equipment, this is not a major problem. However if the public bodies would be more aware of the saving potentials this would block investments in energy efficiency. There is a need for other financial vehicles to overcome this.

2.4.1.3 *The Planning and Building Act*

In 1987 a revision of planning legislation was introduced and the 1987 Planning and Building Act³⁰ replaced the earlier building act. A new Act on the Management of Natural Resources³¹ gave directions on proper land use and good management as overall guiding principles for about 15 other laws and was incorporated in the Environmental Code (se below) in 1999.

The Planning and Building Act is the main act within the spatial planning system and the main objective of the system is to stimulate a suitable use and good management of available land and water resources and the man-made environment with due consideration given to providing a proper frame for development. The system is decentralized and gives municipalities the main responsibility.

The Planning and Building Act constitutes a framework within which the municipality can act and sets out a series of general requirements to be observed in the planning and design of building development. It states that the municipality has the responsibility for planning the use of land and water areas. Consideration shall be given to both public and private interests when issues are weighed in accordance with this act

In part two it is stated that public interests have to be considered in planning and siting of building development. Here, the link to the environmental code and management of natural resources are mentioned as public interests. Extensions, modernization and other alterations to all buildings shall be carried out carefully and in such a way that the building's constructional, historical, environmental and architectural values are taken into consideration.³²

2.4.1.4 *Building codes for new and renovated buildings*

Building Regulations³³ that are mandatory provisions and general recommendations includes one chapter on energy efficiency (electricity) and requirements for insulation.³⁴ It is a very general text that says that installations using electricity should be planned and built to minimize the energy use.

To specify this paragraph a booklet with recommendations on energy efficiency has been published.³⁵ These recommendations are not mandatory. In the booklet one will find recommendations for:

| | |
|--------------------|--|
| Air handling units | SFP (specific Fan Power) |
| Lighting | W/m ² |
| Cooling | Passive methods instead of active cooling (driven by compressor) |

³⁰ Plan- och bygglagen (PBL), Information of the Planning and Building Act from the website of The National Board of Housing, Building and Planning, www.boverket.se

³¹ Natursresurslagen

³² Section 10

³³ Boverkets byggregler, BBR

³⁴ BFS 1998:38, chapter 9

³⁵ Boverket, Eleffektivitet i byggnader

2.4.1.5 *The Environmental Code*

The Environmental Code (Miljöbalken) is applicable for the public as well as for the private sector. It applies, not only to situations that are directly governed by the code, e.g. environmentally hazardous activities, but also other issues that are important for the fulfilment of the goals of the code. Public procurement may be defined as such an issue.³⁶

The built environment is seen as a natural resource, and the Chapters 3–4 in the Environmental Code constitute a kind of umbrella legislation for the Planning and Building Act. The Environmental Code and the Planning and Building Act together form a planning system, which can be formulated as a way of considering and thinking when plans are made or before a standpoint is taken on an application for a building permit.

2.4.2 *Special Energy Efficiency Recommendations for Public Buildings*

There are no specific regulations for public buildings that go beyond energy requirements in the Public Building Act, but voluntary guidelines exist. Guidelines are produced by trade associations and by STEM.

2.4.3 *Special Energy Efficiency Recommendations for Public Purchasing*

Voluntary guidelines for energy efficient procurement exist as part of the database of green procurement. There exists a political ambition to introduce green purchasing at a governmental level (see above).

No national specifications exist except internal purchase guidelines or praxis within large public bodies. Those are often “copied” by smaller units. This sets the level although it is not a national recommendation.

2.4.4 *The procurement process*

Although the Public Procurement Act regulates the public procurement process, it is to a great extent similar to the procurement process of the industrial life. An analysis of needs³⁷ and a market analysis are made, which serve as a basis for specifications of demands that will be made upon the suppliers and the procured object. The evaluation of tenders is then made with respect to these demands.

Generally the winning supplier is evaluated during the period of the contract. The Public Procurement Act does not regulate this part.³⁸ Nor does the law regulate the choice of the procured product. A *private* company may choose locally cultivated vegetables without breaking any rules - public procurement has to consider EC principles of the free movement of goods and services, but is for example free to choose apples instead of oranges. Decisions from authorities, governmental recommendations or other measures that aim to encourage Swedish products and companies are barriers of free trade and thus forbidden in public procurement.³⁹

³⁶ Source: www.boverket.se

³⁷ behovsanalys

³⁸ usually called “leverantörsutvärderingen” (evaluation of suppliers)

³⁹ Main source to this chapter: Falk, Miljöanpassad upphandling – offentlig eller privat

2.4.4.1 Procurement according to Chapter 6

Chapter 6 in the Public Procurement Act refers on procurement of services or building and constructing services, works and supplies, which are below the threshold values. The directives are applicable only to procurements over the threshold values. The member states are otherwise free to apply their own rules. However, principles of non-discrimination, proportionality and equal treatment and the rules of free movements of goods and services, have to be considered.

For procurement over the threshold values the procuring unit shall award the suppliers according to economic and financial position and technical ability and capacity. The utilities may qualify their suppliers according to objective criteria when procuring over the threshold values. Other facts may then be taken into consideration, which is probably done for procurements under the threshold values as well. Since chapter 6 is applicable for the public sector as well as for the utilities, one may assume that even the former has the equal possibilities of demands according to objective criteria.

In a procurement process, environmental requirements are naturally made through environmental requests on the suppliers and in connection to the evaluation of tenderers.

2.4.4.2 Threshold values

The threshold values shall be based on the total value of each procurement. From the 1st of January 2002 the threshold values are⁴⁰:

| Goods and Services | Threshold value |
|--|------------------------|
| Government agencies | €130 000 |
| Other procuring units | €200 000 |
| Suppliers (except telecom) | €400 000 |
| Telecom sector | €600 000 |
| Publishing of indicative notices ⁴¹ | €750 000 |
| Building Contracts | €5 000 000 |

2.4.4.3 Procurement over the threshold values

Environmental demands upon suppliers and goods/services can be made for procurement over the threshold values. The evaluation of suppliers is one of the main parts in the procurement process. The participating suppliers have to live up to the requirements of financial and technical capacity defined by the procuring unit. According to the directives, evidence containing product capacity, technical resources, lists of earlier deliverances etc., can be requested from the suppliers. The technical and financial requirements shall be connected to the procured object and may include demands of experience of similar work and fulfilment of deliverances.

As for procurement of services and public works contracts, the procuring unit may have environmental requirements of the procured object and of the supplier, e.g. environmental demands on the performance of a construction project. Environmental requirements on the suppliers may then be referred to technical ability and capacity. Such demands may thus be included in the qualification of the suppliers.

The evaluation of the suppliers has to be connected with their ability of fulfilling the contract. This is usually not affected by the way the goods are produced. Occasionally, references can be made to production processes. Environmental effects that can be included regarding the

⁴⁰ förordning (2000:63) om tröskelvärden vid offentlig upphandling

⁴¹ (förhandsannonsering) Publishing of indicative notice demanded is required for contracts over the threshold value

qualities of the product and the supplier's ability of deliverance. Apart from the technical capacity, this may depend on conditions of permission according to national legislation such as the Environmental Code. A breach of such national conditions may be a ground for disqualification according to the Public Procurement Act.⁴²

If the requirements are not directly connected to the deliverance, environmental requirements may be referred to the EMAS decree⁴³ or requirements permitted through EU Practice.

2.4.4.4 *Evaluation of suppliers and tenders*

The evaluation of suppliers and the requirements of the object that is to be procured are governed by different rules. The Public Procurement Act says that the procuring unit shall verify that the tenderers fulfil the demands of the unit.⁴⁴ According to EU practice, demands without connection to the evaluation of suppliers or the requirements may be allowed as well.

According to the Public Procurement Act, a contracting entity shall accept either the tender, which is *economically most advantageous*, or has the *lowest tendered value*.⁴⁵ When assessing the former criteria the entity shall make an overall assessment including considerations such as cost, delivery date, quality, aesthetic value, technical support, environmental impact etc. The entity shall in its contract documents or in the contract notice state to which considerations weight is to be attached. These considerations shall, if possible, be ranked in order of importance, with the most important first.

2.4.4.5 *Demands upon suppliers*

For public purchasers the evaluation is limited to issues related to financial and economic aspects and technical capacity. The directives and the Public Procurement Act do not say much about the meaning of these notions, though some guidance is found in the decree of evidence in public procurement⁴⁶. The requirements have to be in accordance with common principles such as the principle of proportionality, which implies that the demands have to be in proportion to their aim. The Government Procurement Agreement states that demands on suppliers have to be necessary for the fulfilment of the contract. This is how the levels of requirements in the Public Procurement Act are to be interpreted.⁴⁷

2.4.4.6 *The evaluation of suppliers*

The procuring unit evaluates the suppliers. In this evaluation, the unit may include the grounds for disqualification. In this text, these issues will be treated with government agencies as the point of departure (as opposed to utilities).

The rules of disqualification are applicable also for the utilities.⁴⁸ Two grounds are especially relevant in an environmental perspective: A supplier may be excluded from participating in a procurement process if sentenced in his professional activities or has committed a serious mistake in his profession, if the procuring unit can prove it.⁴⁹ It is thus possible to disqualify a supplier sentenced for an environmental crime.

⁴² Section 1, 17§

⁴³ EMAS-förordningen

⁴⁴ Section 1, 20a§

⁴⁵ Section 1, 22§

⁴⁶ Förordning (1998:1364) om bevis vid offentlig upphandling

⁴⁷ Falk, Miljöanpassad upphandling – offentlig och privat

⁴⁸ Section 1, 17§ and section 6, 9§ in the Public Procurement Act

⁴⁹ by a verdict that has gained legal force

It is not compulsory to disqualify a supplier on the above-mentioned grounds. However, if the procuring unit has explicitly demanded disqualification on these grounds in the call for tenders or contract notice, this cannot be disregarded.

The procuring unit decides when the grounds for disqualification are to be applied. Naturally, the procuring unit uses its possibilities of excluding a supplier, who (objectively) constitutes a risk.

2.4.4.7 Demands on economical and financial status

The Public Procurement Act regulates requirements that may be made on suppliers.⁵⁰ A supplier may be excluded from participation in an award procedure if he is bankrupt, is the subject of proceedings for a declaration of bankruptcy, has been guilty of grave professional misconduct etc. The suppliers must be evaluated on grounds that are objective and distinct and identical for all suppliers.

The evaluation of suppliers is made before the evaluation of tenders. The evaluation of the suppliers' suitability shall not be relative – they are either suitable or not suitable. When the evaluation is done the accepted suppliers can be described as equal.

The aim of the evaluation is to secure that the suppliers are financially capable to accomplish the contract. Requirements that are too advanced are not allowed (and not necessary). The applied grounds of evaluation must not be discriminating or violate the principles of equal treatment and proportionality. Furthermore, they must not violate the right to free establishment and the right to supply services or constitute a restriction to the free movement of goods.

Industrial activities normally have expenses for the environmental damage they cause. The Polluter Pays principle is not only incorporated in Swedish law, but also one of the main principles of EU Environmental Law. Environmental aspects are thus highly relevant in the economical evaluation of suppliers.⁵¹

2.4.4.8 Technical ability and capacity

The Public Procurement Act and the directives do not define the term of technical ability. It refers to the ability of performing the contract at issue, with the supplier's tender as the starting point. The line between "ability" and "capacity" is not very distinct. Capacity refers to legal demands that have to be accomplished by the suppliers. It may concern permits of production or according to the Environmental Code or permits for transports of environmentally hazardous waste. Other demands, with relevance to capacity, are the ability of the suppliers to adjust to regulations of health and security.

2.4.4.9 Other demands

A large number of the demands of the public procurement units constitute a natural part of the transaction. These terms are usually formulated in the valid treaty of a transaction, e.g. time of deliverance, freight clause etc. The procuring unit shall see to that these terms are equally oppressive for all suppliers. Other conditions, which cannot be referred to the above mentioned business terms, are in Sweden usually connected to environmental requirements the winning supplier.⁵² Nor can they be referred to economical and financial status or

⁵⁰ Section 1, 17§

⁵¹ according to Falk. Miljöanpassad upphandling – offentlig och privat

⁵² *ibid*

technical ability or capacity. EU practice refers such conditions to “additional specific conditions”. There is still uncertainty about application of these conditions.⁵³

2.4.5 Environmental requirements in public procurement

The system of rules behind the Public Procurement Act aims to ensure the free movement of goods and services within the EU. The Public Procurement Act is built on a number of EC directives, which have been implemented through the law. Neither the directives, nor the Public Procurement Act mention environmental demands that can be made upon public procurement. However, the lack of requirements does not imply that environmental claims are prohibited. The directives do not contain detailed regulations of any area, except for the procurement process and procedures. Though detailed regulations of quality, durability, choice of material etc are missing, they are not prohibited.

There is today uncertainty about some environmental requirements. Especially as to what extent environmental requirements can be brought upon eco-labelling, environmental management systems, manufacturing processes and transports.⁵⁴

2.4.5.1 Life cycle perspective

The Life cycle perspective is an established way of measuring the environmental impact of goods. Environmental demands should be possible also concerning the whole life cycle of the product, i.e. the environmental impact of raw material, manufacturing processes, use and waste. In the procurement system, requirements must have direct connection to the procured product and the use of it, something that may be difficult to combine with the Life cycle perspective.

2.4.5.2 Eco-labelling

Eco-labelling is an example of the use of the LCA-criteria at different levels, depending of the authorization used. It represents a simple and efficient instrument for the procurer to estimate the environmental impact of an article. Demands according to the EU flower may become accepted, since it is a common European brand. This might be the issue despite the fact that some of the criteria contain demands on manufacturing processes.

2.4.5.3 Environmental Management Systems

It is possible to demand that suppliers are connected to environmental management systems when procuring services and contracts since it is directly affecting the procured object. The Committee for Ecologically Sustainable Procurement has expressed a wish of increased possibilities to make environmental requirements on environmental management systems in the procurement of goods.⁵⁵

2.4.5.4 Environmental declaration of goods

A new type of environmental declaration of goods has occurred rather recently.⁵⁶ The declarations are objective and have been performed through accepted scientific standards for

⁵³ according to Linda Dahlström, NOU

⁵⁴ Source to this chapter: Falk: Miljöanpassad upphandling – offentlig och privat

⁵⁵ Falk: Miljöanpassad upphandling – offentlig och privat

⁵⁶ miljövarudeklarationer

LCA within the ISO system. Comparative evaluations of the criteria are easily made with this system and thus a non-discriminating selection.

2.4.5.5 *Manufacturing processes*

According to the Public Procurement Act⁵⁷ it is not allowed to refer to a certain article, origin, production etc. However, it is possible to bring demands upon the manufacturing process if it can be motivated with reference to the procured object. The same applies if reference to a certain production process does not disregard or favour certain suppliers. The rule is difficult to interpret and it is not clear whether it is possible to refer to the criteria of the EU flower, since it only partially affects the manufacturing process of an article.

The Life cycle perspective implies that environmental aspects of manufacturing processes are considered when estimating environmental effects of products. If environmental requirements of the EU flower are accepted, it should be possible to make demands of manufacturing processes in other contexts as well.

2.4.5.6 *Transports*

It is allowed to make environmental demands on transports that are separately procured. If the transport itself is procured, there are no other restrictions than what is normally valid for procurement. If connected to procurement of goods, environmental demands on performance can also be made. Although short distances have positive environmental effects, such demands are considered as discrimination according to the Public Procurement Act. This applies also to procurement under the threshold values. Discriminating effects may also occur for requirements of locally cultivated products. Furthermore, the demands may not be absolute, e.g. demands on specific transports such as boat or train, before the winning supplier is selected. Such demands may exclude suppliers with limited possibilities of transports, e.g. suppliers from Ireland.

When demands on transports do not affect the choice of supplier in the procurement of goods, one may assume that they are allowed. However, nothing restrains the procuring unit to lay down conditions for later agreements between the unit and the winning supplier, or that the unit handles the transport itself. It may then procure the service train transport and independently decide upon which service to procure.

2.5 **Co-operative Purchasing by Public Institutions**

2.5.1 *NOU*

NOU – The Board for public procurement⁵⁸ - is a central government agency, responsible for day-to-day operations and for contacts with contracting entities, other organizations and individuals. The tasks of NOU are to supervise observation of the Public Procurement Act⁵⁹ the GATT agreement and the procurement agreement under the WTO, to work for efficiency in public procurement, to spread information, to give general advice and comments on how the procurement regulations shall be interpreted and to follow developments in the area of procurement in the EU and the WTO.⁶⁰

⁵⁷ chapter 1, §16

⁵⁸ Nämnden för offentlig upphandling – no official name in English found

⁵⁹ LOU

⁶⁰ Source:<http://www.nou.se/>

2.5.2 *Statskontoret*

The Swedish Agency for Public Management – Statskontoret - provides support to the Government and Government Offices. The task of the agency is to conduct studies and evaluations at the request of the government and also to modernize public administration with the use of IT. Their activities are directed according to the Government's needs and demands. A new organization and database for procurement working towards government is being planned.

The Agency helps to develop Swedish administrative policy and also ensures that electronic infrastructure in the public sector is open and secure. The Agency provides the Government with issues like analyses for decision-making by carrying out investigations, carrying out cost-effectiveness analyses of state use of premises and making the Government aware of the need for measures to promote efficiency.

As for procurement, the Swedish Agency for Public Management is responsible for the IT use and the general agreements.⁶¹

2.5.3 *Kammarkollegiet*

Kammarkollegiet, The Legal Financial and Administrative Services Agency has a co-ordination function whose scope is to develop, co-ordinate and follow up the procurement within the state. This includes the establishment, development and deployment of a framework purchasing system and methods and support for increased procurement competence and practice. The government procurement comprises all central authorities directly under the government (300 authorities, employing some 230 000 persons). Under certain conditions, other state-related organizations can be included in the government procurement system.

The system is based on the principle that the authority with the best prerequisites to perform a procurement that is common for the relevant other central authorities, is asked to widen their framework procurement to include also them.

Eleven authorities responsible for procurement are working together with the co-ordination function in the system for framework purchasing, which includes around 75 product areas, e g for stationery, cars, PC's and furniture. The annual turnover exceeds SEK 4 billion (approximately €443 million).⁶²

2.5.4 *Kommentus Energi&Samköp*⁶³

Kommentus Energi&Samköp works for objective co-operative procurement of energy and other products and services related to municipalities. After the deregulation of the Swedish energy market, a great number of municipalities, public companies, county councils and churches have accomplished coordinated energy procurements with the help of Kommentus.

⁶¹ Source: The Swedish Agency for Public Management <http://www.statskontoret.se/english/index.htm>

⁶² Source: <http://www.avropa.nu/html/eng.htm>

⁶³ Source: <http://www.kommentus.se/>

2.6 Energy Management in Public Institutions

Typically energy management is included in facility management. It depends a lot on personal initiative how important energy is. As more public institutions have environmental policies, energy issues are likely to become more important.

2.7 Key Statistical Data

2.7.1 Product Data

One part of the work of the Committee for Ecologically Sustainable Procurement treated energy issues. The aim was to formulate recommendations of energy use of procured products. The energy study⁶⁴ is limited to the operational energy use of products (energy used in the manufacturing process is not included).

In Sweden, the transport sector is the largest consumer of energy, with a use of 100 000 GWh annually. It is not clear to what extent this can be referred to public procurement, but transports is likely to be one of the largest items of procured energy in Sweden.⁶⁵The table below does not treat norms related to transport.

Lighting is also a large energy-consuming item. Among the products included in the table *incandescent* represent 21.5 %, *fluorescent tube* 23.5% and *ventilation* 18% of the procured energy. Other items, such as PC, luminaries and windows (energy losses due to badly insulated windows), represent each some 5% of the energy use.

The table below shows the proposed norms for different products and what impact these norms would have on energy use, if they were fully implemented. A total of 0.5 TWh annually could be saved if the energy efficiency recommendations were followed.

⁶⁴ EKV-delegationen: Energi – rekommendationer/krav avseende energianvändning

⁶⁵ according to the above mentioned study

| Product Equipment | Nos. sold Per year | Nos. sold Public sector | “Procured energy” per year | Share of total | Energy Efficiency Recommendations | 100% follows recommendations | Savings |
|------------------------------|--------------------|-------------------------|----------------------------|----------------|--|------------------------------|------------------|
| PC | 1 125 000 | 445 725 | 82,5 GWh | 4,9% | Energy saving function installed at deliverance. Un installation by authorized person. | 41,9 GWh | 40,7 GWh |
| Printers | 941 000 | 372 824 | 28,0 GWh | 1,7% | Energy Star | 27,3 GWh | 0,7 GWh |
| <i>Matrix</i> | 19 000 | 7 528 | | 0,0% | | | |
| <i>Laser</i> | 175 000 | 69 335 | 13,8 GWh | 0,8% | E2000 | 13,1 GWh | |
| <i>Ink</i> | 747 000 | 295 961 | 14,2 GWh | 0,8% | E2000 | 14,2 GWh | |
| Screens | 1.300 000 | 515 060 | 113,6 GWh | 6,8% | Energy saving function installed at deliverance. Un installation by authorized person. | 44,4 GWh | 69,2 GWh |
| Faxes | 122 900 | 36870 | 6,5 GWh | 0,4% | Energy star | 5,0 GWh | 1,5 GWh |
| Copiers | 38 728 | 11 618 | 11,6 GWh | 0,7% | Energy star | 8,0 GWh | 3,6 GWh |
| Multifunction machines | 2 400 | 720 | 0,7 GWh | 0,0% | Energy star | 0,7 GWh | 0,0 GWh |
| White Goods | | | | | | | |
| <i>Fridge/ freezers</i> | 440 000 | 100 000 | 52,2 GWh | 3,1% | EU Class A | 33,7 GWh | 18,5 GWh |
| <i>Dishwashers</i> | 130 000 | 15 000 | 4,7 GWh | 0,3% | EU Class A | 3,4 GWh | 1,3 GWh |
| <i>Washing machines</i> | 175 000 | 10 000 | 2,4 GWh | 0,1% | EU Class A | 1,7 GWh | 0,7 GWh |
| <i>Drying cabinets</i> | 15 000 | 5000 | | | | | |
| <i>Tumbler</i> | 50 000 | 10000 | 3,9 GWh | 0,2% | EU Class A | 3,2 GWh | 0,7 GWh |
| Lighting | | | | | | | |
| <i>Indoor luminaries</i> | 1 000 000 | 500 000 | 74,7 GWh | 4,5% | All T5 | 57,0 GWh | 17,7 GWh |
| <i>Street luminaries</i> | 200 000 | 200 000 | 68,0 GWh | 4,1% | Lower levels at night | 64,3 GWh | 3,7 GWh |
| <i>Park luminaries</i> | 90 000 | 36 000 | 10,9 GWh | 0,7% | > 50 lumen/Watt | 8,6 GWh | 2,3 GWh |
| <i>Traffic Signals</i> | | | | | LEDs | | |
| <i>Task lighting (desks)</i> | | | | | CFL +HF ballasts | | |
| <i>Incandescent</i> | 60 million | 6 000 000 | 360,0 GWh | 21,5% | CFL | 72,0 GWh | 288,0 GWh |
| <i>Fluorescent tube</i> | 10 million | 5 500 000 | 396,0 GWh | 23,7% | Tri-phosphor, linear fluorescents | | |
| <i>CFL – pin base</i> | 2,9 million | 870 000 | 31,3 GWh | 1,9% | | | |
| <i>CFL – screw base</i> | 1,7 million | 680 000 | 16,3 GWh | 1,0% | | | |
| TV and VCRs | | | | | | | |
| <i>TV</i> | 500 000 | 50 000 | 9,1 GWh | 0,5% | 3W standby/off | 8,4 GWh | 0,7 GWh |
| <i>VCR</i> | 365 000 | 20 000 | 1,0 GWh | 0,1% | 4W standby/off | 0,8 GWh | 0,2 GWh |
| Ventilation | 10 000 units | 5 000 | 302,5 GWh | 18,1% | Specific Fan Power 1,5 kW/(m3/s) (renovation 2,0 kW/(m3/s)) | 242,0 GWh | 60,5 GWh |
| Windows | 800 000 | 400 000 | 67,7 GWh | 4,0% | U-value: 1,0 (renovation 1,3) | 51,9 GWh | 15,8 GWh |
| TOTAL | | | 1 671,7 GWh | | | 701,7 GWh | 525,7 GWh |

2.7.2 *General Data*

The public sector in Sweden is relatively extensive and it procures for approximately 25 million euro (SEK 280 billion) each year.⁶⁶ The total building floor area in Sweden is 430 million square meters (excluding single family houses and farms) and 45 % of the space is public owned. 34% of the employees are employed by public sector.

The municipalities where 182 million square meters are blocks of flats own 38% of all buildings.

3% of the students are in non-public schools. Akademiska hus, who owns all university buildings (and some research facilities), has a space of 3 million square meters.

The County councils dispose an area of 14 Million square meters.

Sweden holds 55 prisons with 4 100 beds.

The building area is 100% heated.

The educational system (schools, universities, other) has 372.700 employees.

Population amounts (year 2000) to 8 882 792 persons.⁶⁷

⁶⁶ EKV-delegationen: Energi – rekommendationer/krav avseende energianvändning

⁶⁷ Statistics from www.scb.se

3. Results from the interviews

3.1 Interviewed Partners and Institutions

A number of interviews of purchasers of authorities⁶⁸ of different levels have been made in order to get information about issues as procurement strategies, budget issues and perceived barriers to energy efficient procurement. However, the interviews are too few to indicate certain trends/evolutions on different levels of the public sector. Six deep interviews were made with the following authorities/persons:

| <i>Authority</i> | <i>Level</i> | <i>Function</i> |
|--|--------------|---|
| The municipality of Flen | Local | Purchase manager |
| The municipality of Norrköping | Local | Public purchaser |
| The municipality of Västerås | Local | Purchase manager and environmental/energy coordinator |
| The County Council of Gävleborg | Regional | Purchase manager and Energy manager |
| The National Board of Housing, Building and Planning | National | Purchase manager and real estate/O & M manager |
| The Swedish Integration Board | National | Purchase manager |

3.2 Swedish Environmental Protection Agency survey

The Swedish Environmental Protection Agency (Naturvårdsverket) has in the beginning of 2002 presented a report on environmental concerns in public procurement.⁶⁹ The report is based on an inquiry that has been distributed to 276 public authorities of which 133 were municipalities, 21 county councils and 122 government authorities.

According to the report, the value of public procurement amounted in 1997 to €44 billion (SEK 400 billion). This corresponds to approximately 20% of the Swedish GDP. Government authorities, municipalities and county councils procured for €28 billion (SEK 250 billion), of which the municipalities procured for €11 billion (SEK 100 billion), the county councils for €8 billion (SEK 70 billion) and government authorities for €9 billion (SEK 80 billion)⁷⁰. Half of the public procurement in Sweden refers to services, while products represent 1/5 and building- and construction work⁷¹ 1/4 of the procured volume.⁷²

In chapter 3.3 references are made to the survey and to the interviews made within the PROST project.

⁶⁸ see Appendix

⁶⁹ Miljöanpassning vid offentlig upphandling – en enkätstudie

⁷⁰ Note: these figures are all approximate

⁷¹ bygg- och anläggningsarbeten

⁷² Swedish Environmental Protection Agency: Miljöanpassning vid offentlig upphandling – En enkätstudie, p.3

3.3 General Information on Purchasing and Energy

3.3.1 Budget/decision responsibility

Within the municipality of Norrköping, the budget responsibilities are decentralized and every department has its own budget responsibility. Each unit makes its own procurement under certain threshold values, according to the Public Procurement Act.

As for the municipality of Västerås, the real estate department of the municipality has the budget responsibility for building investments and O&M in buildings, which are subleased to the different departments of the organization. Rental agreements include heating, electricity and hot water.

In the municipality of Flen, The head of the IT-section or the headmasters in the case of schools have the budget responsibility for IT-related products. The municipal real estate company officially manages the budget for purchase of energy and O & M, while budget responsibility for the rest lies on the manager of the real estate department.

The County Council of Gävleborg, whose main function is health and medical care, has budget responsibility divided on each clinic. An energy manager makes centralized energy procurement and a real estate company is responsible for investments in buildings. The real estate committee⁷³ has decision-making capacity for budgets. When it comes to transports, O&M and cleaning performed by contractors⁷⁴, a purchase manager is responsible for the procurement for the entire council.

In the Swedish Integration Board, the administrative manager has budget responsibility for purchase of energy, products and investments in buildings, while a superintendent has the budget responsibility for components and appliances.

At the National Board of Housing the building is rented and energy costs are calculated according to a fixed cost model, based on a per-square-meter. Government authorities are not allowed to make major investments in rented buildings and investments of the real estate company are included in rental costs. This complicates attempts towards energy efficient purchasing/building management. The financial manager has the budget responsibility for purchase of products, O & M, and minor building investments.

According to the Swedish Environmental Protection Agency survey (see above) procurement occurs at all levels and in various types of organizations. For government authorities centralized purchasing is as frequent as decentralized purchasing functions. Centralized procurement is more common for county councils. Cooperative purchasing and general agreements are relatively frequent, especially within government authorities⁷⁵. The survey shows that public authorities hold a wide variety of solutions adapted to different situations in public procurement.

The public sector work of procurement has been going through radical changes during the past years. Public procurement has become more important, as public authorities purchase more and produces less. The internal procurement organization has also changed within

⁷³ fastighetsutskott

⁷⁴ outside of the activities of the county council

⁷⁵ 60% of all authorities, Swedish Environmental Protection Agency: Miljöanpassad offentlig upphandling – En enkätstudie, p.16

public authorities. According to the survey⁷⁶ the procuring unit is hard to identify. The procurement function is relatively often decentralized to various departments and units. Today schools, health centres, hospitals and different units of municipalities carry out procurement. Also government authorities may have procurement functions divided on different units.⁷⁷

Purchasing according to governmental framework agreements (statliga ramavtal) is rather common. When using framework agreements the procurer is not directly motivated to develop and formulate specific environmental requirements, while this is presumably done in the agreement.

It is uncommon for public authorities to have a central unit with an overview of procurement all activities. This implies that there is no natural organizational unit where an environmentally sound procurement policy can be developed and implemented.⁷⁸

According to the Swedish Environmental Protection Agency survey, the organizational structure implies that the environmental perspective is seen as a central issue, detached from the individual purchaser. On the other hand, procurement has been delegated to a level where knowledge, incentives and organizational prerequisites for environmental requirements often are missing.

A continuous decentralization within public authorities implies that public procurement is spread on different units. Privatisations of public activities have increased the last years and new experiments of operation and competition are carried out. This has resulted in new and different conditions for gathered environmental responsibilities in public procurement.⁷⁹

3.3.2 LCC-criteria

The municipality of Västerås uses the LCC-criteria for product investments, but this seems to be an exception to the general pattern.

At the County Council of Gävleborg, LCC-criteria are used for major investments and Energy Star and the TCO requirements are applied for product investments.

A common pattern of the application of LCC-criteria is not possible to detect due to the limited number of interviewed objects,

The Swedish Integration Board does not use LCC-criteria, but The National Board of Housing, Building and Planning sometimes applies the criteria when purchasing luminaries, copiers and lamps. The authority is in a specific situation of renting ancient buildings with special regulations⁸⁰ Purchasing of products thus becomes a split responsibility between the authority and the real estate owner, which makes it more complicated to manage energy efficient purchasing.

3.3.3 Accounting and financing

None of the interviewed organizations at any level have their departments charged for the energy used. One exception is the municipality of Flen, however, where energy charges apply

⁷⁶ Swedish Environmental Protection Agency: Miljöanpassad offentlig upphandling - En enkätstudie

⁷⁷ *ibid.*, p. 51

⁷⁸ Swedish Environmental Protection Agency: Miljöanpassad offentlig upphandling - En enkätstudie, p. 51

⁷⁹ *ibid.* p. 54

⁸⁰ k-märkt

for public swimming baths and sport centres. In the municipality of Norrköping, rental agreements include energy costs, which make them hard to distinguish from other costs.

As for the interviewed municipalities, saved costs are not transferable to the next budget year and costs saved by energy efficiency are not followed up. In the municipality of Flen, a political decision is needed in order to make saved costs transferable. There, a political decision may allow the procurement manager to determine the split between investments and running costs.

At the Swedish Integration Board a central administration regulates budgets and splits between fixed costs and O&M.

At the municipality of Flen, O&M investments are fixed within one year's budget, while building investment can be depreciated over a number of years. Products and buildings are, as for the municipality of Västerås, depreciated by LCC-criteria. At the Swedish Integration Board, investments are fixed within one year's budget. As for the National Board of Housing, Building and Planning major investments usually are depreciated over 3-5 years.⁸¹

Internal or external credits for major investments in energy efficiency are sometimes available. As for the municipalities of Flen and Norrköping, there are no formal limits for investments in energy efficiency, but a political decision from the Executive Board is needed.

For the County Council of Gävleborg, internal credits are available for investments in energy efficiency. A political group that holds a fund for environmental measures was founded in 1984.

For the National Board of Housing, Building and Planning no credits are available. The authority formulates regulations concerning loans for energy efficient investments but cannot influence its own procurement of energy.

At the Swedish Integration Board the issue has never been examined.

3.3.4 Legal Framework and Motivation for Energy-Efficient Purchasing

Among the public purchasers interviewed, a common perception was that the legal framework of public procurement does not restrict them from doing energy efficient procurements.⁸² The Public Procurement Act is thus *not* seen as an obstacle for energy efficient procurement/investments.

For the County Council of Gävleborg, the EU interpretative document on environmental concerns in public procurement (COM(2001)274final) is seen as a problem for the procurement of transports. The county council would like to make environmental demands upon the transport system, which is impossible unless they procure the whole system. The NOU interpretations of environmental requirements on suppliers cause another problem. Calculations of LCC-costs are needed in order to prove the profitability of the product, and the organization has not enough time for LCC-analyses, the core activities of county councils (hospitals) having a constant lack of time and financial resources. For this authority the Public Procurement Act is seen as a barrier to some extent due to clashes between green procurement and competition rules.

Incentives for energy-efficient procurement exist at different levels. The purchasers of the municipality of Västerås and the municipality of Norrköping refer to local environmental

⁸¹ The Swedish Integration Board, The National Board of Housing, Building and Planning

⁸² The Swedish Integration Board, The municipalities of Västerås and Norrköping

policies that sometimes consider energy efficiency as a part of a sustainable procurement where a long-range and holistic approach is recommended. At the Swedish Integration Board, references are made to local environmental policies and environmental management systems⁸³

The County Council of Gävleborg has an interesting energy saving strategy. The council has formulated a draft treaty between the O&M department and the real estate company, where saved energy costs will be transferred to the staff (cleaning etc.) as a bonus. According to the treaty, the O&M department is also obliged to compensate the real estate company for raised energy costs.

3.4 Energy Management in Public Buildings

3.4.1 Responsibilities, Targets, Barriers

As for the municipality of Västerås, the real estate department manages the purchasing/investments of buildings. The real estate department administers all municipal real estate property and rental costs including electricity, heating and hot water. The municipal real estate company initiates O&M issues and the manager of the real estate department approves decisions of purchase/investments. The municipality practices common procurement of planned maintenance⁸⁴At The National Board of Integration budget and decision responsibility lies on an administrative manager.

For one of the municipalities, Västerås, energy efficiency is a target of its own (with reference to the environmental policy) and the real estate department sees energy efficiency as their main environmental project. Some of the interviewed refer to energy efficiency as a part of green procurement or do not seem aware of the specific issue. For the County Council of Gävleborg energy efficiency is a target of its own in building management alone. The National Board of Integration anticipates that energy efficiency will be a target of its own when a new environmental management system is implemented⁸⁵

Lack of knowledge is one of the barriers for energy efficient building investments.⁸⁶Conflicts of interests may also be a problem, e.g. different perceptions of end users and the real estate department of optimal in-house temperature For the County Council of Gävleborg, obstacles for energy efficient building investments are of knowledge and financial barriers. There is a need for competence, which requires additional financial means.

The survey made by the Swedish Environmental Protection Agency⁸⁷ shows that 2/3 of the authorities that have environmental policies, also specifically have emphasized matters of energy use. This applies to county councils more than government authorities and municipalities. As for the transport of goods, policies for environmentally friendly transports are more frequent for municipalities than for government authorities.⁸⁸

⁸³ The Swedish Integration Board

⁸⁴ The municipality of Flen

⁸⁵ In the year of 2003

⁸⁶ The municipality of Västerås

⁸⁷ see under 3.2

⁸⁸ Swedish Environmental Protection Agency: Miljöanpassad offentlig upphandling - En enkätstudie, p. 50

3.4.2 *Elements of Energy and Investment Management*

The interviewed municipalities and government authorities have generally not developed energy efficient management units. Exceptions are a couple of organizations, which have energy efficient management units with activities such as energy monitoring, training and information and energy audits.⁸⁹The municipality of Flen has building management outsourced to the municipal real estate company, and a production engineer manages the energy use.

3.5 **Public Purchasing of Energy Efficient Appliances and Products**

At the municipalities of Norrköping and Västerås every department is responsible for their own procurement of products. In Norrköping, the procurement unit co-ordinates the purchasing over certain threshold values and may assist the different departments with information of statistics and different procurement alternatives.

In the County Council of Gävleborg each hospital is responsible for its own purchasing, although some decisions are made on a political level. A purchase manager for the entire county organizes general agreements.

At the The National Board of Integration a purchase/procurement manager is responsible for procurement of products.

Among the interviewed municipalities energy efficiency in product procurement is mostly a part of green procurement, with references to the local environmental policies. At the County Council of Gävleborg energy efficiency is a target of its own.

At the municipality of Västerås barriers for energy efficient purchasing of products are lack of knowledge and difficulties to calculate the energy efficiency of different products. The municipality of Flen mentions energy prices as impossible to estimate.

A barrier for energy efficient purchase of products at the municipality of Norrköping is the delegation of responsibility. The division of costs/budgets hampers the motivation for energy efficient procurement.

The County Council of Gävleborg mentions financial barriers for energy efficient procurement of products. Since energy is included in rental costs, there are no incentives to buy energy efficient products. The core activity (hospitals) has limited staff resources and it is difficult to change routines if combined with extra work. Uncertainty about energy prices and lack of knowledge (e.g. of energy consumption of products) are other impediments.

Examples of obstacles for energy efficient procurement of products at the National Board of Housing, Building and Planning are conflicts between units/persons, financial costs and legal issues (the authorities have to motivate separate procurements).

The municipality of Flen sometimes uses services of co-operative purchasing with municipalities of the county or a limited number of municipalities, and the municipality of Västerås purchase according to general agreements for public procurement. At the municipality of Norrköping a major part of the procurement is done independently, while some is done with the help of Kommentus and Statskontoret.⁹⁰

⁸⁹ The County Council of Gävleborg, The municipality of Västerås

⁹⁰ see under 2.5.2 and 2.5.4

The County Council of Gävleborg cooperates on purchasing together with nine county councils and government authorities and sometimes makes contacts with other authorities in order to get information and ideas about strategies.

Training programmes for staff to ensure energy efficient use of products exist at the municipality of Västerås where the real estate department has an educational programme for O&M personnel.⁹¹

In order to buy more energy efficient products, information and knowledge of energy efficient products is needed according to the municipality of Västerås and the National Board of Housing. The municipality of Norrköping would like to have means such as decision tools, information and education for end-users (so that they understand why they have to buy a more expensive product).

A change of attitudes concerning energy efficiency/environmental issues⁹² and lack of decision tools are barriers that has to be removed before more energy efficient purchase of products can be carried out.⁹³

⁹¹ The municipality of Västerås

⁹² The National Board of Housing, Building and Planning

⁹³ The municipality of Norrköping

4. Public internal performance contracting (PICO)

Public internal performance contracting (PICO) represents a way to enable profitable energy efficiency investments within public authorities by a kind of in-house "third-party" financing or energy performance contracting scheme. However, the PICO approach does not involve an external energy service company (ESCO) to carry out and fund the investment. The role of the ESCO is assumed by a unit of the customer itself, e.g., the technical department of a municipality, which is managing the investment projects and using revolving funds that have initially been set up within the public authority.

Another definition for PICO would be internal loans (internal loans). In Sweden, the PICO method is not used as an established method for energy investments, though some municipalities have used similar constructions.

At the municipality of Flen third party financing has been used when building sport centres and district heating plants. There, accumulated savings, initial subsidies and government or EU grants can in some cases acquire funds. The interviews show that there is little interest of participating in PICO pilot studies, though one wants to learn more about the tool.⁹⁴

Examples of PICO measures are:

- Environmental department takes the role of the energy efficiency service provider with the technical assistance of the building surveyor's office (basic model)
- Responsibility for energy issues is transferred completely to an internal profit centre with own budgets (profit centre)
- Responsibility for energy issues is completely transferred to a newly created energy service enterprise, which is owned by the public authority (fake privatisation)
- PICO and conventional third party financing through ESCO:s are elements of an integrated concept (hybrid system)

Energy savings are seldom the reason for a project. Refurbishment is done according to a plan or when working conditions have to be improved. Some large building contractors have taken initiatives to projects (mostly ventilation projects) with similarities to PICO-constructions, but the funding comes from outside the municipality, so called "Performance Contracting". The municipalities "leased" the air-handling units from the contractor for a number of years. The contractor had to fulfil both estimated energy savings and agreed level of indoor climate.

A few large entrepreneurs/contractors are today working with Performance Contracting. The experiences from public institutions are diverse. Some entrepreneurs consider the public sector a large future market, others see too many problems with the procurement regulations. One problem is the initial energy audit. Who is willing to pay for the audit? The municipality will not do it because they do not see the energy savings (if they did, they would initiate the project themselves), the entrepreneur will not do it for free, because, when the project is procured, he may lose it to another entrepreneur. There are examples from municipalities (Sundbyberg, Nyköping) where performance contracting have been used. In those cases each contractor taking part in the procurement made its own energy audit.

⁹⁴ The municipality of Flen

Many municipalities and other public bodies are often suspicious to this kind of projects. “Who is earning money? There must be something hidden, this is too good”, are comments often heard

5. Success Stories and Good Examples of Energy Efficiency in Public Institutions

5.1 Facility owners

There are three large facility owners that used to belong to the state. These are today public owned companies (Vasakronan, Fastighetsverket, Akademiska hus). They have a tradition of buying energy efficient products and are often the first to use new technologies. Smaller companies often look at these companies as examples.

5.2 The Municipality of Västerås

The municipality of Västerås has carried out a project to reduce energy consumption within public buildings. 20 objects (schools) were chosen and different energy saving tasks were divided between the real estate department (tasks of technical issues) and ProAros, the largest public real estate company of the municipality (tasks of non investments activities). 9 % of the average energy consumption of the objects was saved as a result of the project.

5.3 The Swedish Integration Board

The Swedish Integration Board will introduce an environmental management system (in 2003) that divides environmental issues in two categories: direct energy consumption and indirect environmental influences. Educational measures and strategies of locations will take energy efficiency concerns into account in the core activity of the authority (integration of immigrants), for refugees.

The Swedish Integration Board and five other government authorities within the same district, consume approximately 40.000 hotel nights a year around Sweden. A special treaty between the authorities and the hotels requires the hotels to apply energy efficient measures, to present programmes for energy efficiency and to see to that regulations of energy use are observed.

5.4 The municipality of Sundsvall

By using LCC-calculations the politicians and economists in the city of Sundsvall were convinced to invest in new, more energy efficient street lighting. 16 000 new luminaries were replaced on existing poles. The municipality at first did not have the money to invest, and bank loans were considered. However the city found that the cheapest way to finance the project was by an "internal" loan. The street- and building department "rents" the streetlights from the city's central office. This has led to a dramatic drop in O&M costs for street lighting in Sundsvall.

5.5 Stockholm's "lease the light" programme

Stockholm, the capital of Sweden with a population of about 700,000, employs about 55,000 people. Moreover, the city also procures many goods and services for the County Council,

which is in charge of most health care for the county's almost 2 million inhabitants. In early 1997 the procurement office opened an environmental division, which was assigned the mission starting several concepts to actively help the city "go green". In the case of lighting, the procurement office decided to combine its purchasing power with the design, installation and financing of lighting systems.

The budget for new fixtures is decentralised in the city. At the same time the electricity cost is included in the rent for these departments. This means no incentive to change lighting system. "Lease the light" means that the departments rent the new lighting from the city instead of making own investments. The rent should be in proportion with the decreased electricity bill. However, due to a political shift in the city, the project was closed down after a few initial pilot installations.

5.6 Miljöaktion Värmland

Miljöaktion Värmland is a project started in 1998 at the initiative of the County Council of Värmland. It supports public agencies, companies and organizations in the work for sustainable development. Examples of prioritised areas are buildings, energy efficiency and renewable sources of energy, environment management systems, transport and procurement.

One part of the project (Energiformation Värmland)⁹⁵ is a service agency that cooperates with the energy counseling of municipalities. The aim is to help the inhabitants of the county council to minimize energy use and increase the use of renewable sources of energy. The work procedure is to support local energy counsellors with networks and education. Examples of project areas are labor market projects, procurements, energy monitoring and information.

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Appendix

Interviewed partners and institutions

Local authorities - municipalities

| | |
|--------------------------------|---|
| The municipality of Flen | Purchase manager |
| The municipality of Norrköping | Public purchaser |
| The municipality of Västerås | Purchase manager and environmental/energy coordinator |

County Councils

| | |
|---------------------------------|-------------------------------------|
| The County Council of Gävleborg | Purchase manager and Energy manager |
|---------------------------------|-------------------------------------|

Government authorities

| | |
|--|--|
| The National Board of Housing, Building and Planning | Purchase manager and real estate/O & M manager |
| The Swedish Integration Board | Purchase manager |