Chapter 11

Environmental Concerns in Swedish Local Government Procurement

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INTRODUCTION

Do procurement officers in the public sector have a more difficult job today than they had half a century ago? Wilson (2000) has observed that in the 1950s there was a need for well constructed and inexpensive highways. In the 1990s, however, we not only wanted well constructed and inexpensive highways, we wanted to build them in ways that would aid mass transit, reduce air pollution, preserve historic sites, etc. Thus, if we by difficult mean an increasing number of criteria that procurement officers take into consideration, we can say that their job is more difficult today.

Among the range of criteria that has to be dealt with, those reflecting environmental concern have received much attention. Research reports indicating continuous degradation of our natural environment, with increasing greenhouse gas emissions and climate change, have led policy makers to focus on public procurement as a way of encouraging the development of more environmentally friendly goods and services. Several authors have discussed the role of using public procurement as a policy instrument (Arrowsmith, 1995; Geroski, 1990; Marron, 2003; McCrudden, 2004; Trepte, 2004), but this policy perspective is not the main scope of this . Instead, the aim of this is twofold: (1) to describe how procurement officers integrate environmental concern in their procurement process; and (2) to identify limitations to integrating environmental concern, both as perceived by the procurement officers and as indicated in the literature.

The remaining part of this is outlined as follows. First, a discussion of what is meant by environmental concern is presented, followed by an overview of how environmental concerns are

integrated in public procurement, as well as possible limitations to such a development, as presented in the literature. A short presentation of recent surveys conducted at Swedish and European levels is also made. Second, the research setting and the empirical study is described. Third, the findings from the empirical data collection are presented, stating how environmental concern is integrated in local government procurement in Sweden and public procurement officers' perceptions about limitations to the integration of environmental concerns. Lastly, some concluding remarks are made.

ENVIRONMENTAL CONCERN IN PUBLIC PROCUREMENT

Environmental concern in public procurement is a growing global phenomenon, not merely encountered in Sweden and Europe, but in other parts of the world as well. With the purpose of examining possible ways of integrating environmental concern in public procurement, as well as potential limitations, this section reviews previous literature.

What is Environmental Concern in Public Procurement?

In the literature, the integration of environmental concern in the public procurement process goes under several different names, including *eco-procurement* (Erdmenger, 2003), *environmentally preferable purchasing* (Coggburn & Rahm, 2005), *environmental public procurement* (European Commission, 2004), *greener public purchasing* (Marron, 2003), *green procurement* (Anonymous, 2001), and *sustainable procurement*, addressing both environmental and social issues (McCrudden, 2004).

Although our intuitive sense of these concepts is quite clear, it is worthwhile to analyze environmental concern in public procurement in more detail. Eco-procurement, for example, has been described to encompass "all activities that aim to integrate environmental considerations into the purchasing process, from the identification of the need, through the selection of an alternative, to the provision to the user" (Erdmenger, 2003, p. 11). Ideally, integrating environmental concern in the procurement process involves avoiding "unnecessary purchases by reviewing the actual need for the product and seeking other solutions. If this is not possible, it seeks to purchase a greener variant that supplies the same (or better) quality

and functionality as the conventional choice" (Erdmenger, 2003, p. 11).

Our own interpretation of environmental concern in public procurement is a similar one. By environmental concern we mean that if decision makers are faced with a choice between two alternatives, they will, ceteris paribus, choose the alternative that is least harmful to the environment. However, we do not necessarily mean that the decision maker always will come to choose the alternative that is least harmful to the environment. This is because we treat environmental concern as only one among many criteria of choice that a decision maker may want to take into consideration. Such other criteria can be cost, performance, etc. As long as there is no conflict between these criteria, the choice will be fairly easy. When these criteria are in conflict, however, the choice will be more difficult because the decision maker will have to make trade-offs between different values.

We can illustrate this with a local government agency that wants to hire a contractor for the construction of a new school building. Let us assume that the local government is concerned about the environment, but also about the production cost. The procurement officer responsible for the contract is offered two design alternatives, but can only choose one of these designs. One design is more expensive than the other design, but on the other hand it is less harmful to the environment. Neither of the two designs is best on all criteria and hence the procurement officer has to make a trade off. Subsequently, he or she must make an evaluation as to how much more the less environmentally harmful design is worth compared to the other design, and make a decision based on that. Even if the procurement officer chooses the least expensive design, he or she can still be concerned about the environment, but the extra cost was not outweighed by the value of the design being more environmentally friendly.

The above example is a simple one, but it illustrates how environmental concern was integrated in the procurement process, but another criterion, in this case the price, outweighed the environmental value of the product. The use of environmental criteria in the contract award process, is thus one example where environmental concern can be integrated, although the final result is not the most environmentally friendly.

In this , consequently, environmental concern can be identified through the use of environmental criteria in the selection and contract award processes, as well as in the preparatory and finishing stages of the procurement process—e.g. avoiding unnecessary purchases or including environmental requirements in a contract performance clause.

Integrating Environmental Concern in Public Procurement

How, more specifically, can the integration of environmental concern be done? Environmental concern can be integrated at every step of the procurement process. According to Marron (2003), governments attempt to do so by using various policies that increase the recycled content of government purchases, increase the efficiency of energy-using devices or that promote the use of one or several of the following: organic products, alternative fuels, clean electricity, less-polluting manufacturing technologies. Examples of policies that are used in this context are improved budgeting systems (e.g. using life-cycle costing), price preferences for greener products (e.g. by putting an estimated price tag on an environmental factor, such as one ton emitted carbon dioxide), set-asides for greener products (e.g. 10% of power from renewable sources) and information provision and training (Marron, 2003).

At the European level, there are now guidelines on how to take environmental concern in public procurement. In 2004, the *Buying Green* handbook was published (European Commission, 2004). This handbook takes a process view on public procurement by emphasizing that environmental issues can be taken into consideration in technical specifications, in selection criteria, in the award of contracts, and in contract performance clauses.

Limitations Identified in the Literature

Some limitations to the integration of environmental concern in the public procurement process have been identified in the literature. One such limitation is the budgeting process, when it treats capital and operating costs separately. This, according to Marron (2003), may result in uneconomic decisions, which additionally can be the result of a lack of information about more economic alternatives.

Other limitations can be identified on the basis of a "hurdle analysis" as performed by Günther (2003). These included a prejudice that efforts would not be useful, that there was a lack of target and information about targets, as well as a lack of support by guidelines. Additionally, hurdles identified by Günther included a lack of possibilities and information in terms of products, price and functionality of products, the additional work required, a lack of information about the relevance of green procurement, and uncertainty of legislation.

A problem with the integration of environmental concerns in public procurement is whether or not it will lead to any actual change. If it does not lead to any actual change, the relevance of such initiatives can easily be questioned. One aspect of this has been identified as whether the initiative addresses environmentally intensive sectors. In other words, does the environmental aspect focus on an area that is already satisfactorily covered by legislation, thus being superfluous? In that case, as mentioned elsewhere, the initiative may be less useful than if it targeted an area that existing regulatory structures have overlooked (Marron, 2003).

Recent Surveys

There are several recent surveys of environmental concern in public procurement. Here, we concentrate on surveys that have dealt with public procurement practices in Sweden or in the European Union at large.

In 2003, the International Council for Local Environment Initiatives (ICLEI) published the results from a questionnaire survey of green public procurement in the European Union (Ochoa & Erdmenger, 2003). ICLEI is an association of local governments and national and regional local government organizations that have made a commitment to sustainable development. This survey indicated that Denmark and Sweden showed the highest level of commitment to green procurement. Among the authorities that showed a high level of commitment (among all EU countries), lack of money was perceived to be the most significant obstacle to green public procurement. Among the authorities that showed a low level of commitment, however, lack of environmental know-how was perceived to be the most significant obstacle. Two other potential obstacles—legal

concerns and lack of interest—were perceived to be less significant by both groups.

Another 2003 survey (Kippo-Edlund, Hauta-Heikkilä, Miettinen & Nissinen, 2005) concerned practices in four North European countries—Denmark, Finland, Norway, and Sweden. This survey included a sample of 199 bidding documents and 101 contract award decisions. The survey indicated that Denmark and Sweden, once again, showed the highest level of commitment to green procurement.

In 2004, a questionnaire survey of green procurement among all public authorities in Sweden was conducted (Swedish Environmental Protection Agency, 2005). Among the 400 (out of 558) authorities responding to the questionnaire, 15% always used environmental requirements, 46% usually did, 27% sometimes did, and 10% seldom or never did it. Moreover, the survey shows that almost half of the respondents think that a lack of knowledge about how to formulate environmental requirements is an obstacle to green procurement. Slightly less than 30% of the respondents perceived higher costs, lack of interest, and legal concerns to be obstacles.

In 2005, a survey intended to measure the current status of green public procurement among all 25 member states in the European Union was conducted (Bouwer et al., 2005). This survey included both an analysis of tender documents and a web questionnaire. Here, perceptions of higher costs were identified as the most significant obstacle. Lack of knowledge, lack of management support, lack of practical tools and information, and lack of training were all perceived as slightly less significant obstacles. If we look at the different product groups we find that for construction work, the following criteria were most frequently used: (*a*) energy usage and energy saving options, (*b*) water efficiency measures, (*c*) chemical contents of the materials, (*d*) building material from renewable resources, (*e*) environmental management measures/system, (*f*) building material from recycled material, and (*g*) environmental product declaration or life cycle assessment.

To sum up, we note that some of the surveys suffer from low response rates. The absence of detailed nonresponse analysis in these surveys makes the results uncertain because it is possible that results are biased towards respondents that show a higher degree of

environmental concern. Moreover, the questionnaire responses may be biased towards answers that are considered to be politically or socially correct.

RESEARCH SETTING AND METHOD

The empirical data in this were collected as part of a three-year research project in Sweden. The regulatory setting is that of the Public Procurement Act of 1992, which came into force in 1994 occasioned by the European integration and membership. The Public Procurement Act regulates procurement undertaken by public sector agencies at national, regional and local levels. At the regional and local level, Sweden has 2 regions (former counties), 18 counties, and 290 municipalities—responsible for a large part of the procurement budget in Sweden. As a consequence of the EC Directives (2004/17/EC and 2004/18/EC) on public procurement, a new Swedish legislation that implements these directives is under development.

From an environmental point of view, we note that in terms of environmentally related initiatives within public procurement, the Swedish government initiated the development of the Swedish Instrument for Ecologically Sustainable Procurement (the EKU-instrument) in 1998. The EKU-instrument has now become a web-based tool intended to aid in the development of environmental procurement criteria and to assist procurement organizations with guidance and information in their attempts at greening their operations (Swedish Environmental Management Council, 2006). In addition to the EKU-instrument, a central government agency, the National Board for Public Procurement, occasionally gives guidance on environmental issues associated with public procurement in its newsletters. There are, however, no other official guidelines on how to apply the Act and on how to integrate environmental concern in public procurement. Thus, a variety of practices could be expected to develop, especially at the local government level.

To explore how environmental concerns are integrated in the procurement process and procurement officers' perceptions of limitations, we interviewed 29 procurement officers in eight municipalities, one county, and one region in Sweden. Interviews with eight of the procurement officers were part of a pre-study between May and October 2003, whereas the other interviews were conducted

as part of a second study that took place between November 2004 and December 2005. Interviewing was chosen because we were interested in procurement officers' reasoning about environmental concern and limitations.

Before turning to each municipality, county, and region we reviewed their web sites to learn more about their organizational structures and their environmental profiles. Then we contacted potential interviewees and presented ourselves as doctoral students interested in public procurement. We asked to speak with officers responsible for procurement of construction work and officers responsible for procurement of goods and services in general. Most often the first person we contacted agreed to participate, but in a few cases it was suggested that we talked to another person instead. Among our 29 informants, fifteen worked with procurement of construction work, eleven worked with procurement of goods and services, and three were legal advisers.

One interview was conducted at the Chalmers university campus in Göteborg, whereas the other interviews took place at each procurement officer's workplace. About one week before our visit an interview guide (including 60 questions) was sent to the interviewees by e-mail. Interviews followed roughly the same structure, where the interviewee was asked to describe his or her background and role in the organization. Then there were questions about the organizational unit, followed by questions about the public procurement process. A summary of the questions regarding environmental issues is presented in the Appendix. The duration of the interviews ranged from one hour to three hours, one and a half hour being the average.

The interviews were tape recorded and detailed notes from each interview were written. In analyzing the interview data we reviewed all interviews and extracted statements that were related to the use of environmental criteria. During the analysis we sometimes went back to the recordings to double-check particular answers. The results from the interview analysis and alternative interpretations were discussed.

FINDINGS: ENVIRONMENTAL CONCERNS AND PERCEIVED LIMITATIONS

In this section we present findings from our interviews with procurement officers. The section is divided into procurement of

construction work and procurement of goods and services, respectively. For each of the two groups we present (*a*) how environmental concerns are integrated in the procurement process, and (*b*) the issues procurement officers perceive as limitations to environmental concerns in local government procurement. The presentation of findings corresponds to the structure in the *Buying Green* handbook (European Commission, 2004).

Procurement of Construction Work

Buildings and structures are examples of customized goods that are tailored to fit the specific needs of the local government. The traditional way of procuring construction work is that the local government first designs the building or structure, either by using in-house design engineers or by procuring external consultancy firms. The local government thereafter procures one or several contractors who are responsible for the actual construction.

Specifications. Interviewees responsible for procurement of construction work said that environmental concerns are usually dealt with during the design stage and thus integrated in contract specifications instead of as selection criteria, award criteria, or contract performance clauses. Although the type of environmental concern varies depending on the particular building or structure, two typical examples can be described. Energy efficiency was an important criterion for buildings. Interviewees said that they strived to reduce energy usage by choosing energy-efficient systems for heating and cooling, energy-efficient electric lighting, etc. Given that lower energy usage is associated with lower operation costs, no tradeoff has to be made. Building materials with low environmental impact was another important criterion for buildings. Here, some interviewees relied on systems and documentation that prescribed whether a particular building material was prohibited, acceptable, or preferred because of its chemical contents. Environmental concern was not as straightforward as for energy usage. One interviewee said that previous building materials that had been resistant to mould had been prohibited due to its chemical contents, but new building materials that replaced the old ones were less resistant. Thus maintenance costs were expected to be higher for the new, less harmful building material. Furthermore, it was mentioned that the Environmental Code of 1998 regulates many of these issues and that

there are several permits that have to be applied for, making such requirements superfluous.

Selection Criteria. Although the Public Procurement Act makes it possible to exclude a firm that has infringed environmental legislation or regulations, none of the interviewees recalled that they had excluded a construction firm because of any environmentally-related crime. The overall pattern was that procurement officers are reluctant to reduce the number of competing construction firms, although some interviewees said that they had excluded construction firms due to poor financial stability. When it comes to technical capacity, on the other hand, interviewees sometimes required that the contractors should have an environmental management system or a corporate environmental policy.

Awarding the Contract. Examples of award criteria included environmental management systems and environmental schemes that concerned the particular construction project. Some interviewees evaluate how advanced the environmental management system is, whereas others simply required that contractors should have an environmental management system. We found that there is interplay between award criteria and selection criteria because some interviewees had previously evaluated environmental management systems as an award criterion, but now they perceived the differences between various contractors to be small and therefore had environmental management systems as a selection criterion.

Contract Performance Clauses. The interviewees said that they sometimes integrated environmental concerns in contract performance clauses. The only example that was expressly mentioned, however, was clauses restricting the type of vehicles and equipment that the contractor intended to use during the construction project.

Perceived Limitations. Our findings suggest that procurement officers take environmental criteria into consideration in Swedish local government procurement of construction work. However, there are limitations to incorporating environmental concern.

One interviewee thought that the Environmental Code is a limitation to the development of more environmentally-friendly technologies because procurement officers become more risk averse and choose conventional technologies. He said that there have

always been complaints about poor indoor air quality in school buildings. Some time ago the agency therefore decided to try a new ventilation system that would reduce carbon dioxide concentration in classrooms. But these plans were vetoed by the municipal environmental agency because it was a new technology and the effects of using such a ventilation system had to be more fully demonstrated. The interviewee said, "I think the Environmental Code inhibits innovation, because it's easier to do what you have done before, choose a conventional ventilation system. Of course you have to be careful before you test something in full scale and with humans involved, but now you have to prove, you have to sign documents where you give a guarantee. There are quite drastic expressions [in those documents]". This example suggests that procurement officers may have weak incentives to adopt new technologies.

One interviewee was skeptical about paying price premiums for more environmentally friendly construction work: "Would we be willing to pay 5 percent more for the construction and in return be able to steer the contractor in a particular direction because of social or environmental reasons? That hasn't been the case, and I hardly believe that we would get that reaction from [the board]."

Another interviewee said, "[Environmental concern] requires more resources, and many times you also need more money, usually it doesn't become cheaper to do it. But I believe that the critical question is that there is no one who is really in charge of those issues, there's no pressure." Thus, the interviewee thought that the local government agency should have someone in charge of environmental issues and someone who could support procurement officers in their work.

Procurement of Framework Agreements for Goods and Services

Framework agreements are signed for a variety of goods and services, and thus the methods for integrating environmental concern vary greatly. Here, we present some general findings from the study.

A framework agreement is often signed with one or more suppliers of a particular good or services, usually for two to four years. When users experience need of, say, a new computer, they thus turn to the firm that has signed a framework agreement with the municipality, county or region. The economic rationale of framework agreements is usually thought to be that by gathering many dispersed

purchases together into one contract, the public sector buying agency will be able to receive discounts from suppliers.

Specifications. Interviewees pointed out that it is the need that matters. "If you really want to contribute to change," one interviewee explained, "you have to involve the users of the product." Another interviewee said, "The [Public Procurement] Act is just a procedural document, which stipulates how you should behave [as a procurement officer]. But when you have a policy objective, you can't use the legislation. It's a bit sad trying to use the Act as a policy instrument, instead of purchasing power. I mean, we still have the possibility to buy cars that run on ethanol, instead of cars that run on gasoline. That's purchasing power."

Selection Criteria. As for procurement of construction work, environmental management systems or corporate environmental policies were used as a selection criterion. Furthermore, none of the interviewees recalled that they had excluded a construction firm because of any environmentally-related crime.

Awarding the Contract. Environmental managements systems were sometimes used as award criteria, but the general picture that emerges is that procurement officers prefer to integrate environmental concern in contract specifications or as selection criteria. One interviewee said, "It's better to use contract specifications or selection criteria if you think that something is really important [from an environmental perspective]".

Contract Performance Clauses. Interviewees' responses indicate that contract performance clauses were sometimes used in framework agreements for goods and services. One interviewee said: "We have started to use contract performance clauses. We want, for example, school bus contractors to improve their environmental and safety performance and thus we require that contractors, during the contract period, must implement an environmental policy, take courses in traffic safety, etc. The benefit of [contract performance clauses] is that contractors improve in particular areas although they may not fulfill these requirements in the procurement stage." In this case, using corporate environmental policy as a selection criterion was perceived to have reduced the number of bidders—only bidders having a corporate environmental policy would have passed the

selection stage—and therefore the procurement officer included it as a contract performance clause instead.

Perceived Limitations. "It's extremely difficult to know whether one product is more environmentally friendly than another product," one interviewee said, "energy efficient products are easier though, and to require [that bidders] have an environmental policy—those things we manage to do, and to use the EKU-tool. You wish you had competence so that you could describe the good or service from an environmental point of view, so that you can include it in the contract specifications." This statement represents a typical pattern in the interviews. Procurement officers were willing to integrate environmental concern in their purchases, but at the same time they tended to resort to environmental criteria that were easy to evaluate, such as whether the bidder has a corporate environmental policy or not. One interviewee explained why this might be the case, "It's a bit sad that there are specialized courses in [green procurement], because environmental requirements are the same as any other type of requirement. There are no special rules for environmental criteria." The interviewee thought that many procurement officers perceive environmental concern as something overly complex, and therefore refrain from using environmental criteria that in fact could be used.

Summary of Findings

In this section we provide a summary of our findings. In Table 1 some examples of environmental concern are given. As noted earlier, Swedish local government agencies sign framework agreements for several types of goods and services and thus the environmental concerns integrated in specifications vary.

An observation is that both selection criteria and award criteria tend to be associated with the bidding organization rather than the good or service to be delivered. Furthermore, contract performance clauses that are related to environmental concerns appeared to be unusual, although a few examples were described by the interviewees.

In Table 2, limitations to integrating environmental concerns are summarized.

TABLE 1
Examples of Environmental Concern

Type	Construction Work: Examples	Framework Agreements: Examples
Specifications	Energy efficient systems for heating and cooling, building materials	Depends on the goods or services to be procured
Selection criteria	Environmental management system, corporate environmental policy	Environmental management system, corporate environmental policy
Awarding the contract	Environmental management system, project-specific environmental scheme	Environmental management system
Contract performance clauses	Restrictions on vehicles and equipment to be used during the construction project	Requirement to implement a corporate environmental policy during the contract period

TABLE 2
Limitations to Integrating Environmental Concern

Type of Limitation	Comment
Lack of administrative resources	Due to a lack of administrative resources (including environmental know-how) in the local government agency, some procurement officers preferred criteria that are easy to evaluate.
Legal concerns	Some interviewees refrained from using environmentally related award criteria because it could result in bid protests from unsuccessful bidders. One interviewee also pointed out that the Environmental Code may result in risk-averse behavior among procurement officers.
Lean budgets	Some interviewees perceived that environmentally friendly goods and services are too expensive.

CONCLUDING REMARKS

The aim of this has been to describe how procurement officers integrate environmental concern in their procurement process, and to identify limitations to integrating environmental concern. Our study of procurement officers in Swedish local government agencies shows that procurement officers prefer to integrate environmental requirements in contract specifications or in selection criteria. This may partly be explained by the fact that unsuccessful bidders in Sweden have the possibility to file a protest in administrative courts if they suspect that the public sector buying agency has violated the regulation. Furthermore, procurement officers prefer environmental criteria that are easy to evaluate, such as whether a bidder has a corporate environmental policy or an environmental management system.

Limitations to integrating environmental concern are lack of administrative resources and sometimes also lean budgets that do not allow any price premiums to be paid for more environmentally friendly goods, services, or construction work. Uncertainty regarding the legislation seems to contribute to risk-averse behavior among procurement officers, meaning that they make decisions that reduce the risk of unsuccessful bidders complaining in administrative courts.

ACKNOWLEDGEMENTS

Financial support from the Swedish Research Council for Environment, Agricultural Sciences and Spatial Planning is gratefully acknowledged.

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APPENDIX: INTERVIEW QUESTIONS

The following questions regarding environmental concern were included in the interview guide. The interviews were conducted in Swedish, but translated questions are given here. Because the interviews were semi-structured, the questions only partly convey the interactive discussions that took place.

The public procurement process

Does it happen that a supplier is excluded [from participation in the procurement], and if so, on what criteria?

Are you taking a supplier's technical capacity into consideration?

How do you reason when deciding the type of contract award criteria to use for a particular contract?

How do you reason when deciding the weights of contract award criteria?

Do you use contract performance clauses?

Environmental criteria

Can you give examples of environmental criteria or environmental requirements in public procurement?

What type of environmental criteria or environmental requirements do you use?

How do environmental policy initiatives within the municipality/county influence your procurement process?

Public procurement as a policy instrument

Do you think it would be possible to use public procurement as a policy instrument to achieve long term goals (e.g. sustainable development, technological development) in your municipality/county, or in society in general?

What do you think that "sustainable development" represents in relation to public procurement?