



GUIDE FOR CHEMICAL SMART PUBLIC PROCUREMENT

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Course Material from Turku University of Applied Sciences 117

Turku University of Applied Sciences

Turku 2018

ISBN 978-952-216-697-5 (pdf)

ISSN 1796-9972 (electronic)

Distribution: loki.turkuamk.fi

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1. INTRODUCTION

The assessment of the status of the Baltic Sea environment by HELCOM (Baltic Marine Environment Protection Commission – Helsinki Commission) has shown that the load of hazardous substances to the marine environment is an issue of major concern. While our environment contains various kinds of hazardous substances of natural origin, there is also a notable chemical load from anthropogenic sources. The latter are chemicals, which have never existed in nature before which, among other effects, makes some of them very hard to degrade in the environment. These substances exist in, and are emitted from, products and articles with which we surround ourselves on a daily basis. Thus, we are constantly exposed to a vast array of both natural and anthropogenic chemicals.

The Interreg Baltic Sea Region project NonHazCity (*Innovative Management Solutions for Minimizing Emissions of Hazardous Substances from Urban Areas in the Baltic Sea Region*)* aimed to demonstrate possibilities for municipalities to reduce the emissions of hazardous substances and other pollutants from small scale emitters in urban areas that cannot be reached by traditional enforcement techniques. Within the NonHazCity project, the presence of metals and other pollutants were assessed in the partner municipalities. While the levels of metals measured were not that alarming, it is concerning that anthropogenic substances that can elicit severe effects on human health and environment, such as phthalates, bisphenol and highly fluorinated compounds, were found in wastewater and drainage water throughout the municipalities. Historically, the release of these hazardous substances took place from point sources, i.e. from a production facility or factory, while the release nowadays is more diffuse, emanating from products, articles and materials used both professionally and in households.

The public sector, including municipalities, plays a key role in achieving a safe and healthy environment. Municipalities can reduce the load of hazardous substances in the urban environment, for example, by taking hazardous substances into account when they buy new products and services.

Guide for Chemical Smart Public Procurement was produced by Turku University of Applied Sciences (TUAS) as part of the NonHazCity project implementation. The guidebook is targeted at all municipal actors. Its purpose is to provide information, underline the necessity of political support as well as assist procurers and other relevant actors in understanding why public procurement is an important tool and how it can be used to reduce hazardous substance occurrence in the urban environment. This guide offers background information about the reasons why municipalities should reduce hazardous substances in public procurement and gives tips for communication and strategy development. In addition, it presents concrete substance reduction tools and demonstrates how to use them. These tools include market dialogue, pre-made chemical criteria, priority substance list and ecolabels.

*The NonHazCity consortium of partners and associates consists of a group of nine municipalities and expert organizations from the Baltic Sea region that took responsibility for finding new ways to tackle the large number of emissions of hazardous substances from scattered sources in their urban territories. The project was funded by the EU Interreg Baltic Sea Region Programme during 2016–2019.

„We are constantly exposed to a vast array of both natural and anthropogenic chemicals.“



2. REDUCING HAZARDOUS SUBSTANCE LOAD VIA PUBLIC PROCUREMENT

Municipalities have many tools to promote environmentally smart actions. Due to its sheer volume, public procurement in municipalities has a significant role in achieving sustainable development. Additionally, public procurement has a potential effect on the reduction of chemical emissions in municipalities. However, municipalities very limitedly recognize public procurement as a tool to reduce hazardous substances. More awareness is needed among municipalities: general knowledge on hazardous substances, their occurrence and diffuse dispersal from everyday products, as well as the basic principles of reducing them.

2.1 HAZARDOUS SUBSTANCES – ACTIONS ARE NEEDED

A large variety of anthropogenic chemicals occur in our environment, some of which have harmful effects on human health and the environment. The possible adverse health effects vary from allergic symptoms to cancer, and many severe health effects which increase in the population are associated with anthropogenic chemicals present in our everyday environment. When released to the environment, some of these chemicals can be toxic, persistent and bioaccumulative.

The chemicals we use daily and are surrounded with eventually end up in water systems. Substances that were prohibited years or even decades ago can still be found in our waters. Reducing the chemical load and even identifying the chemicals is extremely difficult after their release to the environment, which is why it is important to pay attention to the substances before they end up in the environment. The best way to prevent the environmental release of hazardous substances is to reduce the use of products that contain them.



Chemicals are studied extensively, but chemical risk assessments typically focus on the adverse effects of individual substances. However, the combined effects of chemicals can be even more harmful than the effects of individual substances. Unlike in a laboratory test environment, people are not exposed to only one chemical at a time, but our exposure to chemicals is more complex and continuous. The European Commission has identified concerns that the current regulatory approaches to the assessment of chemicals (i.e. the evaluation of single substances) may not provide sufficient safety assurance.

Many hazardous substances can be found in everyday items, and the preparation, use and disposal of these items release the substances to the environment.

Hazardous substances are often associated with chemical products, but rarely with solid objects such as consumer articles. Therefore, it is vital to understand that in addition to detergents, hazardous substances can also be found e.g. in toys and furniture. Furthermore, it is not only synthetic chemicals that are of concern, as for example natural scents can be very allergenic.

Chemicals in numbers

- Over 100 000 chemicals substances and their compounds are in use.
- 30 000 preparations are classified as dangerous.
- 5 000 substances in these preparations are classified as dangerous.
- The daily chemical exposure can be as much as 1 000 compounds and the effects of most substances are still unknown.

Chemical legislation is not moving fast enough

The EU chemical legislation has different parts: REACH concerns the registration, evaluation, authorization and restriction of chemicals and CLP deals with the classification, labelling and packaging regulations of chemical products. Both regulations aim to secure a high standard of health and environmental protection. In addition, substances of very high concern (SVHC) are listed on the Candidate List, which is a part of REACH that is upheld by the European Chemicals Agency (ECHA). The listed substances are subject to an evaluation, and they will be gradually removed from use or their application will be regulated very strictly, after which they may only be used with a special authorization.

The supplier is required to inform the professional customer if an item contains, by weight, more than 0.1 per cent of a substance listed on the candidate list. Every item out of which an article is assemble or made is concerned, not solely the fully composed article. Consumers also have the right to receive this information upon request.

In late 2017, the Candidate List consisted of 174 substances. The list is updated slowly because of heavy bureaucracy. However, there are other voluntary tools for regulating hazardous substances, such as the SIN (Substitute It Now!) List, a database developed by the non-profit organization ChemSec (the International Chemical Secretariat) and recognized by the European Commission.

The SIN List contains five times the number of substances of high concern than the Candidate List, even though the substances are assessed using the same criteria that are set out in the REACH regulation.

It should be noted that 94 percent of chemicals now regulated by the Candidate List, were first found in the SIN List. Thus, the SIN List can be used as a useful pre-legislative tool for the substitution of hazardous chemicals.

The SIN List is publicly available at <http://sinlist.chemsec.org>.

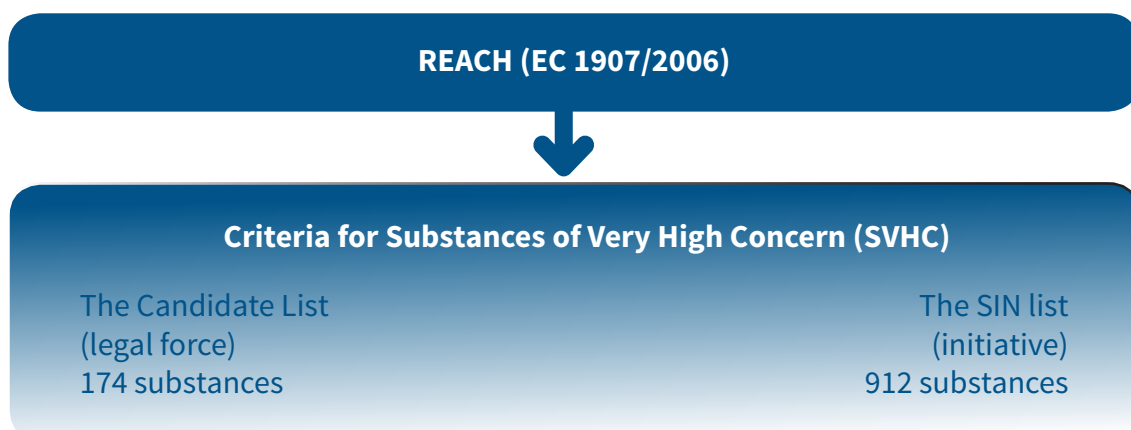


Figure 1. Number of substances included in the Candidate List and the SIN List (Chemsec, 2017).

Substances on the market involve a risk

Although Europe aims to ensure chemical safety by legislative means, the authorized hazardous substances have severe adverse effects on both human health and the environment. It is not uncommon to have widely used chemicals withdrawn from the market later, as new research results reveal that their risks are higher than their advantages. There are plenty examples of this, such as freons, asbestos or bisphenol A in nursing bottles.

The extent to which hazardous substances can be found in everyday products is uncertain due to a lack of labels of contents in general. Therefore, there is a strong need to increase this awareness at all levels of the society. Even though new initiatives to restrict chemicals are constantly being developed, procurement practices leaning only on legislative chemical restrictions are not enough to protect our health or the environment from the adverse effects these chemicals pose. In addition, the European legislation has not actively imposed legislative restrictions on products imported from outside of the EU. Advanced chemical requirements and follow-up are the only tools available to ensure the acquisition of non-hazardous products and services in the municipalities.



2.2 PUBLIC PROCUREMENT – A TOOL TO REDUCE HAZARDOUS SUBSTANCES

Municipalities and the public sector might not recognize their own potential and responsibility for limiting the spread of hazardous substances. According to the European Commission, an average of EUR 1.8 trillion is spent on public procurement every year, which equals approximately 14% of the EU GDP. The Commission points out that this purchasing power could be used to influence the market and increase sustainable consumption and production. By requesting less harmful products, municipalities can:

1. influence the market and increase safety and sustainability,
2. guide companies to prepare for more stringent legislation in the future, and
3. set an example for companies (the market) and consumers.

Municipalities' responsibility

The public sector is in a position where it can promote the protection of both human health and the environment in their operations. Many municipalities are committed to promoting sustainable development, and reducing the use of hazardous substances should be taken as part of their commitment.

Hazardous substances can be found in a range of products from kitchen utensils to furniture. The volume of different services and products purchased by municipalities is extremely high, which means that the health and environmental impacts of these services and products affect residents and their local environment in many ways. For example, public spaces such as schools may have furniture that contain unwanted substances. The high purchasing power and the use of public funds implies that municipalities also have more of a responsibility to minimize the risks caused by hazardous substances than individual consumers.

Public procurement is the key to market development

Since a considerable part of the national income of the EU states is used to provide public services, the public sector has a potential to exert a large effect on production and consumption. By favouring non-hazardous products, municipalities can broaden the market, trigger green innovations and promote the development of products and services with less hazardous substances.

The high purchasing power of public authorities is a market factor with enormous potential.

The purchaser and the procuring unit have an excellent opportunity to influence the market, because they decide what kinds of services and products are purchased. As companies rely on demand and the needs of their clients, they will develop their operations and products accordingly. However, companies need a clear signal in order for them to develop products and services towards more sustainable alternatives. This means that public authorities need to create a demand for non-hazardous products and services and simultaneously make it clear that products which do not fulfil the criteria will not fit into their purchasing contracts anymore. Understanding market mechanisms is also of utmost importance: even if greener products may at first seem more expensive, their prices will decrease as their demand and production increases. In other words, when public authorities decide to purchase products and services that are kinder to the environment, they will not only directly boost the production of those goods but also influence the accessibility of those products and lower their price.

2.3 LEGISLATION SUPPORTS GREEN PUBLIC PROCUREMENT

From a legislative point of view, the important question is not what is procured, but how it is procured. The treaty principles of public procurement – equal treatment, non-discrimination, transparency and proportionality – must be ensured in each contract. In addition, it must be possible to prepare specifications that enable comparisons between the tenders. Price is typically used as a comparison criteria, but environmental properties could also be used. Price can also be fixed, which enables comparing also other properties.

Procurement Directive 2014 enables environmental consideration

Public procurement is governed by the EU Procurement Directive and national acts on public contracts. The 2014 Procurement Directive sets out a range of options for taking social and environmental aspects into account:

1. Environmental requirements including requirements concerning hazardous substances are equal with other requirements. There is no maximum limit on the value given to environmental properties in relation to the costs or price.
2. The requirements for the procurement can be related to the production process. For example, the client can require that non-toxic chemicals are used in the production. The procuring unit can also set criteria for tenderers by requiring a certified environmental management system.
3. Environmental requirements may be a minimum level of performance, or extra points can be allocated for them.
4. The invitation to tender can refer to, for example, standards, certificates or ecolabels. Purchasing ecolabelled products can substantially reduce hazardous substances, and the 2014 Procurement Directive allows to require ecolabels.
5. The procurement contract can include different terms and conditions on the implementation, such as promoting environmental protection.
6. The procuring unit can arrange a market dialogue before completing the invitation to tender. Communicating with companies and experts during the procurement planning phase enables finding the balance in limiting hazardous substances in public procurement. The requirements should be as strict as possible, but the companies should still be able to submit tenders that meet them.
7. Tenderers that have violated the environmental requirements set in the EU legislation, national legislation or international conventions may be excluded from the tendering.

The European Commission provides a lot of information on GPP, and many EU Member States have also national GPP tools and criteria available.

GPP – Green Public Procurement

Green Public Procurement (GPP) is defined as „a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact throughout their life cycle when compared to goods, services and works with the same primary function that would otherwise be procured” (European Commission 2008).

The principal aim of Green Public Procurement is to reduce the environmental impact of the procurement, but they also yield social, economic and political benefits. GPP indicates that the public sector is committed to environmental protection and sustainable consumption and production. Furthermore, GPP increases awareness of the environmental impacts of products and services and promotes green technology.

Requirements for the products and services are expressed by criteria in the tender and contract. GPP criteria mainly focus on environmental requirements of products and services. Pre-made GPP criteria

are provided by the European Commission, for example. Many of the GPP criteria take hazardous substances into account in addition to other environmental aspects. Thus, using GPP criteria is one way of reducing hazardous substances in products or services. GPP criteria are currently voluntary in the EU, but municipalities can set their own progressive regulations to increase GPP and by so doing limit hazardous substances. Thus, municipalities should be encouraged to use these procurement criteria and, possibly, other GPP tools, such as guidelines. In addition, they should actively communicate to their stakeholders that they apply the GPP.

More information on GPP and its benefits can be found in the European Commission's webpage at http://ec.europa.eu/environment/gpp/index_en.htm.



2.4 ALL LEVELS OF MUNICIPALITY MUST BE INVOLVED

Turku University of Applied Sciences carried out interviews within the NonHazCity project partner municipalities in spring 2017. The interviews revealed that lack of information and expertise was one of the most important reasons for not taking hazardous substances into account in public procurement. The need to reduce hazardous substances should become a part of the public discourse. However, information provision across the municipality is imperative. The table below summarizes the different municipal stakeholders and the key messages to be targeted at them in order to raise awareness of the reduction of hazardous substances.

Target Group	Key message
Decision-makers Politicians and senior management of municipalities	Hazardous substances are a risk to health and the environment. Products and services contain hazardous substances regardless of national and EU legislation. The reduction of hazardous substances and concrete reduction measures must be integrated into strategies. Reducing hazardous substances has concrete benefits for the municipality.
End users Inhabitants and municipal personnel	Hazardous substances are a risk to health and the environment. Products and services contain hazardous substances regardless of national and EU legislation. The chemical loading to our environment (both indoors & outdoors) can be reduced by procuring safe products and services. Hazardous substances are widespread and clear signals to reduce the chemical load are needed. Traditional consumer influence or abstaining from consumption is not enough.
Municipal departments and their personnel	Hazardous substances are a risk to health and the environment. Products and services contain hazardous substances regardless of national and EU legislation. The Procurement Directive enables reduction of hazardous substances by use of specific criteria in public procurement. Prioritizing relevant hazardous substances helps to concentrate the efforts. Everyone should be entitled to work in an environment where the presence of certain substances has been minimized.
Procurers	Hazardous substances are a risk to health and the environment. Products and services contain hazardous substances regardless of national and EU legislation. Procurement has an important role in chemical load reduction. The Procurement Directive enables reduction of hazardous substances by use of criteria in public procurement. Existing tools can be used to reduce hazardous substances by means of public procurement.
Suppliers Current and potential	The municipality wants to buy safe products and services that contain less hazardous substances in order to ensure a sound indoor and outdoor local environment for its inhabitants.

Table 1. Different municipal stakeholders and key messages to be communicated to them.

CASE EXAMPLE: Introduction of a centralized chemicals registry in Sweden

The application of a chemicals registry in all operative parts of the municipality ensures knowledge and structure in the handling, storage and use of chemical products and can aid in the phase-out efforts of products containing substances of concern.

A chemical registry and management system was procured and introduced in the city of Stockholm. The procurement of the registry, conducted by the Environment and Health Administration of Stockholm municipality, took a year. The implementation phase lasted another year. However, after two years there is now a possibility for an overview of the total use of chemical products within the municipality.

Another benefit of the system is that products containing prioritized substances for substitution or risk reduction are automatically highlighted and can also be extracted as a list for the whole municipality or parts of the municipality. This gives an overview of the municipality's total contribution to the release of hazardous substances from chemical products. This information can be used in substitution measures which are included in Stockholm's environmental programme.

It is also possible to use this system to identify the products containing such substances within the procured assortment. This enables the continuation of the dialogue with the procured supplier to exchange certain products during the contract period. This information and experience will also be useful in choosing the criteria when developing the tender for the next procurement.

CASE EXAMPLE: Engaging decision-makers and promoting the needed actions in Västerås, Sweden

In 2015, the Executive Office of the city of Västerås conducted a survey analysing a set of samples from local politicians for approximately 40 hazardous substances. Blood and urine samples were taken from six local politicians (mostly high-ranking politicians representing different political parties) and four civil servants. The results were clear: all samples contained all of the analysed hazardous substances.

The main aim of the survey was to increase the level of personal engagement of the politicians in terms of the topic and to increase awareness of hazardous substances among the local inhabitants. The survey and its results were widely reported in, for example, local TV and radio channel and newspapers and to some extent even nationally. Although the Executive Office of the city of Västerås only presented anonymous results to the media, some of the politicians voluntarily expressed their concern about their personal results.

Even though the reduction of hazardous substances had already been discussed in the municipality, the survey made it a top priority. In fact, all financing requirements related to chemical reduction have been approved ever since.



CASE EXAMPLE: Analyses of procured items (and old items) together with a dialogue with the suppliers in Stockholm, Sweden

Within the NonHazCity project, the municipality of Stockholm has conducted analyses of close to two hundred individual samples of items. These items were collected at preschools or purchased from the procured assortment of the city; approximately one fourth consisted of new items and materials while the rest were old items collected at preschools. All samples were analysed by a contracted laboratory, Intertek.

The results were compiled into a report and presented at various seminars and meetings both within and outside the city. The results were also presented in one of Sweden's largest newspapers, Dagens Nyheter, together with the conclusion that newly purchased items were much less likely to contain hazardous substances than old items and the presence of old items, with a high risk of containing hazardous substances, in children's everyday environment should be minimized.

The results from the newly purchased items were used at follow-up meetings with the city's suppliers of toys, pre-school furniture and creative materials as well as with suppliers of IT-connected materials (cables for networks etc.). The analyses were effective as a tool in the follow-up of criteria in the procurement and as a discussion point in meetings. All suppliers were positive towards this approach.

CASE EXAMPLE: Addressing inhabitants and communicating municipal values in Turku, Finland

Providing information is one of the key ways to raise awareness among the general public: providing people with up-to-date information should ideally translate into enhanced awareness which should then lead to more informed everyday consumption choices.

As a part of the campaign to raise awareness of hazardous substances among the inhabitants of Turku, an article on how to decrease the chemical loading of inhabitants through everyday choices was written. The article included an introduction to priority substances and offered practical tips for reducing hazardous substances. It was published in 2017 in "Turkuposti", a magazine published by the city of Turku four times a year. The magazine is widely targeted at all regional inhabitants and delivered to all households in the Turku area. The article was supported by a social media campaign aimed at Turku inhabitants as the use of various complementary channels is usually more effective than relying on a single media outlet.

CASE EXAMPLE: Coaching and motivating colleagues in the municipality in Finland and Estonia

Eco-support is a form of organizational environmental work that increases awareness and helps to put environmental policies into practice at the grass-roots level in workplaces. The idea is to appoint and train eco-supporters in all kinds of work communities to motivate and guide their colleagues in environmental matters.

The eco-support operating model, dating back from 2006, was originally one of the concrete steps of the ecological sustainability programme of the city of Helsinki in Finland. Nowadays, there are active eco-support activities in several Finnish and Estonian municipalities and organizations. At the moment, the model is only used in the public sector.

As part of the NonHazCity project, the city of Turku has increased its eco-supporters' awareness of hazardous substances via concrete examples. The project has also acquainted eco-supporters with the 2014 Procurement Directive, which takes hazardous substances into account better than the previous one.

Learn more about eco-support at <http://www.ekotuki.fi/en/>.

CASE EXAMPLE: Raising awareness among procurers – networks, training and guides in Finland and Sweden

The Environment and Health in Public Procurement (Miljö och Hälsa i Upphandling, MHU) is a well-functioning procurement related network in Sweden. Within this network, employees with tasks



concerning sustainability and chemicals management within different municipalities can exchange experiences concerning the application of procurement criteria aiming to reduce the amount of hazardous chemicals in the indoor and outdoor environment of the municipalities.

In addition, there is a network of preschool related employees which, among other things, addresses chemical-smart purchases from the procured assortment within the Stockholm municipality. This network is connected to Stockholm's environmental programme and its specific goal 5.5: "The presence of hazardous substances should decrease in the preschool environment." The network also receives information concerning new procurements. Its members are free to give suggestions for the assortment and criteria for future procurements of preschool articles.

The Finnish network for green public procurement (Ekohankintaverkosto) promotes cooperation between public authorities on environmentally conscious procurement. Its members include procurers from public organizations, who are interested in the use of environmental criteria in public procurement and want to share their own good practices with other network members. The network meets biannually to exchange experiences and discuss current topics.

Learn more at https://www.motiva.fi/en/public_sector/sustainable_public_procurements.

CASE EXAMPLE: Training of municipal staff in Finland and Sweden

When a municipality decides to reduce hazardous substances in its own operations, it is vital that the municipal employees are informed about the new guidelines and strategies and how they should be implemented in practice. For example, the city of Turku recently devised a priority substance list including five substances (or substance groups) relevant in public procurement. In order to make these priority substances well-known among the procurement officers and to increase the knowledge on how to take these substances into consideration in procurements, a series of training sessions was organized. The objective of the training sessions was to share information on which hazardous substances are present in different product groups and how their reduction and avoidance is possible.

Each short training session presented one priority substance and examples of products in which these substances can be found. Each training included:

- a presentation of one of the city of Turku's priority substances/substance groups,
- an introduction of the health and environmental risks related to the substance,
- information about the occurrence of the priority substance in the local environment,

- examples of products or product groups which may contain the substance,
- examples of available procurement criteria which may be used to decrease or eliminate the substance.

In Stockholm, the Chemicals Centre of Stockholm municipality organizes a biannual interactive lecture on hazardous substance free preschool environment and scrutinizes which articles, materials and chemical products are used within the units. This event has a practical tone and it introduces concrete examples of how to judge which articles and materials are appropriate to use in preschools and which are not. The information is based on a guidance document developed within the scope of the city's chemicals action plan. However, in order to reach the preschool units more efficiently, the tone is more hands on. The participants have the opportunity to ask questions and access information that is more specifically related to their own preschool unit.

Judging which articles, materials and chemical products are most suitable in the preschool environment can be quite a challenge even for an experienced chemist or toxicologist and is very difficult for non-expert employees. Thus, concrete guidance on how to efficiently reduce hazardous substances is crucial. Continuous contact and the spreading of relevant information to preschool employees is necessary in order to achieve the reduction targets for hazardous substances in the everyday environment of local children.

CASE EXAMPLE: Support for procurers – procurement guidelines in Helsinki, Finland

The city of Helsinki has prepared a guide on sustainable public procurement to the city's procurers and other interested parties. The guide contains EU and national level instructions concerning sustainable public procurement. It can be used by the city's offices and businesses to promote the city's strategic targets. In addition, the guide contains suggested criteria on public procurement by product groups and it presents procurement examples from different departments of the city of Helsinki.



2.5 COMMON STRATEGY ENSURES RESULTS

Some procurement entities are already willing to take hazardous substances into account in public procurement, but currently there is little or no support from executives and decision-makers. This means that the financial and personnel resources allocated to these efforts are insufficient.

Procurement units need a clear work order and authorization to reduce hazardous substances with the help of public procurement. Municipal management must be aware of the importance of hazardous substances and commit to their reduction. Therefore, it is important to raise awareness of hazardous substances within the municipality, but also to record the targets and objectives of reducing hazardous substances in the municipal strategies. Since municipalities tend to have multiple strategies, it can be good to integrate the efforts to reduce hazardous substances to an existing one, like the environmental strategy of the municipality.

A municipal procurement strategy is usually based on the overall municipal strategy. The procurement strategy can specify the actions targeted to reducing hazardous substances, as well as the roles and responsibilities of each operator. The procurement strategy can also define policies on using environmental criteria in tendering procedures and increasing the share of ecological products. A good procurement strategy can also identify the public contracts that have, for example, the most potential to reduce hazardous substances. The more detailed the strategic targets, the more likely they are to lead to concrete measures. More detailed instructions for procurers can be prepared on the basis of the procurement strategy.

When the target of reducing hazardous substances by means of public procurement is stated clearly in the municipality's strategy and supply strategy, it becomes easier to discuss it both within and outside the municipal organization, for example with residents and tendering candidates.

Setting priorities – priority substances

Due to the extensive number of hazardous substances, effective and concrete measures require setting priorities. In order to harmonize the efforts to reduce hazardous substances, municipalities should specify local substances of priority and include these in their environmental strategy. For example, Stockholm has found it necessary to prioritize certain substances and substance groups, and the city has prepared a list of priority substances to support its goal of a non-toxic environment. The list contains five substances and six substance groups that should be prioritized in control, monitoring and communication. The list also includes examples of products in which these substances are found.

The priority substance list is one tool which can be used to limit hazardous substances in public procurement. In particular, grouping the substances of priority by product group facilitates the public procurement processes; it is easy to check on which particular substances the focus should be in the case of the product or service.

Priority substances can be determined with three criteria:

1. The substance or substance group is a known risk to human health or the environment.
2. The substance has been found in the local environment, or there is reason to suspect that it might cause a risk in the area. Each municipality can survey the concentrations found in its waste water and water systems, and use earlier research findings.
3. Operations by the municipality affect the emissions of the substance in the area.

**Furniture and textiles can contain traces of hazardous substances.
Pre-set priority substances:**

- ensure that the focus is on limiting the most hazardous substances or substance groups,
- facilitate the setting and monitoring of targets for less hazardous procurement,
- enable effective communications with companies,
- facilitate communications with, and the training of, procurement officials.

Examples of how to address hazardous substances in municipal strategy and procurement strategy

Promoting safe products and services in municipal procurement requires:

- raising overall awareness and promoting open discussion,
- commitment of management to safe environment,
- defining and assuming responsibilities,
- setting the targets in the procurement strategy,
- recording the concrete measures of less hazardous procurement in procurement guidelines,
- implementing follow-up indicators.

Characteristics of a good procurement strategy:

- the targets for reducing hazardous substances are set in cooperation within the municipality,
- the targets are realistic,
- there are indicators for monitoring the targets,
- the roles and responsibilities of the operators are clear and communicated.

The targets set in the procurement strategy must be long-term targets, and the entire municipal management must commit to them. It is important to monitor past contracts and the criteria used in them. This ensures that the criteria are met, enables further development of the measures and serves as motivation.



Type of strategy	Addressing hazardous substances in strategies	Example
The municipal strategy	The municipality wants to reduce hazardous substances	<i>A non-toxic Stockholm</i> is a part of the Stockholm Environment Programme 2016–2019 (with sub-targets and indicators) “..The City will therefore both reduce the risks of chemicals in their own operations and through knowledge diffusion persuade companies and the general public to do the same.” Stockholm has also devised a specific Chemicals Action Plan
	A target for less hazardous procurements	25% of all municipal procurement includes criteria that reduce or limit hazardous substances
The municipal and/or procurement strategy	A list of substances and substance groups that will be prohibited or reduced in the city or in the products and services	List of priority substances
Procurement strategy	Focusing on specific end user group(s)	All contracts that affect children and adolescents should include an assessment of hazardous substances Children and adolescents are more sensitive to the risks of hazardous substances because of their developmental stage
	Recurring contracts Procurement exceeding a certain threshold value Specific product groups	Recurring furniture contracts in cities Three main factors for identifying prioritized product groups: environmental impact, budgetary importance and the potential to influence the market (Buying Green)

Table 2. Different options to address hazardous substances in strategies.

How global and European sustainability strategies address chemical reduction:

- Sustainable management of chemicals (and waste) is at the centre of the 2030 Agenda for Sustainable Development (United Nations).
- Chemicals are one of the three key action areas posing a threat to human health and wellbeing in the 7th Environment Action Programme (EAP) (European Commission).
- The EAP has a long-term vision for a non-toxic environment. This Union Strategy for a non-toxic environment (EU) is currently under development.

Communicating about the strategy

When the municipality has defined its strategy to reduce its chemical load, the aims of the strategy must be communicated to relevant actors within the municipal organization. The message must be consistent and well-planned. A communications plan can make the message clearer and more effective.

Who communicates?	Target group	Content	Objective	Channel
The municipality	Inhabitants and employees Stakeholders (e.g. other municipalities, regional/-national authorities, NGOs)	Policies and strategy Positive messages about new targets and successful non-hazardous procurements	Building trust in the municipal organisation and its ability to act in favour of residents	Multiple (e.g. strategy papers, info days, municipality networks, regional-local papers) The message should be coherent and simple in all communication channels
The procurement unit	Companies	The municipality wants to buy safe products and services that contain less hazardous substances Needs, strategic targets and plans of the procuring unit (such as chemicals requirements) Procedural changes and their reasoning Long-term targets	Communicating to companies early enough to allow them to react and make the necessary changes to their products and services Providing suppliers with information on future contracts (preliminary procurement schedules and long-term procurement plans)	The municipal website Meetings and regular contacts with companies Other potential channels include newspapers and magazines, seminars, events The message should be coherent in all communication channels

Table 3. Key stakeholders and messages when communicating about chemical strategy.

CASE EXAMPLE: Stockholm's strategy for hazardous substances reduction – Chemicals Action Plan

Many countries have published National Action Plans (NAPs) for green and sustainable procurement, setting targets for either overall procurement or certain product and service groups. Similar strategies could be devised to enhance the reduction of hazardous substances either on a national or municipal level.

In Sweden, hazardous substances are part of the political strategy, and a non-toxic environment is one of the national environmental quality targets. This target is also included in the strategies of municipalities. For example, the city of Stockholm has a specific Chemicals Action Plan (CAP) that contains the local procedures for reducing the city's chemical load. One of the areas is procurement, and the procurement section specifies actions that support the targets, such as the application and monitoring of national chemicals criteria in procurement.

The action plan also defines the areas of responsibility. In 2014, the city established a Chemicals Centre, which is responsible for providing guidance on chemicals criteria and raising awareness among the city's employees. Not all municipalities have the resources needed for opening a new unit, but it is important to bear in mind that the municipal procurement experts specialize in procurement, not in chemicals. In other words, it is crucial to support procurement officials in chemical issues.

Chemicals Action Plan for the City of Stockholm 2014–2019 – Towards a non-toxic Stockholm 2030 is available at www.stockholm.se/PageFiles/1176228/engmar16webb.pdf.



2.6 MAIN MESSAGES AND BENEFITS

TOP 10 MESSAGES TO BOOST CHEMICAL SMART PUBLIC PROCUREMENT IN MUNICIPALITIES

The reduction of chemical emissions and hazardous substances via public procurement can be supported by adhering to the following principles:

1. **Increase information and raise awareness.** General information on both hazardous substances and the benefits of their reduction should be increased and made available at all levels.

2. **Strategies ensure resources and results.** Politicians and higher public officials may enable the reduction of hazardous substances by taking decisions to introduce reduction schemes into municipal strategies and by providing adequate resources for implementation.

3. **Prioritize.** Set priorities for the work in the municipality. This can be done, for example, by setting priority substances or by setting prioritized user or product groups.

4. **Be clear and plan ahead.** Communications must be coherent and well-planned.

5. **No unit is an island.** Reducing hazardous substances should not be the responsibility of procurement units alone. Procurement officers need political support, technical support from employees with chemical expertise, cooperation with other units, as well as practical tools and training.

6. **Think long-term and avoid quick fixes.** Purchasing decisions should benefit sustainability in the long term. Procurement units and other public institutions should change their mindset: the benefits of using life cycle costing should be underlined instead of aiming for quick return for investment.

7. **Widen the expertise.** More environmental specialists should be involved in the procurement processes. Procurers have expertise in tendering, but they need expert support in chemical issues.

8. **Be open and discuss.** Initiate an open discussion with companies and suppliers. Cooperation between procurers and suppliers is instrumental for achieving chemical smart procurements. Any new requirement should be discussed openly with all concerned parties.

9. **Make non-toxic the default option.** If municipal guidelines demand non-toxic alternatives by default, choosing these options becomes a more straightforward process. Compulsory actions support successful enforcement of chemical smart procurement.

10. **Listen to the public.** Inhabitants should be able to decide at least to some extent which products and services are to be purchased with public funds and which safety or health breaches cannot be accepted. Concern for hazardous substances needs to be publicly voiced to ensure safer, healthier products and services which pose no threat to the surrounding environment.

TOP 5 BENEFITS OF REDUCING HAZARDOUS SUBSTANCES IN PUBLIC PROCUREMENT

Five main ways by which the reduction of hazardous substances in public procurement benefits municipalities:

1. **Protects human health.** Precaution can prevent severe health problems caused by hazardous chemicals.
2. **Protects the environment.** Hazardous substances are harmful and many of them are very persistent in the environment.
3. **Transforms the market.** The supply of non-hazardous products and services increases when there is a clear demand for safer products. Municipalities can boost this development by chemical smart public procurement: positive signals from the public sector are crucial for the market and help in chemical emission reduction.
4. **Transforms the legislation.** Future trends and legislation can be anticipated from a financial perspective and how the companies act.
5. **Increases awareness across the municipality.** Chemical smart public procurement increases the awareness of hazardous substances among inhabitants and in the private sector. This may encourage both inhabitants and the private sector to strive for a non-toxic environment.



3. TOOLS FOR REDUCING HAZARDOUS SUBSTANCES IN PUBLIC PROCUREMENT

3.1 MARKET DIALOGUE

Reducing hazardous substances by means of public procurement is one of the ways of reducing the environmental load. However, hazardous substances and their concentrations in various products and services is a complex issue, and often, neither the client nor the procurement officer have sufficient technical knowledge on the topic.

Cooperation ensures up to date information

It is impossible for an end user or procurement officer to know all the latest market developments. Similarly, no company can have a complete understanding of municipal purchasing requirements, such as the strategy to reduce hazardous substances. Companies develop their products and services all the time, and municipalities are continually searching for safer, more cost-effective solutions. This is why the procurement unit should prepare the procurement and its possible content after dialogue with companies.

Information sharing, dialogue and other forms of cooperation can be beneficial for both the market and municipalities. In fact, cooperation is supported by the EU Procurement Directive.

Preliminary market consultations

„Before launching a procurement procedure, contracting authorities may conduct market consultations with a view to preparing the procurement and informing economic operators of their procurement plans and requirements.

For this purpose, contracting authorities may for example seek or accept advice from independent experts or authorities or from market participants. That advice may be used in the planning and conduct of the procurement procedure, provided that such advice does not have the effect of distorting competition and does not result in a violation of the principles of non-discrimination and transparency.”

(Directive 2014/24/EU, Article 40)

Dialogue with markets benefits both parties

Consulting the markets is one tool that can be used when a city wants to reduce the load of hazardous substances by public procurement. By consulting the markets, the city creates a win-win situation and gets up-to-date information about the safer choices companies can offer and which demands are still out of their reach. At the same time, the market gains awareness of the municipal purchasing needs. When municipalities make enquiries, they send a message: “We are interested in less hazardous choices both today and in future; we want to build relationships with those suppliers whose products fit our values.” This is a clear message that there is a market for products free of hazardous substances and that there are good business opportunities in meeting this demand.

Even if the procurement unit has carried out a similar procurement before, the market may have changed and evolved, which is why a market consultation guarantees an informed and successful procurement process. A market dialogue between the procurement unit and the companies is an integral part of successful procurement.

The process of the market dialogue

Market consultations typically take place before the actual procurement procedure, which starts when the contract notice is issued. In order to gain maximum benefit from the market consultation, the dialogue should be planned well in advance, both in terms of its content and communication. When information is released at an early stage, it is easier to specify the procurement more accurately, which

helps companies to deliver products and services that meet the client's needs.

It is important to think about the available resources when planning the dialogue with the markets, since the resources needed for market consultation depend on the implementation method. In particular, one-on-one meetings with suppliers require time and resources. A request for information is an easier way to carry out the market consultation, but it might not provide the procurement unit with all the necessary information. In the procurement of the Nordic Swan ecolabelled daycare centre that is introduced later as a case example from Finland, the request for information was complemented with one-on-one discussions between the companies and the procurement unit.



Figure 2. Different methods of the market dialogue.

The procurement unit can also analyse the market independently, for example, with the help of the Internet or trade fairs, but with this option the potential suppliers are not informed of the client's need for less harmful products and the subsequent demand for these. In the market dialogue, the procurement unit can communicate its values to the companies, such as its objectives to reduce chemical load and create a non-toxic urban environment.

The procurement unit also receives useful information on the market and becomes aware of the tenderers' ability to meet new requirements that limit the use of hazardous substances. For example, the procurement unit can issue a request for information concerning a certain product category or present preliminary substance requirements that it wishes to include in the actual procurement. The suppliers are requested to comment whether they could meet the requirements and how the

requirements would affect, for instance, the price of the procurement. However, the aforementioned principles of non-discrimination and openness must be kept in mind when evaluating the responses.

Although the market consultation is usually related to a future procurement, the procurement unit should remember and also let the suppliers know that issuing a request for information or holding an information event does not bind the procurement unit to start the procurement process. Similarly, participation in the consultation or attending an information event does not bind the suppliers to submit a tender in the procurement.

At the information event, the procurement unit presents the planned procurement to interested suppliers and asks for their comments, similarly to a request for information. It can also arrange one-on-one meetings with the suppliers. One-on-one meetings require more resources from the procurement unit but might lead to a more open discussion on the alternative ways of implementing the project.

After the market consultation, the procurement unit can set requirements that take into account both the client's and the tenderer's views on the procurement at hand. The market dialogue also benefits the companies, as is evident from the example below. In the example, the representative of the supplier considers that the market dialogue promotes development and improves the quality of the results.

Dialogue with the contracted companies during the contract period

A successful dialogue with the municipality's suppliers requires a systematic approach. A beneficial structure is to have meetings with the suppliers once or twice a year, to discuss their environmental management strategies and follow up on specific criteria. This way the municipality can find out if the suppliers have verification and if this verification is correct and detailed enough for the specific criteria (i.e. not only „REACH compliance“). The nature of the meeting depends on whether the proper verification has already been presented in the tender, upon the signed contract or during the contract period. Below, the assumption is made that the first alternative is not the case, i.e. the supplier has announced that they meet the criteria but not presented verification in their tender.

It is important to find positive approaches and angles for both the supplier and the municipality: by getting more information out of their supply chain, the company will know more about what they are actually selling, which may have positive implications for quality and other aspects of their products, while also responding to health and environmental issues. It might also help the company to have the correct information in order to show compliance with legislation.

It is imperative for the municipalities to have contact with their suppliers during the contract period in order to safeguard that they get what they demanded and contracted, both in terms of the agreed price as well as fulfilment of environmental and health criteria applied to the products.

Example of a systematic approach used in Stockholm with the contract companies

Ideally, the procurement unit's personnel, i.e. procurement officers and contract managers, work together with environmental specialists to arrange the meetings between the municipality and the supplier as well as ensure that all criteria are followed up in an appropriate manner.

The tender should include a statement that the municipality intends to conduct annual (or biannual) follow-up meetings with its suppliers and that the contractor should be able to provide the municipality with information concerning the material and content of the procured products.

Upon signing the contract, the supplier should be informed that they will be contacted to agree on an appointment for the follow-up meetings.



When arranging the follow-up meetings:

- Schedule meetings at least five weeks in advance.
- Provide the supplier with information on the expectations regarding the upcoming meeting one month prior to the meeting, e.g. if the supplier is expected to deliver a list of documents (such as the type of verification) or product examples in the meeting.

Supplier's verification

The supplier should write and sign a document stating that the criteria are fulfilled.

Depends on the knowledge the supplier has and the possibility to get accurate information in the supply chain. This can be hard to judge from the outside.

Supplier's verification is the weakest type of verification which should ideally be thoroughly backed up with e.g. chemical analyses (see below).

Third party verification

Certified ecolabel; EU ecolabels (the leaf label for food, the flower label for other products), Nordic Swan, Öko-tex, Blue Sign, Blaue Engel, Demeter, KRAV, IVN, GOTS, etc.

Verified with an independent laboratory analysis from an accredited lab; result from a chemical analysis already performed by another customer, company or someone else in the supply chain.

Chemical analysis

The most reliable and exact method.

The analysis is costly (between EUR 200–900/analysis), but saves time.

The obvious benefits of a few well chosen analyses can be used to justify the costs.

Not all materials and substances might be available for analysis.

Figure 3. Different types of verification with their pros and cons.

The verification can also be demanded to be sent in advance in order to have time to scrutinize the documentation if needed. An agenda should be prepared and sent together with the verification requests and other documents to the supplier with clear information on what has to be provided before the meeting and what can be presented during the meeting.

In order to make the meeting fruitful, it is important to ensure that relevant personnel from the supplier's side are present in the meeting, i.e. people who know the assortment and have knowledge about the verification and environmental issues. The same applies to municipal attendees: knowledge about procurement procedures may not be enough. Thus, someone with at least some chemical and environmental expertise should attend the meeting.

Presenting the roles of all participants as well as a general introduction of the municipality are a good way to start the meeting. The structure, function and different units of a municipality may be of interest to the company, as well as an indication of the annual budget per specific product groups. Sharing the municipal environmental goals, a possible Chemicals Action Plan and a view on UN's Sustainable Development Goals may also be beneficial in establishing the strategic importance of the issue. The company should have the possibility to present their business strategies in terms of e.g. environmental and chemical legislation or other criteria as well as information on how they ensure these issues are communicated and respected in their supply chains.

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Particular focus should be placed on the specific criteria concerning the contract. Solutions should be agreed upon in case of any deviations to the criteria. These solutions might depend on potential penalties stated in the contract or the severity of the deviation. The company might, for example, be given extra time to fulfil the criteria or offered a possibility to replace their products with a more suitable alternative. In case of a severe deviation, the possibility to withdraw from the contract should be considered.

The supplier should also be informed about the next steps concerning, for example, sharing the results of potential chemical analyses and future meetings.

More information about the market dialogue can be found on European Commissions GPP webpage at http://ec.europa.eu/environment/gpp/dialogue_en.htm.

CASE EXAMPLE: Procurement of Finland's first ecolabelled daycare centre in Hyvinkää

The city of Hyvinkää contracted the construction of a daycare centre that meets the criteria of the Nordic Swan ecolabel (completed in autumn 2017). The procurement of the daycare centre can be regarded as significant for both for the city's early education sector – the building is the largest daycare centre in Hyvinkää – and for the local building stock. The starting point was to construct a healthy building that would ensure the well-being of personnel and children, and to come up with new innovations over the course of the procurement¹. Hyvinkää has identified environmental matters as one of its strategic focus areas, and these were also taken into account in the procurement of the daycare centre. Although the city of Hyvinkää is supportive of innovative procurement, project launching required active measures by individual employees.

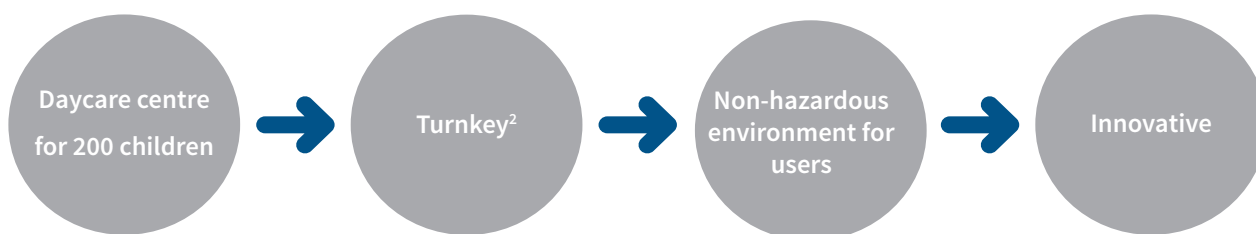


Figure 4. Specification of the procurement process for a daycare centre in Hyvinkää.

Ecolabelled construction is a relatively new field in Finland, although it has become a fairly established form of environmentally-friendly construction in other Nordic countries. Buildings certified with the Nordic Swan label are energy-efficient and contain restrictions on several harmful substances that are typically found in building materials – such as phthalates and brominated flame retardants. The volume of formaldehyde emission is also restricted.

Because the procurement unit did not know if the suppliers would be interested in and capable of constructing an ecolabelled daycare centre, the city of Hyvinkää started the procurement process with market consultations. A two-phased market consultation was needed in order to ensure the capacity of the suppliers to meet with the Nordic Swan criteria.

¹Innovative procurement is more customer-oriented than traditional procurement procedures (the suppliers and end users are more involved in the process) and closely tied to the results, i.e. the client's needs (Norrdal et al. 2014. *Askeleet innovatiivisiin hankintoihin* ("Steps to Innovative Procurement").

²Turnkey contracting

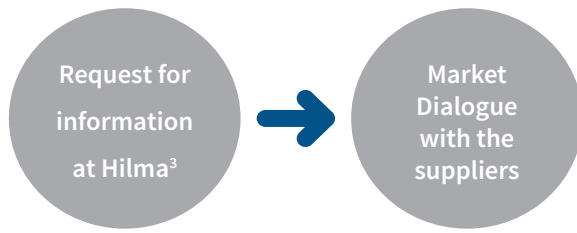


Figure 5. Two-phased market consultation in the daycare centre procurement in Hyvinkää, Finland.

In the first phase, the city published a request for information that contained the criteria for ecolabelled buildings according to the Nordic Swan label as an attachment. The companies were asked if they could deliver a building that meets these criteria. Based on the answers, it was unclear whether it was possible to build a daycare centre that would meet the criteria.

The procurement unit held a two-hour technical dialogue with each tenderer that had responded to the request for information. After the discussions, it was evident that the companies were strongly in favour of ecolabelled construction. The Nordic Swan label was considered to increase the market value of the companies and to build their knowledge on environmentally-friendly construction, which would be important for the future.

In the consultations, both the companies and Motiva⁴ estimated that an ecolabelled daycare centre would be approximately 25% more expensive than a standard daycare centre. However, the companies found the project so appealing that the procurement costs were not higher for the client, not even indirectly. Due to the strict energy requirements, the operating costs of an ecolabelled building are lower, which compensates for any difference in construction costs.

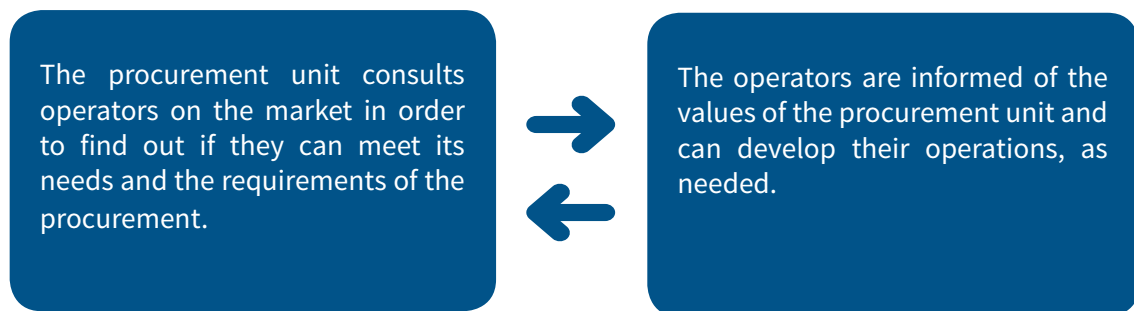


Figure 6. Market consultation is a dialogue.

Hyvinkää has used market consultation as a tool also in other procurement projects, but the scale of this market dialogue was exceptionally wide. Although the preparation of the procurement required more work due to the intensive market consultation, the work paid off. It is unlikely that the procurement would have achieved the same results without consulting the market. Furthermore, the more stringent criteria did not reflect on the number of tenders. The market dialogue also allowed the participants to discuss possible stumbling blocks in the procurement process in advance, which prevented problems during construction.

“THE CLIENT’S REQUIREMENTS CAN SERVE AS A WAKE-UP CALL FOR THE CONSTRUCTION MARKET REGARDING THE CLIENT’S NEEDS.” Inkeri Kontiola, city of Hyvinkää

³ The Finnish procurement announcement portal

⁴ The Finnish Motiva provides the public sector, businesses, municipalities and consumers with information, solutions and services that allow them to make resource-efficient, effective and sustainable choices.

Teijo-Talot, the company that won the competitive tendering, spent more hours than usual on analysing the materials and encountered surprises regarding price, delivery time and availability. However, the company considered the process as relatively straightforward. The work done in finding out about right materials or suppliers was seen to benefit their company in the future. After completing the daycare centre, Teijo-Talot Oy continued to work on another project aiming for a Nordic Swan label. The successful daycare centre procurement project has, thus, had an impact on the entire construction market. Awareness of ecolabelled construction has increased, and there is an indication that suppliers are willing to increase their expertise in environmentally-friendly construction. However, without the client's needs and requirements, environmentally-friendly construction would not have been realized at this scale.

Comment from the company

According to the winning tenderer Teijo-Talot, market dialogue could be used more in public procurement, because it allows the supplier to think about its own wishes and needs for the procurement and improves the quality of the end result. The dialogue also helps to build a partnership between the client and the supplier. The construction of an ecolabelled daycare centre has also had a positive effect on the material suppliers and made the operations of Teijo-Talot more environmentally-friendly.

Environmental requirements for the daycare centre project:

- The daycare centre must be constructed in accordance with the criteria of the Nordic Swan label.
- There must be a specific employee who approves and purchases the ecolabelled materials.
- Special requirements on energy-efficiency.
- The company must have a quality assurance system that takes into account the environmental management scheme.



3.2 PRE-MADE CRITERIA FOR CHEMICALS AND LISTS OF PRIORITY SUBSTANCES

Procurement units will benefit from pre-made criteria for restricted and prohibited substances. Criteria for green public procurement (GPP) already exist, such as the GPP criteria by the European Commission and the criteria by the National Agency for Public Procurement in Sweden. These lists also include criteria for restricting or prohibiting different types of hazardous substances. By using these criteria, the procurement unit can be confident that the criteria are objective and based on scientific evidence. However, at the moment such tools are not being used extensively.

Municipalities can support their procurement units by compiling lists of substances or substance groups that should be restricted or prohibited altogether in the municipality (so-called priority substance lists). To promote an effective use of these lists, political acceptance of such strategy is crucial.

This chapter introduces the criteria established by the European Commission and the National Agency for Public Procurement of Sweden, providing concrete tips and examples for using them, and provides advice on how to prepare priority lists in municipalities and use them for selecting the criteria.

GPP criteria by the European Commission

According to the European Commission, the GPP criteria can be appended to the tender documentation as such, without the procurement unit having to carry out time-consuming market analyses or surveys on the environmental qualities of the products or services. The European Commission has published GPP criteria for over twenty different service and product categories. For example, the procurement criteria for furniture, cleaning products and textiles contains restrictions on hazardous substances.

The Commission's Joint Research Centre and DG Environment is responsible for preparing the GPP criteria. The criteria are established through extensive cooperation between different stakeholders. The EC GPP criteria are reviewed and updated regularly and most of the criteria are available in all the official languages of the EU. The procurement unit can ensure the suitability of the criteria for the local market by arranging a marketing dialogue with the enterprises operating on the national or regional market.

Useful links and further reading

European Commission GPP criteria: Download all the GPP criteria by the European Commission and the technical background reports that explain the key selection criteria at http://ec.europa.eu/environment/gpp/eu_gpp_criteria_en.htm.

European Commission's GPP website at <http://ec.europa.eu/environment/gpp> also contains tools that support green public procurement, such as examples of GPP in EU member states, GPP Help Desk that assists in interpreting and applying the criteria, information on related events and useful links.

Read more about the inclusion of environmental criteria in public procurement in the handbook published by the European Commission in 2016, "**Buying green! A handbook on green public procurement**", which is available at <http://ec.europa.eu/environment/gpp/pdf/Buying-Green-Handbook-3rd-Edition.pdf>.

Two levels of criteria: core criteria and comprehensive criteria

The GPP criteria are divided into two categories: core and comprehensive criteria. The core criteria are intended for all procurement units and the purpose of these criteria is to make green public procurement as easy as possible. The comprehensive criteria, on the other hand, are intended for procurement units that wish to purchase the best environmentally friendly products and services available on the market.

Core criteria	Comprehensive criteria
<ul style="list-style-type: none">• can be used by all procurement units in any Member State• designed to allow the easy application of GPP• aimed at addressing the key environmental impacts• require minimum additional verification effort or cost increases	<ul style="list-style-type: none">• intended for authorities that want to purchase the best environmentally friendly products available on the market and go further in supporting environmental and innovation goals• possibly requiring additional verification efforts or a slight increase in cost compared to other products with the same functionality• take into account more aspects or higher levels of environmental performance

Table 4. GPP core criteria and comprehensive criteria (European Commission 2016a).



Below (Figure 7) is an illustration of the criteria for the procurement of furniture, taken from the EU GPP website. The example used here is B. Procurement of new furniture.

- The core criteria can be seen on the left and the comprehensive criteria on the right.
- The list also includes technical specifications, which are referred to with the abbreviation TS. The technical specifications are also numbered, e.g. TS2 refers to formaldehyde emissions from wood-based panels.
- The second type of criteria is the award criteria, abbreviated as AC. The award criteria are also numbered, e.g. AC1 refers to formaldehyde emissions from wood-based panels.
- In each category, it is also specified how the companies shall verify their compliance with the requirements.

The technical specifications constitute minimum compliance criteria and need to relate to the characteristics of the particular work, supply or service. The award criteria are such that the contracting authority specifies the relative weighting (e.g. points) given to each of the criteria chosen.

2 EU GPP CRITERIA FOR FURNITURE

A. Procurement of furniture refurbishment services	
Core criteria	Comprehensive criteria
TECHNICAL SPECIFICATION	
<p>TS1: Refurbishment requirements (same for core and comprehensive)</p> <p>The tenderer shall refurbish the furniture items provided by the contracting authority according to the specified requirements.</p> <p>Depending on the kind of furniture to be refurbished and the condition of the existing furniture, the contracting authority shall detail as far as possible the operations to be carried out, e.g. repair of metal parts, repair and finishing of surfaces, upholstery conversion.</p>	
<p>TS4: Refurbished furniture product warranty</p> <p>The tenderer shall provide a minimum two year (longer for more valuable items) warranty effective from the date of delivery of the product. This warranty shall cover repair or replacement and include a service agreement with options for pick-up and return or on-site repairs.</p> <p>The warranty shall guarantee that the goods are in conformity with the contract specifications at no additional cost.</p> <p>Verification:</p> <p>The tenderer shall provide a written declaration covering the above-mentioned guarantee.</p> <p>A copy of the warranty shall be provided by the tenderer. They shall provide a declaration that they cover the conformity of the goods within the contract specifications.</p>	<p>TS4: Refurbished furniture product warranty</p> <p>The tenderer shall provide a minimum three year (longer for more valuable items) warranty effective from the date of delivery of the product. This warranty shall cover repair or replacement and include a service agreement with options for pick-up and return or on-site repairs.</p> <p>The warranty shall guarantee that the goods are in conformity with the contract specifications at no additional cost.</p> <p>Verification:</p> <p>The tenderer shall provide a written declaration covering the above-mentioned guarantee.</p> <p>A copy of the warranty shall be provided by the tenderer. They shall provide a declaration that they cover the conformity of the goods within the contract specifications.</p>
AWARD CRITERIA	
	<p>AC1: Low chemical residue upholstery coverings (only applicable to upholstered furniture)</p> <p>Points shall be awarded where the upholstery covering material is shown to comply, as appropriate, with the limits for restricted arylamine dyes, extractable heavy metals and free formaldehyde set out below.</p> <p>For textile fabrics and coated fabrics:</p> <p>No restricted arylamines (see table 5 in Annex II) present above 30 mg/kg (unit applies to dry weight)</p> <p>ISO 14136</p>

Figure 7. Elements of the GPP criteria. Illustration of the criteria for the procurement of furniture (European Commission, EU Green Public Procurement Criteria for Furniture 2018).



Hazardous substances in furniture

Furniture articles are composed of many different parts and materials, and each material type can contain hazardous substances. Even the basic criteria for furniture by the Swedish National Agency for Public Procurement contain ten criteria that concern chemicals. The criteria apply to entire pieces of furniture from wooden parts to textiles.

The eleven criteria either prohibit the use of hazardous substances in the product or set a maximum value for the substance. Maximum values are usually given as percentage by weight, either based on the substance or a part of the product. In most cases, the basic criteria for furniture restrict the use of individual substances. In the case of surface treatment agents and phthalates, the restriction is based on the property principle and hazard statements.

Criteria by the National Agency for Public Procurement in Sweden

The Swedish Parliament has made achieving a non-toxic environment as one of the Government's environmental quality targets. The National Agency for Public Procurement prepares voluntary criteria for Swedish procurement units. The criteria are particularly well-suited for reducing hazardous substances because they include an extensive list of requirements on chemicals. In addition to human health, the Swedish criteria contain several criteria that promote environmental protection. The criteria area available in both Swedish and English.

Three levels of criteria

The criteria by the National Agency for Public Procurement cover eight product areas and several product groups. The criteria are divided into three levels: basic, advanced and spearhead. The levels are proportioned to the market and supply, which means that they vary by product area. For example, certain criteria that are at the basic level in the product group of kitchen supplies may act as advanced criteria in another product group. The criteria are based, for example, on the precautionary and substitution principles, the EU chemicals regulations and the SIN List by ChemSec. The criteria contain both restrictions on the use of certain substances or substance groups and prohibitions motivated by their properties and harmful effects.

Basic and advanced criteria	Spearhead criteria
Specific individual substances are restricted or prohibited.	Restrictions and prohibitions are based on the properties of substances.
<p>When using substance lists, the CAS numbers (Chemical Abstract Service), which are used for identifying chemicals, can help to verify the criteria. At its simplest, companies can use it to check in their chemical registers if their products contain the substances in question.</p> <p>According to the feedback from Swedish companies, the criteria which use substance lists are easier to use because of their higher specificity.</p>	<p>According to experts at the Stockholm Chemicals Centre, the use of property-based criteria requires more from both the procurement unit and the companies, because they have to understand the meaning of hazard statements.</p> <p>It can be difficult to verify compliance with property criteria without the help of a chemical expert.</p> <p>However, property-based criteria require less frequent updating, as each new substance that has the same properties does not need to be included in the criteria.</p>

Table 5. Criteria for non-toxic procurement by the Swedish National Agency for Public Procurement (The National Agency for Public Procurement 2018).

Useful links

The sustainable procurement criteria by the National Agency for Procurement is available here: <http://www.upphandlingsmyndigheten.se/en/sustainable-public-procurement/sustainable-procurement-criteria/>

The agency's website also contains information on the chemicals and on how to take them into account in public procurement: <https://www.upphandlingsmyndigheten.se/en/sustainable-public-procurement/chemicals2/>

The City of Stockholm has an action plan for reducing harmful chemicals in the city. The aim of the chemical action plan (CAP) is to ensure that products used in the city's operations do not contain substances posing environmental or health risks. One chapter of the CAP illustrates how to affect the chemical load through public procurement.

"Chemicals Action Plan for the City of Stockholm 2014–2019 – Towards a non-toxic Stockholm 2030" published by the Environment and Health Administration is available at www.stockholm.se/PageFiles/1176228/engmar16webb.pdf.

Checklist for using pre-made lists of criteria:

- **A market consultation is the only way of ensuring that the local market is capable of meeting your requirements.** Use pre-made lists as a starting point and adapt them to your area by conducting dialogues with companies.
- **Procurement units should always be able to consult an expert,** such as a municipal officer who specializes in environmental or chemical matters. Using pre-made lists is not always straightforward. Each procurement contract is unique, and the criteria might not always be applicable as such.
- **Remember to monitor compliance with your requirements.** This creates the basis for introducing more advanced criteria in future contracts.

Priority substance lists make the selection of criteria easier

If the municipality has no previous experience of using criteria for chemicals, it is advisable to start by focusing on a few key criteria. Selecting the relevant criteria can be made easier by determining priority substances for the municipality and using these as the starting point. The following three general criteria can be used to determine the priority substances:

1. The substance has proved to be a risk for human health or the environment.
2. The substance has been found in the local environment, or there is reason to suspect that it might cause a risk in the area. Each municipality can survey the concentrations found in its waste water and water systems.
3. The municipality can affect the substance load through its actions.

Determining the priority substances for the municipality can help in selecting the most relevant criteria. When the priority substances have been determined, the municipality can select the criteria that refer to these specific substances. The procurement unit should use, for example, surveys among companies to ensure that they have products or services that meet the requirements in their selection.



CASE EXAMPLE: Compiling a list of priority substances for the city of Turku, Finland

One of the tasks in the NonHazCity project was to propose a list of priority substances for the city of Turku. A chemical expert at Turku University of Applied Sciences compiled the background information for the list, analysing chemicals in and around Turku with the help of open environmental data, monitoring data from a wastewater treatment plant, earlier research projects and selected samples. The harmful effects, use and reduction measures were assessed by using material from sources such as European Chemicals Agency (ECHA) and the Stockholm Convention as well as publications by national authorities and research institutions.

The list of priority substances contains seven substances or substance groups and identifies the products or functions where the city can reduce the amount of the priority substance in question. Five of the listed substances are relevant in procurement and they are presented in the table below. In future, the priority substance list will be used in communications, training and decision-making. For example, the city of Turku will consider how the priority substances can be taken into account in strategic procurement.

Substance/ substance group	Justification	Possible restriction methods (examples)
Perfluoroalkyl substances (PFAS)	Persistent, bioaccumulative and toxic	Textiles, furniture and paints
Alkylphenols (NP, NPE)	Reproductive toxicity, persistency and potentially bioaccumulative	Paints, textiles from outside the EU
Phthalates (DEHP, DBP, DIBP and BBP) *	Hormone disruptors, not very persistent	Toys, sports equipment and building supplies
Bisphenol (BPA) *	Reproductive toxicity, not very persistent	Kitchenware, glue and similar products
Polybrominated fire retardants	Hormone disruptors, persistent, bioaccumulative and toxic	Electronics and furniture

Table 6. Priority substances list of Turku. Five substances/substance groups can be taken into account in procurement.

**Since BPA and DEHP are already subject to increased legislation, it is important to include other bisphenols and phthalates in future priority lists, since compounds within the same chemical group often exhibit the same hazards for humans and environment.*

How to use the EU GPP pre-made criteria and priority substance lists together?

Five steps for using pre-made criteria in procurement

- 1. Download the criteria for the selected product group from the European Commission website.**
 - The product group-specific criteria are available from at http://ec.europa.eu/environment/gpp/eu_gpp_criteria_en.htm.
 - Most of the criterion lists have been translated into the EU languages.
- 2. Select the criteria to be included in the invitation to tender.**
 - If you want to focus on reducing hazardous substances, select the criteria that refer to hazardous substances.
 - Start by using only a few EC criteria (for example, 1–5), and add new requirements gradually in the next coming contracts in order to allow companies to adjust to the new, stricter requirements.
 - If your city has a priority list of hazardous substances, check if the list of criteria contains requirements that refer to the listed priority substances.
 - Check if your municipality has identified specific substances to be reduced through procurement and if there are any other jointly agreed approaches. For example, if you are purchasing products or services for children, which hazardous substances do you want to reduce, restrict or prohibit altogether?
 - If the municipality has no priority substances or other approaches to this topic, it is advisable to consult the municipal chemicals or environmental expert.
- 3. Select the criterion level (core/comprehensive).**
 - Although the EU criteria have been designed to be usable in invitations to tender as such, remember to make sure that companies operating in your market are able to meet the requirements.
 - A dialogue with the market helps to determine the right level for the criteria. Before issuing the invitation to tender, you can publish e.g. a request for information that is based on the criteria list to find out if the potential candidates are able to meet the requirements you intend to include in the invitation to tender. The request for information can be, for example, a list of criteria, and the candidates check the boxes of the criteria they meet.
 - A dialogue with the market lets the companies know that the municipality wants to take hazardous substances into account and gives them time to prepare their tenders and compile the verification documents, if needed. In some cases, all the potential companies meet the core criteria, which means you can use the comprehensive criteria.
- 4. Prepare for the verification well in advance.**
 - Each pre-made criterion specifies how the companies can verify their compliance. Familiarize yourself with the verification process before you issue the invitation to tender. Also, a decision should be made if the verification is requested already at tendering, at contract signing or during compliance monitoring within the contract period. This, as well as the strategy to follow if there is not compliance with the criteria, need to be decided well before issuing the invitation to tender.
- 5. Monitor compliance with the requirements during the contract period.**
 - Plan in advance how you intend to monitor compliance with the requirements during the contract period. It is essential to monitor compliance, and the monitoring should be planned in connection with selecting the criteria. The monitoring can include, for example, inspecting documents or carrying out chemical analyses. The appropriate monitoring method should be selected on a case-by-case basis. Read about cooperation during the contract period from section 3.1.

CASE EXAMPLE: Criteria for chemicals and list of priority substances in furniture purchases in the city of Turku

In Turku, the main focus of the NonHazCity project was on reducing the urban chemical load through public procurement. The product group selected for the pilot project was furniture.

The city of Turku purchases furniture for, for example, school and daycare centre premises on a continuous basis. The first step was to map the existing criteria for furniture. The existing criteria were collected and analysed by experts at Turku University of Applied Sciences, who noticed that both the EU GPP criteria and the Swedish national criteria include requirements on furniture. The Nordic Swan Ecolabel also sets its own requirements on furniture. However, Finland had no national criteria. The aim of mapping the existing criteria was to ensure that there are products available on the market which meet the requirements. The criteria were used for creating a two-phased market consultation.

In the first phase, companies were asked to compare their products against the EU GPP core criteria and comprehensive criteria for furniture. Furniture is used in a variety of settings, and for this reason, the market consultation regarding furniture was divided into two groups: 1) furniture for children and young people and 2) office furniture. All the EU GPP furniture criteria dealing with chemicals approximately 20 criteria were used in the consultation. Furniture companies filled out a survey, indicating whether their products meet the requirements of each criterion. The survey was published as a request for information in the electronic procurement notification service HILMA, maintained by the Ministry of Economic Affairs and Employment of Finland. Six companies responded to the request and the results were very promising. In general, it can be said that all companies which filled in the survey can offer products that meet the requirements.

In the second phase, the market consultation was extended to cover the city's priority substances. The EU GPP criteria for furniture did not include requirements on the city of Turku's priority substances. However, criteria that applied specifically to the substances listed as priorities by Turku were found in the criteria of the National Agency for Public Procurement of Swedish and the Nordic Swan Ecolabel criteria. The experts selected the criteria that applied specifically to the priority substances of the city of Turku and prepared a similar survey to those companies which had responded to the earlier survey. The second survey also provided encouraging results.

The procurement unit of the city of Turku felt that the responding companies were market leaders and wished to also inform smaller companies about the criteria. It was decided to hold an information event for all furniture companies to explain why Turku is interested in non-hazardous alternatives and introduce the list of priority substances and the criteria that might be used. The aim of the event was to communicate to the companies that attention will be paid to hazardous substances in future furniture purchases and ensure that all parties understand why this matter is important. To be able to determine suitable level of criteria in future tenders, additional workshop for furniture companies was organized. Based on the results of the workshop, the city of Turku was able to select suitable criteria.

3.3 ECOLABELLING

A reliable ecolabel ensures that the product or service meets strict environmental requirements. Requiring an ecolabel is an easy way to take environmental concerns into account in public procurement because it frees the procurement unit of controlling whether the product or service meets the criteria of the ecolabel. The procurement unit can simply verify that the product or service has been awarded the ecolabel.

The EU Procurement Directive 2014 allows direct references to an ecolabel in invitations to tender without specifying the underlying criteria, which is a difference from the former directive. The rules in the 2014 directive are not limited to ecolabels; other labels can also be used. More information can be found in “Nordic Guidelines – Green Public Procurement: How to use environmental management systems and ecolabels in EU tenders” by the Nordic Council of Ministers, available at <https://norden.diva-portal.org/smash/get/diva2:1087097/FULLTEXT01.pdf>.

Three ways of using ecolabels in public procurement

Procurement units can require that the products or services have a specific ecolabel. In the past, procurement units could only require that the products or services abide to the ecolabelling criteria, and the text “or similar” had to be added after referring to the preferred ecolabel. Procurement units can now require a specific label as proof of compliance with the selected environmental criteria. Currently, ecolabel requirements are optional in public procurement.

Points 1–3 below describe the different ways of using ecolabels in the invitation to tender. The description is based on the Finnish guide to using ecolabels in public procurement (“Opas ympäristömerkin käyttämiseen julkisissa hankinnoissa”, available in Finnish at https://joutsenmerkki.fi/wp-content/uploads/2017/02/Julkiset_hankinnat_opas_huhtikuu_2017.pdf), which follows the principles of the EU legislation on procurement.



1. Ecolabel as a minimum requirement in the description of the object of procurement

The procurement unit can require that the product or service has been awarded a specific ecolabel. If the requirement is absolute (i.e. the ecolabel is required in order to participate in the tendering), it is considered a minimum procurement requirement. The minimum requirement can only apply to a specific item or service or a specific part of the ecolabel requirements.

You can add, for example, the following sentences to the invitation to tender:

The tendered products/services must have the X ecolabel.

The tendered products must meet the criteria of ecolabel x, as specified in the document [no].

In practice, it is enough if the tenderer has the required ecolabel at the start of the contract period. If the tenderer does not have the ecolabel at the start of the contract period, the agreement cannot be signed, or, at the minimum, a sanction clause must be implemented.

The procurement unit may choose to require only certain elements, relevant for the service or product, from the criteria of a particular ecolabel. These can be included in the invitation to tender.

You can request the candidates to demonstrate their compliance with the ecolabel requirement. For example, ask them to present the valid licence number or a copy of the licence.

2. Ecolabel as part of the quality comparison

Using an ecolabel as part of the quality comparison is a viable option if the procurement unit does not consider the ecolabel mandatory but wants to encourage companies to take environmental concerns into account in their products and services. In this case, the award criterion is the price-quality ratio, and the tenderers earn more quality points by offering ecolabelled products or services. The procurement unit should bear in mind that in this option, due to price and other quality aspects, the winning tenderer might be a company that did not offer ecolabel products or services.

You can add, for example, the following sentences to the invitation to tender:

The tendered products/services have the x ecolabel = yy points.

The tendered products meet the requirements of ecolabel x (document [no]) = yy points.

The tendered products/services will have the x ecolabel by the start of the contract period = yy points.

The tendered products/services will have the x ecolabel at the latest six months after the start of the contract period = yy points.

3. The tenderer's suitability – environmental management

In public procurement, it is possible to set requirements on companies or other operators that participate in the tendering (so-called suitability requirements). The procurement unit can require that the tenderers have an environmental management system that covers the management of environmental matters in different stages of their operations (for example, transportation, supply of materials, waste management, waste minimization). The tenderer can also demonstrate its compliance with the requirements with the help of a certified environmental management system (for example, ISO 14001).

Tips on how to integrate an ecolabel into public procurement:

- Organize a market dialogue with companies to determine whether an ecolabel should be used as a minimum requirement or a qualitative comparison criterion.
- The procurement unit should always make sure that there are more than one ecolabelled product or service available on the market. This can be checked, for example, on the websites of both companies and specific ecolabels. The purpose of this is to enable competition and avoid narrowing down the market.
- Inform potential companies of any procurement that might include ecolabels at an early stage.
- Remember to include the ecolabel requirement also in the contract.
- When preparing the procurement documents, always include a link to the required ecolabel or the criteria documentation. You can also append these to the procurement documents.

Use reliable ecolabels

There is a growing number of different ecolabels on national, international and global level. The procurement unit can choose which ecolabel to require from tenderers. You can recognize a reliable ecolabel from the following characteristics:

1. The requirements of the ecolabel only cover criteria that are relevant to the procurement and suitable for specifying the goods or services that are being purchased.
2. The requirements of the ecolabel are based on objectively verifiable and non-discriminatory criteria.
3. The ecolabel is validated after an open procedure in which authorities, consumers, labour market representatives, manufacturers, trade representatives, NGOs and other interested stakeholders may participate.
4. All interested parties can have the ecolabel in question if the article or service abides to the criteria.
5. The ecolabel is certified by an independent party, who cannot be decisively influenced by the ecolabel seeker.

Source: Opas ympäristömerkin käyttämiseen julkisissa hankinnoissa (“Guide to using ecolabels in public procurement”). The Finnish guide is available at https://joutsenmerkki.fi/wp-content/uploads/2017/02/Julkiset_hankinnat_opas_huhtikuu_2017.pdf.



The table below contains five examples of ecolabels that meet the reliability criteria specified above. These are the EU Ecolabel, Nordic Swan, Blue Angel, Good Environmental Choice and Global Organic Textile Standard. The information in the table is based on a presentation by Dr Jens Gercken (Institute of Applied Ecology, Broderstorf, Germany) at the seminar of the NonHazCity project in Turku on 30–31 May 2017.






Label	Name and year of implementation	Management	Scope	Product groups and services	Further information
	EU Ecolabel (1992)	European Commission (EUEB)	About 30 product groups	Cleaning products, cosmetics and personal care, textiles, building products, forest products and paper, electronics, tourism	www.ecolabel.eu
	Nordic Swan / Nordic Ecolabel (1989)	Nordic Council of Ministers	About 65 product groups	Cleaning products, computers, cosmetics products, furniture, indoor paints, textile services	www.nordic-ecolabel.org/
	Blue Angel (1978)	Germany, managed by four entities	5 main categories with numerous subcriteria for products and services	Home and Living, Paper and printing, Electronic Devices, Construction and Heating, Business and Municipality	https://www.blauer-engel.de/en
	Good Environmental Choice (Bra Miljöval, 1987)	Swedish Society for Nature Conservation (SSNC)	5 main categories	Insurances, Textiles, Grocery shops, Chemical products, Cosmetics	https://www.naturskyddsforeningen.se/node/12484
	Global Organic Textile Standard (2006)	Global Standard GmbH		Globally used label for textiles	http://www.global-standard.org

Table 7. Five examples of ecolabels that meet the criteria of a reliable ecolabel. (Source: Gercken, J. 2017).

Ecolabels exist on national, international and global level. It is important to be aware that the label is reliable.

Ecolabel as a tool in procurement of hazardous substance (HS) free or HS restricted products

Ecolabels are voluntary, which means that their criteria can set stricter restrictions on harmful substances than the legislation.

At the NonHazCity seminar in May 2017, Jens Gercken discussed how different ecolabels take into account alkylphenols/APEO, PFCs, phthalates, BPAs and different metals, which are the chemicals examined in the NonHazCity project. Gercken has analysed which kind of hazardous substances are addressed in ecolabels in regard to cleaning products, cosmetics and care products, textiles, furniture, paints and varnishes, and building materials.

Jens Gercken's presentation "Ecolabels as procurement criterion – to what extent do ecolabels indicate the prohibition of certain hazardous substances in products?" is available in video format at the NonHazCity website at <http://nonhazcity.eu/municipality/international-seminar-in-turku/videos/> -> Session 3: Public procurement as a direct measure for the municipality to reduce the use of target substances in its premises - > Session 3-3. The presentation is available as a PDF document at <http://nonhazcity.eu/municipality/international-seminar-in-turku/presentations/>.

It should be noted that an ecolabel might not prohibit all hazardous substances in products. As Jens Gercken demonstrates, different labels restrict substances in different ways. However, we recommend ecolabels for reducing hazardous substances, because they are, despite their faults, one of the best tools available today.



4. INTEGRATING HAZARDOUS SUBSTANCES INTO PUBLIC PROCUREMENT – AN OPERATIONAL MODEL FOR IMPLEMENTATION

Municipalities have the responsibility to secure a healthy environment for inhabitants. They can promote safe environment, for example, by reducing the hazardous substances loading. Municipalities can account for hazardous substances in their procurement processes and thereby reduce the chemical burden on the environment. Several tools support chemical smart procurement. Three tools are presented in this guide:

- Market dialogue
- Pre-made criteria for chemicals and lists of priority substances
- Ecolabelling

The operational model presented below helps municipality to procure chemical smart products and services. The model is based on the model for continuous improvement. More tips and help for the implementation of each step of the operational model can be found in this guide.



OPERATIONAL MODEL FOR IMPLEMENTATION

1. Involve and be goal-oriented

- The starting point for advancing the matter is to secure political will and support for chemical smart procurement.
- The consideration of chemical smart procurement should either be incorporated into existing municipal strategies or a separate strategy should be created.
- The objectives and measures supporting the strategy should be prepared in cooperation between different municipal sectors.

2. Prioritize and define

- There are thousands of hazardous substances. Focus on specific substances and substance groups.
- Define the target group.
- Start from a few procurements that are important for the target group.

3. Engage businesses

- Provide businesses with signals about the needs of the city.
- See businesses as important development partners.
- Market dialogue allows you to ensure that you are up to date on the market situation.

4. Train and communicate

- The procurer should be made aware that hazardous substances have environmental and health impacts and that the procurer is in the position to reduce them.
- The procurer should understand that procurements have a significant impact on the chemical load of the city and that procurement has existing tools for their consideration.
- Residents and businesses should be informed of the city's desire to purchase products and services that are prudent in terms of chemicals.

5. Procure chemicals smartly

- Use existing tools (existing chemical criteria, ecolabels).
- Network and share experiences with other cities.

6. Monitor

- Make sure that the criteria are met during the term of agreement.
- Do not forget work carried out during the term of agreement.

7. Analyse

- Think of ways by which to raise the standard of requirements in future procurements.
- Assess the impact of the measures and compare them to the strategic objectives.

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ABOUT THE NONHAZCITY PROJECT

Solutions for Minimizing Emissions of Hazardous Substances from Urban Areas in the Baltic Sea Region” (NonHazCity) is financed by the European Regional Development Fund within the Interreg Baltic Sea Region programme from March 2016 to February 2019. The project involves 18 partners from Sweden, Finland, Estonia, Latvia, Lithuania, Poland and Germany and 23 associated partners.

NonHazCity demonstrated possibilities of municipalities and WWTPs to reduce emissions of priority hazardous substances (HS) from small scale emitters in urban areas that cannot be reached by traditional enforcement techniques. Substances of concern were identified and prioritized, sources tracked and ranked, individual HS Source Maps and Chemicals Action Plans developed by each partner municipality.

Municipal entities implemented their own substance reduction measures at their premises. Private small scale businesses piloted substitution actions and improved their assortment. Inhabitants were shown their HS emission share and they tested the use of less HS in everyday household management to help to protect the Baltic Sea environment but also their own health.

Read more at <http://nonhazcity.eu/>.



This publication was developed and printed in the NonHazCity project, with financial support of the INTERREG programme of the European Union. The contents of this brochure solely reflect the views of the authors and do by no means represent the view of the European Commission.

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