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HANDBOOK ON SUSTAINABLE PUBLIC PROCUREMENT

Integration Sustainability Criteria
into Public Procurement Procedures

Paints and Varnishes
Cleaning Products
Heat Insulation Materials



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Public Procurement is closely interconnected with an implementation of the sustainable development goals on the practice. Given priority to environmentally friendly products and environmental safety services, which comply with green standards and rules, is an efficient tool in solving of many economic, environmental and social challenges at different levels. In view of this, to implement procure of products and services with improved environmental features in the public sector a clear guidelines on its implementation are actually necessary.

This handbook contains a basic information about benefits and advantages of the sustainable public procurement for government and public authorities; a step-by-step explanations how to transform a procurement process into sustainable one and to use it in practice. Moreover, it provides detailed information about integration of sustainability criteria into procurement process including supplier qualification, technical specifications, award criteria and contract conditions with examples for the three priority product groups.

The handbook is prepared for government and public authorities, however many of the ideas and approaches are equally relevant for corporate purchasers and business representatives. It should also help suppliers and service providers to understand better the environmental requirements increasingly encountered in public tenders.

Handbook contains tables, pictures and annexes.

It is intended for executives of public authorities, institutions, private companies, enterprises and organizations, business leaders, environmentalists, teachers and university students, the media and a wide range of readers interested in the issues and factors that influence the development of sustainable consumption and production.

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FOREWORD

A green economy results in improved human well-being and social equity, with reduced environmental risks and ecological scarcities. A green economy aims to be resilient and provide a better quality of life for all within the ecological limits of the planet.

Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova (Moldova) and Ukraine - the six European Union's Eastern Partnership (EaP) countries, committed to transition towards a green economy in the 2011 and 2013 Declarations of the "Eastern Partnership" Summits and on other international fora. Translating these commitments into actions requires continued mobilisation across the government, with joint action from the Ministries of Economy and Environment, across the economy and by different stakeholders.

The "Greening Economies in the Eastern Neighbourhood" (EaP GREEN) project, launched in 2013, is a means to support the EaP countries to progress faster towards a green economy through better management of natural capital in a context of higher economic productivity and competitiveness.

The EaP GREEN project is funded by the European Union and supported by several EU and OECD countries. It is jointly implemented by four international organisations: the Organisation for Economic Co-operation and Development

(OECD), the United Nations Economic Commission for Europe (UNECE), the United Nations Environment Programme (UN Environment), and the United Nations Industrial Development Organization (UNIDO).

After the 5th Pan-European Conference of Ministers of Environment "Environment for Europe" held in 2003 in Kiev theme of sustainable consumption and production has gained political relevance.

The impact of production and consumption on the environment increases. Therefore, the goal of all countries is to eliminate the dependence between economic development and social sphere degradation and environment related to the consumption, use of energy and natural resources and waste.

In Ukraine and many countries of the world consumption level has not reached such indicators as, for example, in European countries or the USA. Therefore, the increase of consumption (and hence production) is inevitable. However, to avoid a global environmental crisis model of production and consumption of goods and services need to be changed on quality level.

The concept of sustainable development does not envisage the renouncing consumption and industrial production, since it is impossible to provide basic needs for a self-realization of each person.

On the contrary, such a concept will enhance the social standards of life quality, provided the transition from quantitative to more qualitative consumption.

The model of sustainable consumption and production is based on a systemic approach to product lifecycle management and is aimed at immediately addressing several key problems:

ensuring the needs of everyone, improving the quality of society life, increasing resource efficiency, waste minimization, use of alternative fuels and renewable energy sources.

First and foremost, the producers and consumers themselves - those who offer goods, services or jobs and those who provide demand for them - influence the quality of production and consumption models. However, government regulation and stimulation through a series of instruments has a significant role.

One of such instruments is the realization of sustainable procurement. It ensures effective and efficient purchasing based on the assessment of full value of the procurement considering measures aimed at environmental protection, social protection.

The proposed publication will help an organization of any level and field of activity, the public or private sector, to make a conscious and reason-

able choice of an economically feasible proposal with the best environmental, social, technical and/or qualitative characteristics in comparison with products of similar functional purpose. The publication introduces the method of evaluating environmental and economic aspects of products based on international, regional, national and other standards to ensure efficient and effective procurement.

In Ukraine, since 2014, there has been implementation of sustainable public procurement in the framework of the implementation of the EU regional program «Greening economies in the Eastern Neighbourhood» (hereinafter EaP GREEN). Thanks to EaP GREEN, changes were made in the legislation of Ukraine, criteria for priority groups of goods were developed: heat insulation materials, paint and varnish materials, washing and cleaning products, training seminars, including regional for suppliers, producers, associations of suppliers and producers of priority groups of goods, representatives of the chambers of commerce and industry, as a result, the first pilot sustainable public procurements have already been successfully conducted.

***With respect,
Authoring team***

SECTION I

SUSTAINABLE
PUBLIC
PROCUREMENT:
INTRODUCTIONKey Challenges

- What is a Sustainable Public Procurement?
- What are scope and potential benefits of the SPP?
- How to achieve an acceptable balance between the three pillars of sustainable development by means of the SPP?
- Who is responsible for the SPP implementation? What is a framework for the SPP Policy?
- What to do before starting to procure goods, services and works on a sustainable basis?

1.1. PUBLIC
PROCUREMENT AS A TOOL
FOR THE SUSTAINABLE
PRODUCTION AND
CONSUMPTION

Every year governments and public authorities spend billions euro from public budgets of different levels on acquisition of everything their use to drive and support functioning – goods, services and infrastructure. Typically, they buy a wide array of products – from paper clips up to building of road bridges and administrative facilities. However any organisation should provide procure in a way that optimize public expenditures.

In recent years there is traced a clear upward trend in these expenditures: today a part of public procurement contracts may represent up to 25% of Gross Domestic Product (GDP).

Expenditures on products, services and works to satisfy government and public needs, of course, may differ in different countries, however public procurement can represent a large share of the market:

- in the European Union, the government expenditure accounts around 16% of EU GDP, corresponding for roughly EUR 1,8 trillion annually. In some countries, for example in Netherlands and Czech Republic – ~26% of the country GDP;
- in USA – 19–20% of GDP;
- in Ukraine – 13–18% of GDP. For instance, in 2015 Ukrainian government and public authorities spent 112,1 billion hrn, namely: on products – 44,5 billion hrn, on works – 6,8 billion hrn, and on services – 28,4 billion hrn.

As a big consumer, public authorities may use their purchasing power to contribute into sustainable development at different levels, for examples, to support national manufacturers and provide them with additional competitive advantages, solve social inequity challenges and many environmental issues. Transformation of the procurement practice with changing of priorities on the sustainable basis (not only price as major one) may both affect the economic development and manage addressing numerous environmental and social problems associated with production and consumption of products. For example, reductions in cost and material use as a result of specifications for recyclable or reusable packaging, reductions in cost and energy consumption via procurement of energy efficient equipment, increased skill development as a result of local procurement of services, etc.

Public procurement is the procurement of goods, works and services by the procuring entity in accordance with the procedure prescribed by the Law.

Goods are products, objects of any type and designated purpose, including raw materials, manufactured goods, equipment, technologies, objects in solid, liquid, or gas form, as well as services associated with the supply of goods, if the cost of such services does not exceed the cost of the goods themselves.

Services are any object of procurement (other than goods and works), in particular, transportation services, technological and scientific research, research and development activities, medical and public amenity services, rental (lease), as well as financial and consultancy services, and maintenance.

Works may include the design, the construction of new (the expansion, rehabilitation, major repairs, and restoration of existing) objects and structures used for manufacturing and non-manufacturing purposes, the standard-setting activities for construction, the geological prospecting, the technical refurbishment of existing enterprises, as well as the axillary services for works, including land surveying works, drilling, seismic

surveys, aero- and satellite photography and other services that are included in the estimated cost of the works, if the cost of such services does not exceed the cost of the relevant works (*The Law of Ukraine "On Public Procurement", 2016*).

Practical implementation of the procurement on the sustainable basis is a relatively new approach and new tool for environment protection and social equity but its efficiency and effectiveness repeatedly been confirmed in practice. It is one among major drivers for eco-oriented innovations, providing industry with real incentives for developing green products and services. Developed countries for over 10 years use public procurement to ensure the current activities of the administration as well as practical implementation of sustainable development and implementation of environmental policy.

BUY GREEN PRODUCTS AND SERVICES

Aware of responsibility for production and consumption of products and services public authorities should buy environmentally sustainable products, such as energy efficient products and recycled content products, to the maximum extent practicable.

Distinguish few types of environmentally friendly and green products and services, namely:

Bio-based products are commercial or industrial goods (other than food or feed), composed in whole or in significant part of biological products, forestry materials, or renewable domestic agricultural materials, including plant, animal, or marine materials.

Energy Efficient Products are products which use less energy to provide the same service. For instance, ENERGY STAR is a voluntary labeling program designed to promote energy-efficient products to reduce greenhouse gas emissions.

Environmentally Preferable Products (EPP) and services have a lesser or reduced negative effect on human health and the environment when compared with competing products or services

that serve the same purpose. This comparison applies to raw materials, manufacturing, packaging, distribution, use, reuse, operation, maintenance, and disposal. Environmentally preferable products possess more than one environmentally friendly attribute.

Non-Ozone Depleting Substances (ODS) do not deplete the earth's protective ozone layer. Products that normally contain ozone depleting substances should be replaced with functionally similar products that contain non-ozone depleting substances.

Recycled Content Items are items produced with recovered materials.

Water Efficient Products are products which meet water efficiency and performance criteria.

Green or Environmental Services encompass one of two things in mind:

- Services that directly address environmental issues, such as waste management or energy metering services; or
- Services which include construction and service contracts where sustainable products are delivered.

Source: [U.S. General Services Administration](#)

Sustainable Public Procurement (SPP) as identified by the European Commission – is “a process whereby public authorities seek to procure goods, services and works with a reduced environmental impact and other benefits throughout their life-cycle when compared to goods, services and works with the same primary function that would otherwise be procured.”

In other words the SPP is focused to meet consumers' needs, delivering a long-term value for money, maximising social and economic benefits and minimising damage to the environment and human health. It is a new format of relations between producers, suppliers and customers, when the weight of social and environmental factors become equivalent in importance with such criteria

as “price” and “quality”; and customers realize their needs with respect to environment protection by obtaining benefits not only for the organization but also for society as a whole.

Understanding and minimizing negative social, economic, and environmental impacts in the public procurement process are specific objectives of the Sustainable Public Procurement.

Term “**sustainable procurement**” appeared first time at the United Nations Conference on Environment and Development (UNCED), *Rio de Janeiro, 3-14 June 1992*. Informal name of the Conference - The Earth Summit.

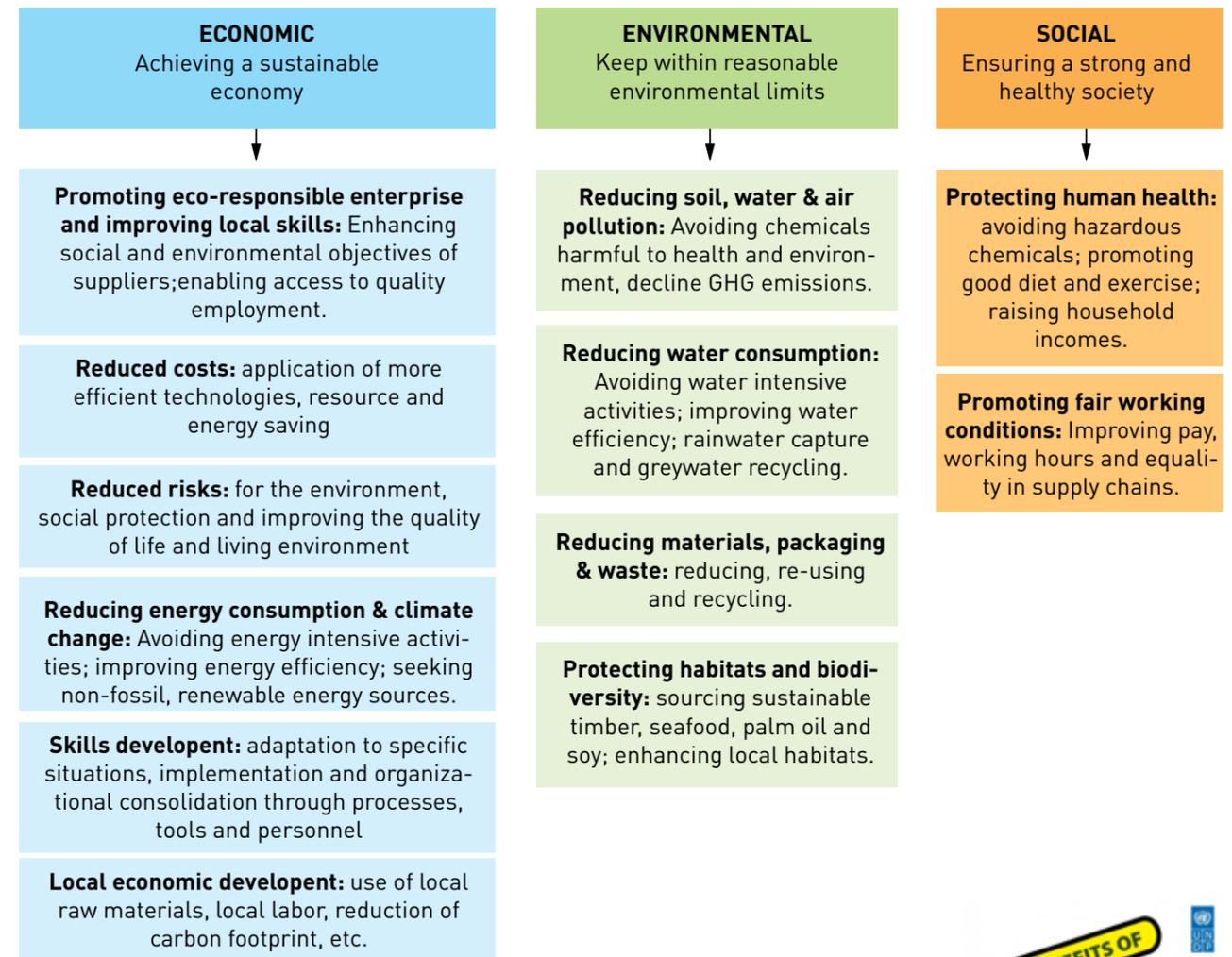
The main purpose of the Sustainable Public Procurement is searching of parity between environmental, social and economic aspects of production and consumption as well as harmonization of relations between market participants such as manufacturers, suppliers, consumers and the environment when purchasing goods and services.

SPP also faces momentous opportunities both as a driver of sustainable growth, but also as an indicator that political risks are under control, institutional capacities are on the rise and the overall domestic investment environment is coming of age.

Variety of social, environmental and economic objectives can be delivered through sustainable procurement, many of which are interlinked (Pic. 1.1).

The Sustainable Public Procurement is focused on realization of *few important strategic tasks*:

- Provide a protection and restoration of the environment at the production and consumption of goods, services and works;
- Support the implementation of sustainable balanced system of nature use and conservation of natural ecosystems;



Pic. 1.1. Main Objectives of the Sustainable Public Procurement

Source: S. Williams, T. Chambers, S. Hills, F. Dowson, 2007. Forum for the Future, “Buying a better world: sustainable public procurement”

- Stimulate a greening of the national economy, including industry, what will help to put into practice the strategic challenges of national environmental policy;
- Encourage the development of national industry and market of goods and services with improved environmental characteristics;
- Promote public-private dialogue on sustainable consumption and production at national and international levels.

For Ukraine the introducing a new policy on public procurements is one of the key step towards implementation the principles of sustainable development and the greening of the national economy according to The Law of Ukraine “On the Fundamentals (strategy) of the State Environmental Policy 2020”.



Table 1.1 – Benefits and Advantages of the Sustainable Public Procurement

| No | Benefits of SPP | Advantages of SPP |
|------|--|--|
| I. | Long-term investments into rational nature use management and environment protection | <ul style="list-style-type: none"> Improving energy and resource efficiency; reducing of negative anthropogenic impacts during extraction of raw materials and consumption of natural resources; Elimination and/or reduction of toxic substances, released into the environment, and, as a result, reducing the impact of hazardous substances on human health and the environment; Reducing Greenhouse Gases emissions to prevent climate change and global warming; Diminution of waste accumulation in landfills by recycling and use of waste-derived materials in the production process; Increasing the effectiveness of economic costs by reusing materials and products; Encouraging the development of clean technologies and environmental innovations; Preservation of natural flora and fauna, protection and restoration of biodiversity. |
| II. | Efficient use of public resources | <ul style="list-style-type: none"> Reducing of social and economic costs by increasing energy efficiency, environmental risk management, reducing landfill waste disposal; Improving of productivity and reducing of working time loss because of illness due to improved conditions in the workplace. |
| III. | Market development for innovative and environmentally friendly products/services | <ul style="list-style-type: none"> Price leveling on goods and services with improved environmental characteristics compared to less sustainable counterparts; Increasing the availability of "green" products/services at the competitive prices; Expansion of environmentally friendly products/services and products with a reduced negative impact on the environment (for example, by using less packaging, bans the use of hazardous and toxic substances); Improving the availability of information about contains and characteristics of product/service for consumers to make a process of buying eco-products more accessible. |
| IV. | Improved working conditions and increased productivity | <ul style="list-style-type: none"> Providing comfortable working conditions; Minimizing exposure of hazardous and toxic substances on human health through the use of environmentally friendly products/services (e.g., use of safer products for washing and cleaning). |
| V. | Achieving of local goals with high social priority | it may be a support of domestic producers, creating new jobs, improving working conditions, elimination of isolation for certain groups. |
| VI. | Reaching of leading positions for government, industry and public (e.g., on the world level in various industries) | through imitation and demonstration of environmental and social responsibility of production and consumption. |

THE SUSTAINABLE PUBLIC PROCUREMENT: GOOD PRACTICES

Sustainable Procurement in Badalona's Schools, SPAIN

In Badalona (the third largest city in Catalonia, Spain) the primary school IES La Pineda savings totaling 9,574 l of water and 2,048 kWh in energy have been made annually through their purchase of 100% recycled paper (128,000 sheets of paper used per year).

Clean Streets in Barcelona, SPAIN

Thanks to tightening of requirements for street cleaning and rubbish collection to enhance the quality and sustainability of the service, noise and emissions from the vehicles used for waste collection have been dramatically reduced and 35% of the fleet now runs on biodiesel, 35% on gas and 30% are electric or hybrid vehicles; more than 90% of the water used in the service is ground water; the number of recycling points available across the city increased by 37% and organic waste collection extended to all areas.

Cleaning Products for Schools, FRANCE

Using of environmentally friendly cleaning services in schools protects cleaning personnel from hazardous substances and dangerous products in their working environment and to reduce risks to children in the preschools and elementary schools where the products are to be used. The lack of dangerous ingredients (such as solvents) and the high degree of biodegradability help to reduce the overall environmental impact. Ensuring the availability of refill packs reduces significantly waste accumulation.

Food Procurement at Nottingham City Hospital (NCH), United Kingdom

Analysis of social, environmental and economic costs, including costs of damaged health and procurement of unsustainable food in the NCH, carried out by Forum for the Future, shows when NCH switched to local food procurement, social external costs were reduced by £30,000 per year. For organic food the cost reduction was around £70,000. Sourcing local and organic food offered

the biggest social external cost savings – around £115,000.

METRO Cash & Carry, Ukraine

In Ukraine, the «METRO Cash & Carry» strengthens partnership with local suppliers; more than 1,200 Ukrainian producers, distributors and importers supply 90% of food and non-food products.

Source: "Green Public Procurement: a Collection of Good Practices", European Commission, 2012

Key difference between procurement as usual and the sustainable procurement is the necessity to consider environmental and social factors of goods and services production & consumption at all stages of their life cycle. Moreover, the SPP allows estimating both operating costs and costs associated with disposal of used products, to conduct impacts assessment on human health and the environment, to forecast risks or consequences etc. SPP means looking at social and environmental risks in a more comprehensive fashion to avoid extra costs (especially in the future) and to mitigate risks more effectively. For example, understanding supplier practices and working conditions can avoid a scandal related to slave labour. Creating specifications that minimize packaging can save money and natural resources.

In practice the sustainable approach in procurement cycle is realized by introducing sustainability criteria into the procurement cycle. Customer should decide what sustainability criteria are most important for different product groups.

It is very important, at the very beginning of the process to decide which sustainability criteria will be used. It is advisable at an early stage to coordinate with client departments the potential environmental or social specifications that will be applied, as mandatory or desirable.

Table 1.2 – A Comparison of Public Procurement Approaches

| Public Procurement: traditional approach | Public Procurement: sustainable approach |
|--|--|
| Basic Selection Criteria | |
| 1. Price. 2. Quality. 3. Other qualification criteria. | 1. Price. 2. Quality. 3. Protection of the environment. 4. Human health safety. 5. Other qualification criteria. |
| Results and Effectiveness | |
| 1. Meet the needs in goods, services and works. | 1. Meet the needs in goods, services and works. 2. Protection and restoration of the environment. 3. Increasing of human health safety. 4. Greening of the national economy. 5. Stipulation of market development for green and environmental goods and services. 6. Eco-innovations development and stimulation. |

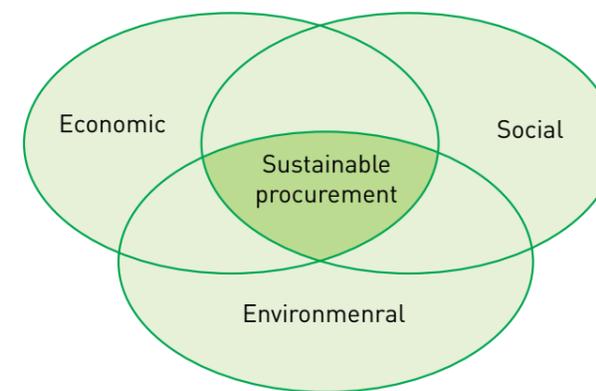
Table 1.3 – Sustainable Procurement VS Green Procurement

| Green Procurement | | Sustainable Procurement | |
|--|---|--|---|
| Procure of goods, services and works with account of their impact on the environment and human health in comparison with traditional analogs (preference is given to those who have less or no negative impact). | | Procure of goods, services and works with account of economic, environmental and social factors of production and consumption in their purchasing decisions. | |
| Key aspects | Reducing of negative anthropogenic impact and environmental risks on the environment. | Key aspects | Reducing of negative anthropogenic impact and environmental risks on the environment. |
| | Reducing of negative anthropogenic impact and environmental risks on human health and living organisms. | | Reducing of negative anthropogenic impact and environmental risks on human health and living organisms. |
| | Price, quality, functional specifications. | | Using energy- and resource efficient technologies and approaches. |
| | Social responsibility of producers, e.g., employees' working conditions. | | |
| | Supporting of domestic producers and manufacturers. | | |
| | Creation of new job places. | | |
| | Price, quality, functional specifications. | | |

Although sustainable procurement encompasses not only environmental considerations, nevertheless the main focus of the SPP is environmental or green procurement. Currently there are a lot of information and tools available to assist in the acquisition of green products and services than any other socially responsible aspects.

Besides the Sustainable Public Procurement, some public authorities practice a Green Public Procurement. These two terms are quite similar by the content, but difference is defined by factors that are taken into account when assessing tender bids (see Table 1.3).

1.2. KEY ASPECTS AND PRINCIPLES OF THE SUSTAINABLE PUBLIC PROCUREMENT



Pic. 1.2. Pillars of the Sustainable Public Procurement

The SUSTAINABLE Public Procurement strives to achieve an acceptable balance between the three pillars of sustainable development:

Economy → economic prosperity;

Environment → ecological balance; and

Society → social progress.

ECONOMIC ASPECTS OF THE SPP

Economic aspects of the Sustainable Public Procurement reflect the cost of procure goods, services and works which are directly related to the procurement process and main stages of their life cycle (e.g., operation, recycling/utilization). Management by these economic aspects allows achieving maximum economy and efficiency, optimal use of budget funds.

A. Market Price on Goods, Services and Works with Improved Characteristics

Price on products and services with improved environmental characteristics may slightly differ in comparison with their less sustainable analogues. In these circumstances, spending more on “expensive greener alternatives” can be perceived as unnecessary luxury. To avoid such situations the procurer may use some strategies to optimize expenditures on goods, services and works with environmentally friendly features, namely:

1. Procurement Optimization – decrease a procure volume due to minimize or optimize of the consumption. For example, two-sided printing and electronic documents flow reduces up to 50–90% of paper use.

2. Centralized Procurement – consolidation of state authorities and organization for the purpose of centralized procure of goods/service may stimulate suppliers to make better offer due to increased volume of order. This approach is particularly advisable for small organizations with limited resources.

3. Stimulation of Producers – an introduction of mandatory environmental and social criteria into tender requirements encourages manufacturers/suppliers for looking of solution to meet criteria of price, quality and environmental protection.

4. Buy services instead of goods – attempt to reduce to total cost of ownership and hence seek to buy services rather than own goods.

Mentioned above strategies do not describe all available opportunities. Depending on different internal and external factors of the environment which may affect an organization it may use any other strategies and approaches to regulate market price. Chart below (Pic. 1.3) may be useful in choosing of best SPP optimal expenditures strategy to leverage a market price on green products/services.

B. "Hidden" Costs Throughout Product/Service Life Cycle

The purchase price of a product is a start of the cost of ownership. Maintenance and repairs may cost more the initial purchase price. An efficient maintenance process and low cost spare parts may help minimize cost.

Traditionally, price is a main criterion for choosing a supplier what may significantly complicate the procurement process. Especially this problem is typical for public institutions and authorities with limited insufficient funding. However, in many cases, specified price may not include "hidden" costs on goods and services during their life cycles (e.g. cost of used product recycling, cost for over consumption of energy resources etc.).

Thus in its most rudimentary form a whole life cycle cost of any product considers the four following elements: Purchase costs; Maintenance and running costs to ensure effective performance; Cost of in-service failure; Recycling costs.

Depending on a product, their whole life cycle costs may vary in a great degree, as it shown below:

| Product / Costs | Pencil | Passenger Car |
|-------------------------------|---|---|
| Purchase costs | approx. 1 USD | from 5 000,00 USD |
| Maintenance and running costs | buying of pencil sharpener, approx. 1 USD, which may be in use for many pencils | vary between 3 000 and 8 000 USD |
| Cost of in-service failure | may equal to a cost of new pencil buying | may equal to a hire of a replacement vehicle |
| Recycling costs | 0 USD (it is through away into a waste bin) | depending on a legislation and price on a scrap metal |
| Useful life of a product | approx. 3 months | 8-10 years |

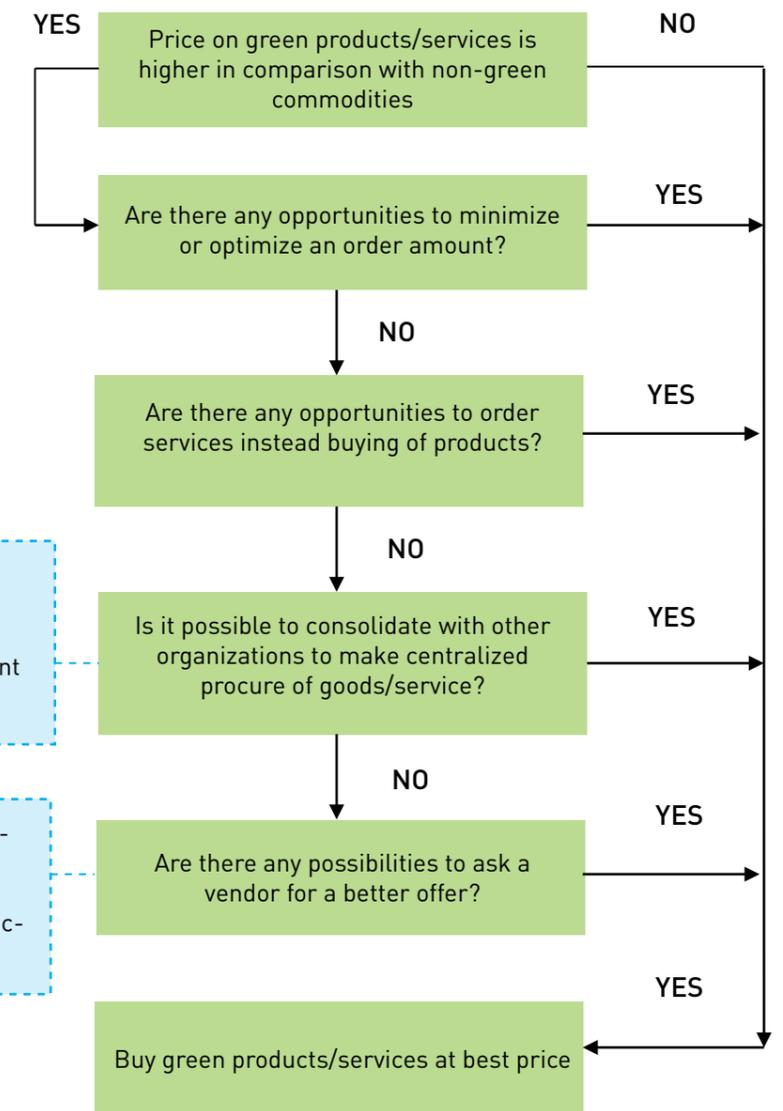
Source: J.W. Bull "Life Cycle Costing for Construction"



The Sustainable Public Procurement is oriented on accounting of total life cycle costs of goods and services (as much as possible), including "hidden" costs (e.g. maintenance and operation costs, costs for disposal/recycling).

- Create an inter-organisation department for consolidated purchases.
- Develop an online platform for joint purchases.
- Hire an outsourcing company.

- Introduce mandatory environmental and social criteria.
- Sign long-terms contracts.
- Support local producers / manufacturers.



Pic. 1.3. Summary Chart in the Selection of the SPP Optimal Expenditures Strategy

C. Operational and Utility Costs

Use of energy- and resource efficient technologies and services can significantly reduce operating costs and utility bills. Also, the purchase of products with improved environmental performance reduces expenditures associated with their use and disposal (e.g., safe detergents improve working conditions, preserve workers' health and reduce sick leave payments, packaging that is suitable for recycling, reduce cost of its disposal; centralized collection of used paper (paper waste,

packaging) can be an additional source of incomes (from 0.70 UAH per 1 kg of paper)).

ENVIRONMENTAL ASPECTS OF THE SPP

Environmental aspects reflect an impact of goods and services production and consumption on the environment (e.g., emissions to air, soil and water, climate change, biodiversity, natural resources and reduction of water resources) and safety for human health.

WHAT MAKES A PRODUCT “ENVIRONMENTALLY FRIENDLY”?

This answer is rather complicated as it is necessary to consider the multiple potential impacts to human health and the environment throughout the product’s life cycle — from product raw material extraction to manufacture through use and disposal. For example, it is a product with less packaging or a product that is energy efficient or water efficient a product that can be disassembled, a product without toxic materials etc.

The environmental features and benefits of green products help to support environmental priorities such as energy efficiency, water conservation, habitat protection, reduction of greenhouse gas emissions, and so on.

Requirements for green products directly related to the climate, for example, relate to the use of fossil fuels or energy consumption in the production process. Also, requirements may be less obvious, such as car tires where the requirement of low resistance during driving leads to a decrease in fuel consumption, which in turn reduces the impact on the climate.

Impact on the environment and improved environmental performance for each specific product groups will be different. For example, for paints and varnishes, cleaning products and heat insulation materials, there are specific environmental and social benefits for each sub-category (see Table 1.4).

Table 1.4 – Environmental and social benefits for paints and varnishes, cleaning products and heat insulation materials

| Branch | Categories of goods and services | Subcategories of sustainable products | Main environmental / social benefits |
|----------------------------|----------------------------------|---|---|
| Energy, Fuel and Chemistry | 1. Paints and varnishes | 1. Paints and varnishes based on polycondensation and polymerization resins | Good protective *, chemical ** and physical and chemical properties *** of a coating; the concentration of toxic substances (by risk factors) is limited |
| | | 2. Paints and varnishes based on natural resins | Reduction of emissions associated with the production of basic ingredients for organic solvents; good chemical ** and physico-chemical properties *** of a coating. |
| | | 3. Paints and varnishes based on cellulose ethers | Use of cellulose instead of organic solvents, which reduces the content and emissions of VOCs; renewable sources of raw materials for the production of cellulose and / or at least 50% of the content of recycled materials for the production of pulp; without the content of highly toxic substances |
| | | 4. Water-dispersion paints | Without VOCs and highly toxic substances; the use of water instead of organic solvents provides the maximum reduction in emissions |
| | 1. Cleaning products | 1. Synthetic cleaning products | Use as a basis not less than 40% of substances of oleochemical (natural) origin; without anionic surfactants, which provides the ability for primary biodegradation of surfactants |
| | | 2. Cleaning products on an oleochemical (natural) basis | Use as a basis of not less than 80% of substances of oleochemical (natural) origin; Restriction of VOC content (boiling point of which is less than 150 0C), zeolites up to 15% |

| Branch | Categories of goods and services | Subcategories of sustainable products | Main environmental / social benefits |
|--|----------------------------------|---------------------------------------|---|
| Construction, building materials and special equipment | 2.Heat insulation materials | 1. Organic heatinsulation materials | Use as a basis for production of not less than 50% of waste products of timber or agricultural waste (for example, cane, peat); without the content of toxic substances; relatively good heat capacity and biological properties; fire safety |
| | | 2. Mineral heat insulation materials | Improved safety performance relative to radioactivity and heavy metal content; without the content of highly toxic substances; High heat capacity |

* Protective properties of paints and varnishes: resistance in various atmospheric conditions, heat resistance, lightfastness, frost resistance.
 ** Chemical properties of paints and varnishes: stability under the influence of the atmosphere, aggressive gases, alkalis, acids, various chemical solutions, water, oils, oil, gasoline, emulsions, soap solution.
 *** Physical and chemical properties of paints and varnishes: wear resistance, strength, hardness, elasticity, flexural strength, adhesion.

Life Cycle Assessment is used to analyses actual and potential impacts at all stages of product/service life cycle (from “cradle” to “grave”) and to assess environmental performance of goods, services or works.

For example, consider a life cycle of a graphite pencil. Typically, cedar, graphite, water and pumice, metal paint and wax are used to manufacture a pencil with an eraser on top. The metals are mined from the ground as well as the graphite and pumice. The wood is harvested from a tree so to obtain this material deforestation must occur. The rubber is harvested from trees which are typically found in Asian regions and take fourteen years to mature. The metals are melted down and made into blocks, this process need an extreme heat. The paint is created from dyes and chemicals. Pencil manufacturing is almost completely mechanized.

The life cycle of the grey lead pencil includes following stages: raw materials extraction, manufacturing, usage and disposal of used product (Pic. 1.4).

Of course, end-users do not necessary to analyze all negative aspects of production and consumption of products. To know which one is better for the environment and human health or possess improved environmental properties consumers may use eco-labels.

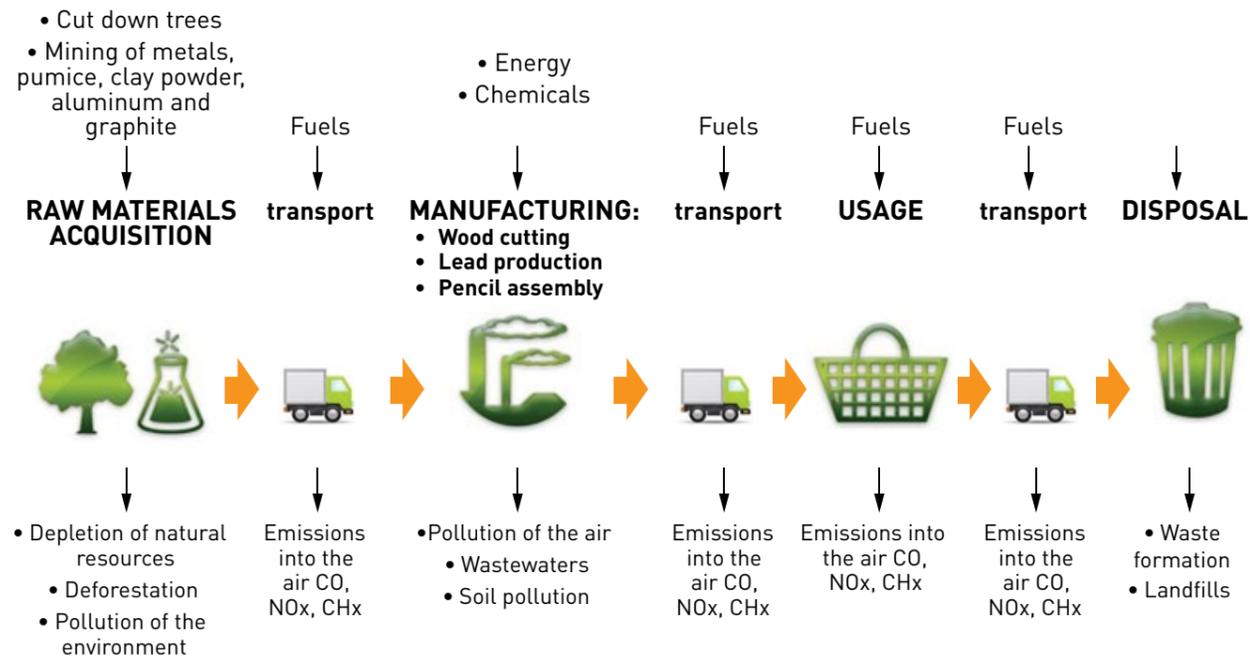
Eco-label identifies products or services proven environmentally preferable overall, within a specific product or service category. More detailed information on eco-labels and their types is given in Sections 2.7.8.

SOCIAL ASPECTS OF SPP

Social aspects may include social justice and equality, safety and security, human rights and conditions of employment. Social component of sustainable public procurement is a main difference in compare with green public procurement.

In addressing social issues the sustainable public procurement may be effective to:

- Achieve high standards of working conditions;
- Develop innovations at the local level;



Pic. 1.4. Life Cycle of a Graphite Pencils

Source: adapted after "Life cycle of a pencil" Presentation by Raylene Reese.

- Encourage environmentally innovative approaches and provide potential markets for environmental products; it may help local producers or service providers to gain competitive advantages at the national and international levels;
- Improve the image and confirm compliance with the principles of sustainable development and corporate social responsibility in general.

POSTULATES AND PRINCIPLES OF SUSTAINABLE PUBLIC PROCUREMENT

Practical experience shows that the Sustain-

able Public Procurement is not only tightening of requirements and expanding of criteria for tender bids evaluation.

It is a new philosophy of the procurement organisation, where every participant understands and takes responsibility for the environmental and social consequences of production and consumption (including manufacturers, suppliers and consumers).

There are three basic axioms which are recommended to take into account during the integration of sustainability principles into procurement process, see below:

| | | |
|---|--|---|
| AXIOM 1 | AXIS 2 | AXIOM 3 |
| The Sustainable Public Procurement is a tool for solution of environmental and social problems. | The Sustainable Public Procurement should be realized gradually – step-by-step inclusion of environmental and social criteria on products with the highest priority or most significant environmental performance. | The Sustainable Public Procurement requires reasonable implementation mechanism that would allow, on the one hand, to perceive incongruities between traditional and sustainable procurement as a source of further development of integration processes, on the other – to take a balanced regarding the interests of various parties solutions and bring them to fulfillment. |

To assist countries and organisations in gaining a common understanding of the Sustainable Public Procurement, a set of Guiding Principles was developed by the **Marrakech Task Force on Sustainable Public Procurement** (MTF on SPP). These principles are based on the systematic step-by-step approach for introduction or further development of the SPP. These principles are for any stakeholder involved in the public procurement process with an interest in sustainable public procurement and good governance.

THE MARRAKECH PROCESS

The Marrakech Process is a global effort to promote progress on the implementation of Sustainable Consumption and Production (SCP) patterns. The process responds to the call of the Johannesburg Plan of Implementation from 2002 to develop a 10-Year Framework of Programmes on SCP (10YFP), which will serve as a global framework for action on SCP.

The Marrakech Task Forces are voluntary initiatives led by governments, which – in co-operation with various partners from the North and the South – commit themselves to carrying out a set of concrete activities at a national or regional level to promote a shift to SCP patterns.

| The Marrakech Task Force Principles on Sustainable Public Procurement | |
|---|--|
| <i>Principle 1: Good public procurement is the sustainable public procurement</i> | Combine and follow the essential elements of good public procurement (transparent, fair, non-discriminatory, competitive, accountable, efficient use of public funds, and verifiable) and integrate with the three dimensions of sustainable development: social, environmental, and economic. Assess the full impacts of a purchase throughout the whole life cycle of a product/ service. |
| <i>Principle 2: SPP implementation needs leadership</i> | Promote the SPP best practices by using successful examples and cases. |
| <i>Principle 3: SPP contributes to broad policy goals</i> | Use the SPP to attain a wide range of government or organizational goals; to develop markets for sustainable innovative solutions and creation of green and decent jobs. |
| <i>Principle 4: SPP engages all stakeholders</i> | Provide an engagement of all stakeholders, including policy-makers, politicians, customers, manufacturers, suppliers, contractors, procurers and civil society organizations. The skills needed for SPP are communication and analysis, the ability to influence, negotiation, and professionalism, an understanding of the market and of all the different sustainability impacts of the procurement process. |
| <i>Principle 5: SPP implementation is based on sound organizational management principles</i> | SPP is based on a risk-based approach, continually reassessing and targeting areas of highest impact or priority. The SPP as part of organizational management systems may help to make it a part of routine procurement practice. |
| <i>Principle 6: SPP monitors its outcomes and results</i> | Measure outcomes for tracking progress as well as identifying areas for improvement. Outcomes may include both environmental and social performance. |

**GUIDING PRINCIPLES FOR SPP
IMPLEMENTATION**

Source: United States Environmental Protection Agency

The Environmental Protection Agency (EPA) in the USA has developed five guiding principles which provide a framework for making sustainable purchasing. They are:

- **Environment + Price + Performance = Environmentally Preferable Purchasing (EPP)** - includes environmental considerations as part of the normal purchasing process.
- **Pollution Prevention** - emphasizes pollution prevention as part of the purchasing process.
- **Life Cycle Perspective/Multiple Attributes** - examines multiple environmental attributes throughout the service's life cycle.
- **Comparison of Environmental Impacts** - compares environmental impacts when selecting services.
- **Environmental Performance Information** - collects accurate and meaningful environmental information about environmental performance of products and services.

**HOW TO INTEGRATE SUSTAINABILITY INTO THE
PROCUREMENT PROCESS**

To clearly define authority, responsibility and establish guidelines for the procurement procedures **the Sustainable Public Procurement Policy** should be developed.

The Sustainable Public Procurement Policy is a governing set of intentions and principles, which establish the general parameters for an organization to follow in carrying out its environmental responsibilities.

It aims to ensure the efficient use of budget resources together with reducing and preventing

negative environmental impacts throughout the life cycle of production and consumption of goods/ services, as well as evaluation of results. The SPP Policy determines a level of environmental responsibility and a scope of commitments to protect the environment and human health.

Main tasks of the SPP Policy are to:

1. Provide a framework for long-term savings through a whole life costing.
2. Inform suppliers and vendors about "sustainable vector" of organisation development.
3. Describe general requirements on sustainability performance and provide a basement for inclusion of sustainability requirements in technical specifications and selection/award criteria;
4. Provide a basement for environmentally responsible consumption inside of the organization.

When develop the SPP Policy take into consideration the following issues:

1. **Support and Commitment** – involve a senior management to support the SPP integration.
2. **Responsibility** – identify individuals accountable for embedding sustainability within the organization and the procurement process.
3. **Analysis** – reflect an organization values, scope, and business ethics and include a commitment to continuous improvement.
4. **Objectives and KPI's** – include Key Performance Indicators and objectives to measure a progress.
5. **Communication and Review** – communicate with staff, key suppliers and other stakeholders in a consistent, concise and clear manner.

**There are five steps, adhere of which may help
to develop the SPP Policy****Step 1. Investigate Sustainability Issues and Needs:**

- 1.1. Assess possible sustainability issues for the organization;
- 1.2. Understand whether it is possible to fit together environmental, social and economic processes;
- 1.3. Analyse benefits and risks of the SPP implementation.

Step 2. Find Own Understanding of the Sustainability:

- 2.1. Define what the SPP mean for the organization;
- 2.2. Define a vision and mission of the SPP;
- 2.3. Set goals and objectives for the SPP decision-making.

Step 3. Develop Guiding Principles:

- 3.1. Identify good practice frameworks for progressing sustainable procurement;
- 3.2. Decide key questions which should be asked during procurement processes in order to assist strategic decision-making;
- 3.3. Harmonise external and internal procurement drivers, including integrating environmental and social improvements.

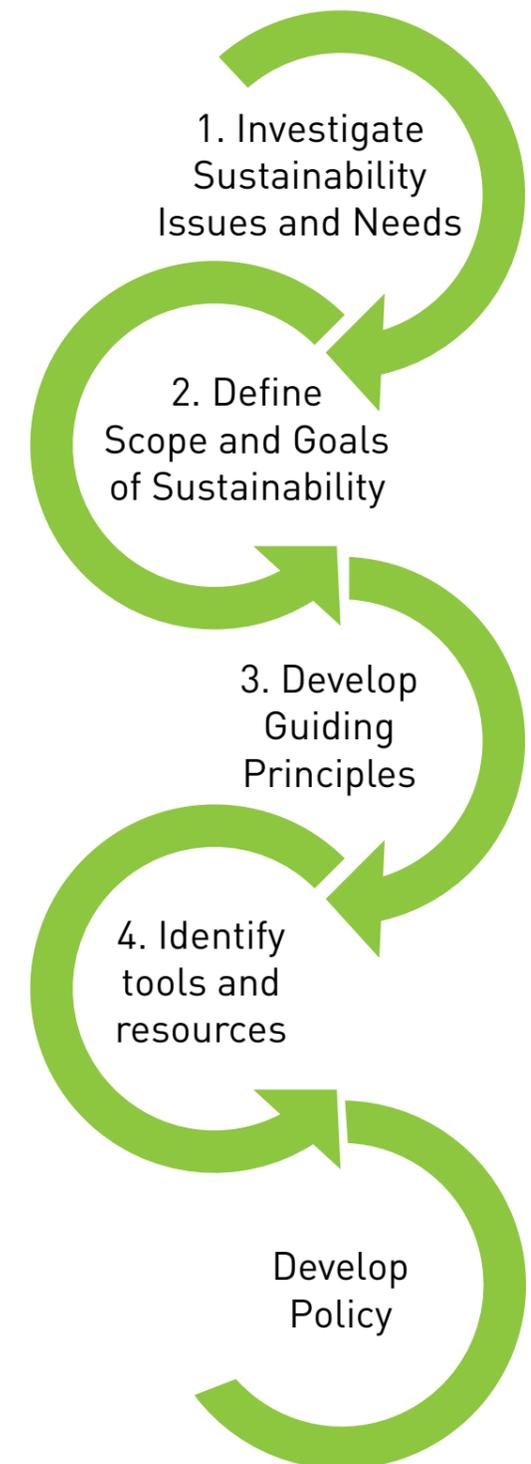
Step 4. Identify tools and resources:

Support staff by identifying the tools, techniques, monitoring arrangements, guidance, and resources that should be drawn upon.

Step 5. Develop the SPP Policy:

Develop an Action Plan to achieve defined goals and objectives.

In order to ensure uniform regulation of rules and procedures of tenders, definition of common strategic goals and objectives for mobilizing of financial resources, their rational distribution and use to meet economic, social and ecologically desirable objectives it is important to develop a **Strategy of the Sustainable Public Procurement.**



The Strategy of Sustainable Public Procurement is a plan of actions aimed to achieve specific short- and long-term goals and objectives, with consideration of main vectors of the organizations' procurement process development including all aspects of its operations.

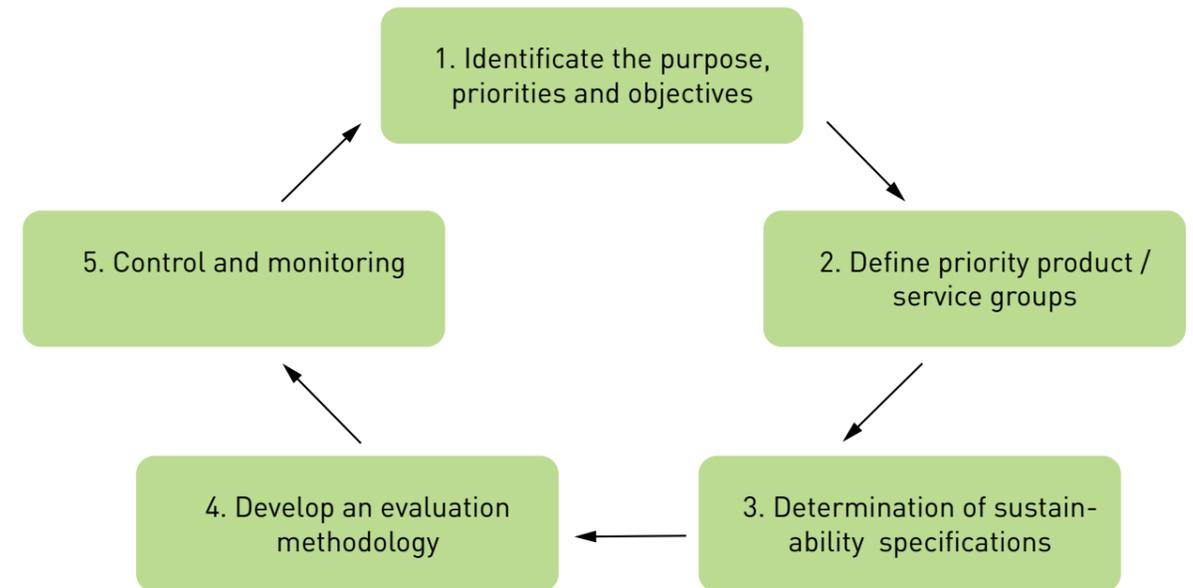
Development of the SPP Strategy requires:

1. Clear understanding of the nature and importance of the SPP – any organization should well understand and realize short- and long-term objectives in the context of environmental, social and economic trends;

2. An Action Plan – a strategy must include specific actions and programs to achieve goals in practice;

3. Communication and reporting – it is important to ensure a meaningful and consistent reports about achievements at different stages; an effective cooperation between all departments and employees within the organization, effective cooperation between customers and suppliers as well as support from senior management.

A more detailed explanation of key steps of the sustainable public procurement process, inclusion of environmental criteria into a tender documentation, drawing up technical specifications qualification (selection) of the suppliers, awarding a contract and specific conditions: contract performance clauses can be found in Section 2.



Pic. 1.5. The SPP Strategy development process

Source: *The Green Business Booklet, International Labour Office 2015*
Manisha Mishra, Sohina Singh and Arpita Goyal

1.3. THE LEGAL FRAMEWORK ON THE SUSTAINABLE PROCUREMENT

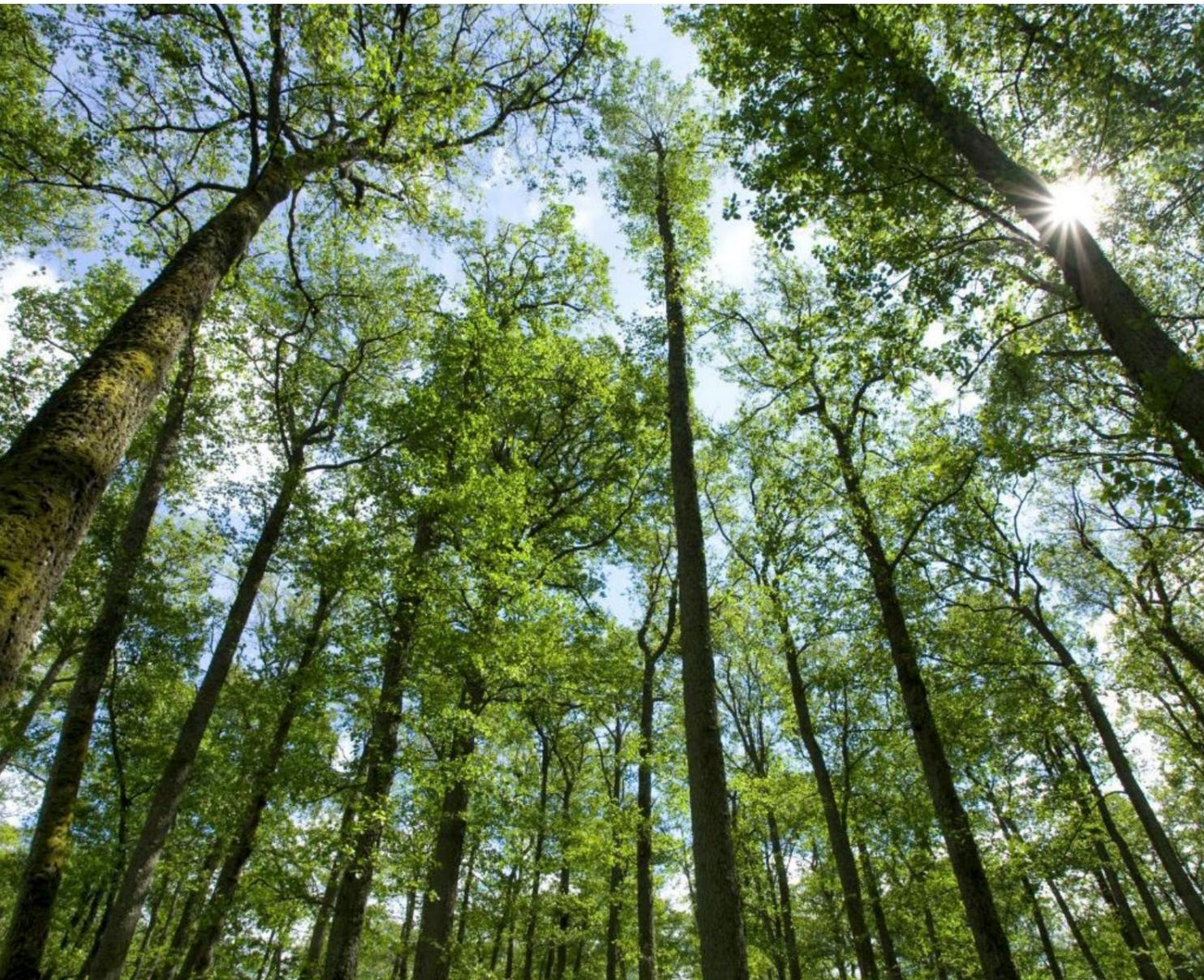
The Law of Ukraine "On Public Procurement" No. 1078-VIII, adopted in 2016, and the Law of Ukraine "On peculiarities of Procurement in Certain Spheres of Economic Activity" No. 4851 from May 24, 2012 – are main legislative documents which establish the legal and economic foundations for the procurement of goods, works and services to meet the needs of government and public authorities.

Main goal of these Laws is to create a competitive environment in the field of public procurement to prevent corrupt practices in this field, to develop fair competition. Although these Laws do not require procurement to be sustainable, having environmental and social dimensions have been given further prominence.

The adoption of new Public Procurement Law facilitates the implementation of the EU-Ukraine Association Agreement and the creation of an e-procurement system. It is a significant development in Ukraine's fight against corruption by ensuring the transparency and accountability of the public procurement process.

Key regulations, which, together with the Laws of Ukraine "On Public Procurement" and "On Peculiarities of Public Procurement in Certain Spheres of Economic Activities", form a legal framework for regulation of the public procurement sector, include 3 resolutions of the Cabinet of Ministers of Ukraine and 8 orders of the Ministry of Economic Development and Trade of Ukraine. Apart from the specified documents, there are a lot of resolutions of the Cabinet of Ministers of Ukraine and orders of other government authorities concerning public procurement.

Although the Ukrainian legislation does not have a separate legal act that would support the





implementation of sustainable public procurement, but the current legal framework has all the prerequisites for the implementation of the SPP and provides many opportunities for customers to include environmental and social requirements into tender documents.

1.4. IMPLEMENTATION OF THE SUSTAINABLE PUBLIC PROCUREMENT IN UKRAINE

Practical experience of many public authorities who are widely implement public procurement on the sustainable basis shown that in addition to the main function of the procurement - acquire

goods, services and infrastructure on the best possible terms - it can also have broader social, economic and environmental implications.

In Ukraine the public procurement has been used explicitly, without priority of social and environmental issues. Nevertheless this approach does not allow introducing sustainability into decision making processes in practice and could not be realized as a powerful tool for the greening of the national economy.

Sustainable public procurement practices come differently in different national contexts. Depending on different factors the formalization of the SPP is reached by using different tools, for instance, by means of laws or policies to provide the legitimacy for implementation, clear directives and expectations to policy-makers and procurers, successful subnational programs and pilot projects which generate positive experience and results to strengthen the SPP, etc.

Of course, the SPP may originate from other instruments of policy-making entirely, such as national sustainable development action plans, greenhouse gas mitigation efforts, initiatives to increase the uptake of environmental technologies and efforts to promote products/services from minority suppliers. Moreover there is no strict recommendation to completely change legislative regime for implementing SPP. Although the Ukrainian legislation does not define directly to conduct the public procurement within sustainability scope, however it does not limit such practices.

The three main challenges for representatives of government and business to provide successful implementation of the SPP in Ukraine there are three main challenges need to be managed in a proper way, namely,

I. Develop the SPP policies and programs which are correlated with the National Strategy on Sustainable Development and Greening of the National Economy.

II. Provide a sufficient support to the national and local producers/suppliers.

III. Development of an adequate sustainability requirements with respect to current socio-economic and environmental conditions of country.

Study these challenges in details.

I. Develop the SPP policies and programs which are correlated with the National Strategy on Sustainable Development and Greening of the National Economy.

The SPP policies and programs should be aimed to explain public procurement cycles and demonstrate how to apply sustainable procurement good practice throughout the purchasing cycle. They have to demonstrate that sustainable procurement can deliver local benefits such as cost efficiency and carbon reduction and are simply, good procurement.

Moreover the SPP policies and programs should contribute to resource efficiency and decoupling economic growth from environmental degradation and resource use, while creating decent job and economic opportunities, contributing to poverty eradication and shared prosperity.

Ukraine is guided by the world trends of sustainable development and defines an action plan for environmental protection that facilitates the transition to a resource-efficient, low-carbon economy, the establishment of a competitive and sustainable energy market, the development of a sustainable consumption and production model, enshrined in "On the Fundamentals (Strategy) of the State Environmental Policy 2020".

II. Provide a sufficient support to the national and local producers/suppliers as well as to SME and Minority Suppliers

Most of suppliers and producers typically express their concern about that the SPP may hamper

domestic businesses as they will not be able to meet the environmental and social criteria incorporated in 'sustainable tenders'. To avoid any retards and to support national suppliers the government should allow time for preparation to new requirements as well as provide consultations and lead time both when launching SPP policies/programmes and when designing pilot tenders. All these are essential to provide companies with the time to upgrade and seek out solutions to meet new sustainability demands in a cost-effective manner.

Preferential programmes for SMEs and businesses owned by women, disabled persons and minority communities are other important issues to start implementing the SPP.

In Ukraine, at the moment, draft normative legal acts with the aim of implementing the basic provisions of Directive 2004/18/EC on coordination of procedures for holding tenders for contracting for work, supply of goods and services have been developed:

- institutional reform in the field of public procurement has been carried out;
- the comprehensive roadmap for implementing the provisions of the EU Directives with time schedules and key step-by-step results that include all the reforms related to adaptation of legislation and the development of institutional capacity has been developed. This is one of the first tasks to fulfill the requirements of the Association Agreement. The road map is compiled in the form of a detailed obligation plan for the full transposition of the EU Directives on public procurement with Ukrainian legislation and their effective implementation during the eight-year period and coincides with the stages and time-frames specified in Annex XXI of the Association Agreement. In fact, the development of the road map means the development of a comprehensive strategy for reforming the public procurement system, which is one

of the requirements of the updated in June 2013 [Agenda of the Ukraine-EU Association](#).

One of the obstacles to the implementation of SPP is the low potential for modernization of production capacities, however, the government plans to provide state support to producers to protect the environment through credit programs that are implemented under Article 6 of the Law of Ukraine "On State Assistance to Business Entities". At the moment, the Cabinet of Ministers of Ukraine is coordinating the draft Resolution on the approval of criteria for assessing the admissibility of state aid to business entities in the protection of the environment. This by-law establishes specific mechanisms to investment state aid which gives the opportunity to apply the business entities higher environmental standards (criteria) or enhance the quality of environmental protection in the absence of such standards for the introduction of cleaner technologies and resource efficiency, waste management, emissions, including greenhouse gases, and discharges, improving the environmental performance of products at all stages of its life cycle, as well as other environmental aspects.

III. Development of an adequate sustainability requirements with respect to current socio-economic and environmental conditions of country.

Balancing environmental and social performance across specification criteria, award criteria and contract conditions is no easy task, especially if there is no real understanding and incentives on how market on environmentally preferable products and services should be developed.

In this situation any sustainability requirements should be correlated with such issues as current environmental legislation, social standards and industry development level. And the SPP should provide a clearance for tightening of the sustainability requirements for pulling of domestic

suppliers and industry at whole to higher levels of correspondence of the sustainability goals.

SPP criteria for determining the sustainability of products and services reflect the current criteria in Ukraine that is voluntary environmental certification and labeling (the sign "Green Crane") in accordance with ISO 14024.

Individual environmental criteria based on the results of the life cycle study and the best available technologies, approved by the relevant standard are established for each product category. Environmental criteria for assessing the life cycle set the requirements for raw materials, production, finished products, packaging and packaging, transportation conditions, marking and informing the consumer. Such requirements do not duplicate state norms, but reinforce and/or supplement them, which actually determines the advantage of environmentally certified products. At the moment in Ukraine, environmental criteria for assessing the life cycle for 54 categories of products are used, of which the standards of 3 categories for paints and varnishes, cleaning products and heat insulation materials are already used for SPP.

In practice, enterprises that want to introduce cleaner technologies and produce products with improved environmental characteristics are in the legal field and have no barriers to participate in SPP.

As there are many questions and misunderstandings concerning the SPP implementation, appropriate training programmes are necessary. Training should be made accessible and communicated to all staff without regard of their education and professional qualifications; staff should be aware of their training requirements. Trainings are aimed to study about sustainability performance in the procurement process and demonstrate how they might use the many tools and guidance materials that are available are also far from easy.

1.5. IMPLEMENTATION OF THE SUSTAINABLE PUBLIC PROCUREMENT IN UKRAINE

On November 1st, 2017, Ukrainian Law «On Public Procurements» established the requirement to include in competitive bidding documentation the application of environmental protection measures (in public biddings and prequalification). The Law also specified that competitive bidding documentation should contain references to standards defining the characteristics, requirements, symbols and terminology associated with goods, works or services. According to this provision of the Law, purchasers can refer to standards that establish additional criteria for the procurement of goods, works and services, including certain characteristics (for example, energy efficiency, functional characteristics, biodegradation and other environmental characteristics), thereby ensuring environmental protection in public procurement.

The first pilot tenders for sustainable public procurement that included environmental criteria in the technical specifications were launched under component 1.6 «Promotion of changing public consumption through the introduction of sustainable public procurement» of the EU's regional support program for «Greening Economies in the Eastern Neighborhood» (EaP-GREEN) in 2017. In total, there were 5 pilot tenders for SPP in 2017.

These pilots included the purchase of paint and expendable material for repair work by the Kyiv Palace of Youth and the procurement of various kinds of environmentally safe cleaners by the State Ecological Academy of Postgraduate Education and Management.

Unfortunately, there were customers, whose tenders for SPP have not taken place. These

customers have expressed interest in approaches SPP, including the subject of the proposed project procurement criteria (partially or completely).

There were no purchases of the following reasons:

- a) the absence of a supplier that meets the requirements of the criteria (no proposal is submitted that meets the criteria of constancy);
- b) absence of competitors;
- c) the proposal was given to the high price.



Kyiv Palace of Children and Youth (Ukraine, Kyiv)

The Kyiv Palace of Children and Youth is a unique institution in Ukraine. It is a state-owned multi-disciplinary, out-of-school educational institution, which unites almost 10,000 individuals ages 5 to 21. Last year the Palace celebrated its 80th anniversary of founding.

The Palace realizes out-of-school education in all areas defined by Ukrainian Law «On extracurricular education» such as: scientific and technical, experimental, environmental-naturalistic, artistic-aesthetic, humanitarian, tourism and studies of local folklore, sports, military and patriotic, social rehabilitation, and health. The network of sections includes 60 branches of education and 250 academic subjects.



Procurement Subject:

Paint and expendable materials for repair work.

Code DK 021-2015 (CPV) : 44810000-1 – Paints

Date of the tendering: 24.07.2017

Delivery time: 26.07.2017 - 27.07.2017

The Place was selected to participate in the pilot because it is very important for educational institutions to create the most safe and quality environment for their students.

In the procurement of paints for routine repairs of the Palace in 2017, the tender committee established the requirement of technical specifications, whereby the supplier must confirm the ecological compatibility of the paint.

The Motivation was to take care of the quality of the environment of the institution's participants and compliance with the highest standards of safety.

The contract was awarded to Beliy Maksim Yurievich, an entrepreneur, who proposed the supply of ecologically certified paint TM Śnieżka (Ukraine).

Śnieżka Design Lux bucket 13.5 kg at a price of 750.00 UAH/a bucket

Śnieżka Eco bucket 20 kg (15 l) at a price of 492.00 UAH/a bucket

These paints passed the ecological certification under the scheme according to DSTU ISO 14024¹ in the Ukrainian system of ecolabeling and were labeled by the ecological label «Green Crane». The ecological certificate UA.08.002.337 and the assessment protocol confirmed the compliance of the paint with the requirements of the environmental criteria of competitive bidding documentation in full.

Cost of purchase: 44 532.00 UAH.

More information about the purchase is on <https://www.dzo.com.ua/tenders/1312380>

¹ DSTU ISO 14024: 2002 Eco-labeling and declarations. Eco-labeling of I type. Principles and methods (ISO 14024: 1999, IDT)



State institution "State Ecological Academy of Postgraduate Education and Management" (Ukraine, Kyiv)

The State Ecological Academy of Postgraduate Education and Management is the leading organization of the Ministry of Ecology and Natural Resources of Ukraine in the field of educational, scientific, practical and methodological work on environmental protection, rational use of natural resources, environmental safety, environmental impact assessment, standardization, certification and metrology.

The Academy is the national coordinating organization for the implementation of component 1.6 "Delivering sustainable development and enabling the transition to greener economies through sustainable public procurement" of the EaP-GREEN programme.

Procurement Subject:

Floor cleaner, window cleaner, toilet cleanser, universal cleaning powder, liquid hand soap

Code DK 021-2015: 39830000-9 - Products for cleaning

Delivery date: November 01, 2017 - November 30, 2017

Motivation: "promoting sustainable procurement, starts with yourself", reducing the impact on the state of aquatic ecosystems and human health, reducing consumption waste.

Criteria for technical, qualitative and quantitative characteristics of the subject of procurement, including environmental sustainability criteria

The cleaning products must meet the following requirements:

- Technical regulations for cleaning products;
- the hygienic standards;
- the normative document, which establishes the technical conditions for production (DSTU, TU).

| Name of a good | Technical specifications | Quantity |
|------------------------------------|--|----------|
| Synthetic cleaning product | Universal washing powder for machine washing (concentration of hydrogen ions pH is 9.5-11.5, washing capacity in relation to the standard is not less than 85%, bleaching power in relation to the standard is not less than 95%, the foam capacity is not more than 20) | 80 kg |
| Cleaning product for hard surfaces | Cleaning powder is packaged in consumer containers of 0.5 kg | 25 kg |
| Toilet cleanser | Cleaning fluid packed in 1 liter of consumer packaging | 24 l |
| Dish washing product | Dishwashing product packed in 0.5 liter of consumer packaging | 5 l |



Additionally, the ecological characteristics (toxicity, dosage, ingredients, biodegradability) had to meet the requirements of the criteria in accordance with DSTU ISO 14024 (SOU OM 08.002.12.065:2016 Washing and cleaning products, environmental life cycle assessment criteria)².

Compliance had to be confirmed through the provision of appropriate documentation (declarations of conformity, conclusions, certificates of conformity).

Furthermore, the goods had to be delivered in a container (package), which corresponded to the conditions, nature and characteristics of the goods in accordance with the requirements of current legislation.

² This standard takes into account all the requirements of European legislation for the production of chemical products and the requirements of Commission Decision EU 10/02/2011 of 28 April 2011 on establishing the ecological criteria for the award of the Ecolabel EU Detergent Ingredient Database (DID -list) Part A in combination with the criteria of The Nordic Swan Ecolabel's Requirements (Nordic Swan).

Packaging or consumer packaging had to be marked with [a label? indicating] the origin of the material from which it was made in accordance with DSTU 4260³.

Materials for packing had to be free of polyvinylchloride, polystyrene, polycarbonate or other chlorinated or halogenated materials.

Packaging or consumer packaging also had to be suitable for recycling and not be processed in such a way that it may interfere with their recycling.

The winner of the competitive bid was LLC «SIRENA PLUS LTD», the producer of environmentally certified detergents TM TORTILLA (Ukraine).

The offer of ecologically certified products of the domestic producer was almost two times lower than other offers of non-certified products. The

³ DSTU 4260: 2003 Packaging and packaging for consumer labels. General requirements.

presence of eco products in the Ukrainian market at a competitive price is the beginning of the destruction of the myth of its unattainable high price for purchasing by budget organizations.

TORTILLA ECO Universal agent for cleaning, 500 ml at a price of 23.34 UAH/a bottle

TORTILLA ECO A glass and mirrors cleaning agent, 450 ml at a price of 25.34 UAH/a bottle

TORTILLA Toilet cleanser, 450ml at a price of 23.34 UAH/a bottle

TORTILLA ECO Powder for cleaning surfaces, 500g at a price of 18.66 UAH/a bottle

These cleaning products passed environmental certification according to DSTU ISO 14024⁴ in the Ukrainian system of ecolabeling and were labeled by the ecological label «Green Crane». The environmental certificate UA.08.002.421 and the evaluation protocol confirmed their compliance with the requirements of the environmental criteria of the tender documentation in full.

Cost of purchase: 953,28.00 UAH.

More information about the purchase is on <https://prozorro.gov.ua/tender/UA-2017-10-18-000880-b>

⁴ DSTU ISO 14024: 2002 Eco-labeling and declarations. Ecolabels of I type. Principles and methods (ISO 14024: 1999, IDT)

UKRAINE WILL CONTINUE TO BUILD THE POTENTIAL FOR SUSTAINABLE PUBLIC PROCUREMENT

According to Article 152 of the Ukraine-EU Association Agreement, until 2019, Ukraine is obliged to introduce into the procurement system at the legislative level to 2019 requirements that will ensure greater integration of environmental and social criteria on the basis of relevant standards to executors of contracts or to goods purchased for state needs, services or works, including:

- standards for product quality certification and international eco-labeling standards (Articles 74 and 77 of Directive 2014/24/EU);
- requirements and methods for determining the cost of purchased goods, works and services in calculating their full life cycle and additional costs for environmental, social and technological consequences of their use (exploitation) (Articles 31, 68, 78-82 of Directive 2014/24/ EU);
- special conditions for procuring goods and services procured to support the employment of socially disadvantaged persons, persons with disabilities, as well as for the provision of specialized services by creative associations or non-profit organizations in the field

| Participants | Original offer, UAH with VAT | Final offer, UAH with VAT |
|---|------------------------------|---------------------------|
| SIRENA PLUS LTD (TM TORTILLA) | 953,28 | 953,28 |
| An individual entrepreneur, «Malinowski Alexander L.» | 2 973,00 | 2 100,00 |
| BGM LTD | 2 901,84 | 2 118,00 |
| TRADE COMPANY CONSTRUCTION LTD | 2 610,30 | 2 125,00 |

of culture, health care and social assistance to the population (Articles 20 and 77 of the Directive 2014/24 / EU);

- division of the total volume of purchases into lots (the principles of the customer's substantiation of the inability of lots and the possibility of concluding a contract for more than one lot with the same participant in the procedure), in particular, in order to create conditions for the participation of small and medium-sized businesses in procurement procedures (Article 46 of the 2014 Directive/24/EU).

The above mentioned obligations are reflected in the Strategy for reforming the system of public procurement ("Road Map" (approved by the order of the Cabinet of Ministers of Ukraine dated February 24, 2016, No. 175-p).



MAIN IDEAS

1. The Sustainable Public Procurement is a cost-effective and environmentally sound procurement approach, which takes into account actual and potential risks of production and consumption in order to provide efficient spend of budget money, focusing on the needs of sustainable development and protection of the environment.

2. The Sustainable Public Procurement is an effective tool to protect and restore the environment, promote energy and resource-efficient production techniques, create and/or increase market share of environmentally friendly goods and services, provide incentives for the development of environmental innovations and green investments. It is important to note that government agencies and other organizations may not only provide themselves with safe and quality products, but also indirectly encourage suppliers and manufacturers to environmentally responsible business activities.

3. The SPP stimulates to scaled-up and long-term demand for environmentally preferable goods, services and infrastructure and this serves as an incentive for sustainable industrial development.

4. Balancing environmental and social performance across specification criteria, award criteria and contract conditions is not easy to do and requires in-depth specific approach in evaluation of these requirements together with economic performance.

It is well established that purchasing greener products can help users reduce water and energy consumption as well as lower waste management and maintenance costs. Incorporating design for environmental aspects into infrastructure will also provide for more user-friendly and more durable assets

5. Successful implementation of the SPP depends on many factors, however, the public procurement becomes a de facto investment incentive as it ensures investors that domestic demand for their products and services will be remain scaled up in the longer term.

6. Key procurement staff should receive basic training in Sustainable Procurement principles.

7. **Key findings** show that potential increases in purchasing costs can be mitigated by:

- well directed supplier consultations that will help procurers determine where to set the sustainability performance bar (not too low so as to distort markets but not too high as to crowd out domestic suppliers);
- providing markets with adequate lead times (as discussed earlier in this paper);
- bulk buying to stimulate economies of scale;
- using and establishing central procurement platforms (that can negotiate bulk discounts with suppliers, warehouse large volumes and dispatch smaller quantities to individual entities on demand).

SECTION II

PUBLIC PROCUREMENT PROCEDURE IN THE CONTEXT OF SUSTAINABILITY

Key Challenges

- What are key steps of the Sustainable Public Procurement process?
- How to include the sustainability criteria into tender documents?
- What tools are available for provision of the SPP?

2.1. PUBLIC PROCUREMENT PROCEDURE: THE ESSENTIALS

The procedure of sustainable procurement of goods, works and services should comply with the general principles and rules defined by the relevant legislation of Ukraine. The awarding of public procurement contracts is strictly regulated by laws that aim to protect both the procuring entity and the bidder.

A public tender is mandatory if the contemplated procurement reaches over exceeded:

- 200 000,00 UAH - for procurement of goods or services;
- 1 500 000, 00 UAH - for procurement of works (e.g., civil works).

If the procuring entity has intention to announce a tender, it is a vitally important to determine the requirements of tender regarding the subject of procurement (goods, services, and works) considering subject's functions, costs and available budget according to the current legislation.

Unlike the previous version of the Law on public procurement, which sets out five various public procurement procedures, the Law of Ukraine "On Public Procurement" adopted in 2016 provides for only three (two-step bids and request of price offers were eliminated), namely:

- Open Bids;
- Competitive Dialogue; and
- Negotiable Procurement Procedure.

Open tenders and competitive dialogues are competitive procedures, while the negotiating the purchase procedure is a non-competitive one.

All public procurement tenders should be produced through the e-procurement system. The **e-procurement system** is a key future of the government's anti-corruption efforts and will bring much needed transparency and fairness to the process of government tenders, thereby improving the overall business and investment climate.

The Open Bid Tender is a principal procurement procedure. All interested parties have the right to submit bids in the open procurement procedure.

Environmental requirements for the object of procurement should comply with the in force laws and procurement objectives. The customer may change a ratio "price – quality" with consideration of the environmental aspects or any important limitations of various environmental impacts at the development of requirements for the technical specifications of procurement subject.

Competitive Dialogue Tender is a new procedure for awarding public contracts, introduced by the new Law of Ukraine "On Public Procurement".

It is meant to allow a public entity which knows what outcome it wants to achieve in awarding a public contract but does not know how best to achieve it to discuss, in confidence, possible solutions in the dialogue phase of the tender process with short listed bidders before calling for final bids. This need to keep options open can stem from technical, legal or financial issues such as alternative design solutions, risk allocation arrangements and so on.

Negotiable Procurement Procedure allows negotiating directly with suppliers in order to award a contract. It is a procedure which should only be used in limited circumstances, for example in cases of extreme urgency or when an open or restricted procedure has been discontinued.

Negotiated tenders can be freely used in procurements below the threshold value and for non-

priority services. Procurements above the threshold value must fulfill specific requirements in order to use the negotiated tender procedure. Negotiated tenders are characterized by the parties having the opportunity to negotiate all aspects of submitted tenders as part of the tendering process. This also means dialogue and negotiations related to the offered solutions and their characteristics, as seen in the context of the need the contracting authority seeks to meet.

2.2. KEY STEPS OF THE SUSTAINABLE PUBLIC PROCUREMENT PROCESS

Sustainability principles should be integrated into the overall procurement process. They can be incorporated into the whole procurement process and the insertion of sustainability criteria may relate to all stages of the procurement process (including bidder selection procedure, technical specifications definition, evaluation of bidders, awarding of contracts, auditing of supplier performance, and finally on-going contract management). It is important to understand a portion of sustainability issues which may contribute into the "value for money" proposition.

Environmental criteria can be included in tender documents without contravening national legislation, as long as these principles are followed.

Generally, a typical procurement procedure includes few steps which may vary depending on various factors:

form a procurement team → define needs and demands → develop tender & evaluation criteria → issue of tender invitation → pre-qualification of bidders → evaluation of bids → selection / awarding of winner bidder → contract signing.

As mentioned sustainability aspects may be incorporated in one or more of the procurement stages



may include additional criteria, e.g., environmental criteria, or during the evaluation procedure bidders should demonstrate their correspondence to the desirable sustainability requirements defined by customer.

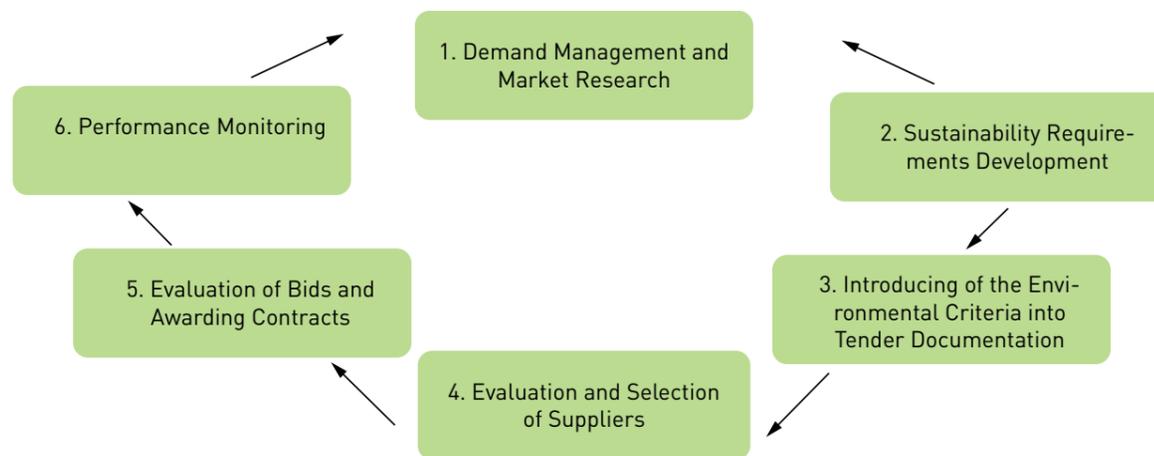
Consider each step of the procurement process in details where the sustainability aspects may be integrated (pic. 2.1).

STEP 1. Demand Management and Market Analysis

This stage is all about information gathering. Identify what are current needs of the organization (goods, services, and their amount) – in other words, conduct a demand analysis; and re-think about opportunities for demand reduction and consuming less. During demand (needs) analysis, consideration should be given to the procurement where the “need” can be met by a more sustainable alternative.

depending on sustainability policy and goals of an organization. For example, pre-qualification stage may foresee an invitation of only those suppliers who meet specific sustainability requirements; specifications (mandatory and/or optional requirements)

By involving cross-functional stakeholders in this process and utilising their expertise organization may find a way to optimize orders. The questions in Table 2.1 may be used as a guide or a prompt when analysing the need for goods and/or services.



Pic. 2.1. Key Steps of the Sustainable Public Procurement Process

Source: adapted from *The Procura+ Manual Third Edition*

Further 6 steps for the integration of the joint venture into the procurement are described in detail in this section. Also, details are given regarding one of the most significant Step (3) according to the specifications/criteria. It is aligned with the rest of the steps regarding the evaluation and conclusion of contracts.

Table 2.1 – Demand Analysis – Example of Questions

| Questions to Consider | Yes / No |
|--|----------|
| <p>1. Do you really need to purchase some good or service, or can the need be met in another way?</p> <ul style="list-style-type: none"> • Is a suitable good/service already available within the organization? • Can existing assets be refurbished, repaired or upgraded to meet the need? • Are there other options for meeting need (e.g. reuse, borrow, and swap)? • Can the need be met in partnership with another organization? • What will avoid the need for this good/service? | |
| <p>2. Can you reduce the quantity or scale of the goods or service whilst achieving the same service delivery?</p> <ul style="list-style-type: none"> • How do the goods or services contribute to service delivery? Are we automatically replacing based on past procurement patterns? • Are specifications based on actual requirements, ensuring that they are not over-specified? • Are improved technology options available? • Are there options for behavior change in relation to consumption of this goods or service? | |
| <p>3. Can alternative goods or service be used to meet this need?</p> <ul style="list-style-type: none"> • Is there another more sustainable good or service available that can serve the same purpose? Have there been any technology improvements? • Could a service be used to meet the need instead of a good? | |
| <p>4. Can the goods/service be specified to have improved sustainability outcomes, including being able to serve a useful purpose after its initial use?</p> <ul style="list-style-type: none"> • Can the goods or its key components be reused, refurbished, repaired, recycled, composted? • What specifications could be included to reduce the use of resources (such as energy, water or consumables) during the useful life of the goods? | |
| <p>5. What information is available regarding sustainably-preferable options for this purchasing requirement? Where can more information be obtained about suitable alternatives?</p> <ul style="list-style-type: none"> • Is there an environmental officer/sustainable procurement expert within the organization? • What information is provided by suppliers? • What external sources of information are available, (e.g. other government bodies, trade organisations, NGOs, research institutes)? | |

To research the options available in the marketplace and clarify requirements which are adequate to the suppliers' capacity an in-depth market analysis is required.

- More informed contracting authority;
- Allows for the identification of opportunities to advance Government priorities.

There are a number of reasons for analysing supplier markets:

- Better knowledge of supplier strategy;
- Manage risk to the contracting authority;

The market analysis should be conducted with respect of the following important factors as shown in the Table 2.2. Choose those factors or add another which have high impact on supply of environmentally preferable products and services.

Table 2.2 – Market Profile of the Suppliers of Environmentally Preferable Products and Services

| Factors | Key Issues |
|-------------------------------|---|
| Market Sector | <p>What is the market in which the suppliers operate?</p> <p>What is the national and local supplying market structure on the environmentally preferable products and services?</p> <p>What are market drivers and barriers on supplying of the environmentally preferable products and services?</p> |
| Suppliers in the Market | <p>How many suppliers of products and services with environmental features are there in the market?</p> <p>Which suppliers are the market leaders and which are the market followers?</p> <p>What are market opportunities for supplying of products and services with environmental features?</p> <p>What are market conditions for domestic suppliers?</p> |
| Product & Service Supply | <p>What environmentally preferable products and services can the market offer?</p> <p>What is a market share of the selected products/services?</p> <p>What is the level of environmental product differentiation between firms?</p> <p>What are the new technologies? What environmentally friendly technologies are available in the market? Whether these technologies are available for national and local suppliers?</p> |
| Government's Purchasing Power | <p>What does the government represent as a purchaser in relation to the supplying market?</p> <p>What does the government may do to support national and local suppliers of environmentally preferable products and services?</p> |
| Law and Regulations | <p>What are the laws and regulations governing the market on products and services with environmental features?</p> |

Source: adopted from Background Paper Procurement, The World Bank, 2015.

The purpose of conducting a market analysis in regards to sustainable procurement is to:

- develop an understanding of the current level of capability and performance in the market with regard to sustainability, and the capacity and potential of the supply base to move towards, and advance, best practice;
- determine the degree of influence the agency has within the supply market to drive sustainable procurement objectives.

Actions Guide

| Customer | Supplier |
|--|--|
| <ol style="list-style-type: none"> 1. Make a list of goods, services or works for procurement. 2. Demand analysis - clarify "needs" VS "wants". 3. Evaluate opportunities for reducing demand. Avoid or reduce consumption, by finding other alternatives. 4. Undertake a market research. 5. Dialogue with suppliers before and during the definition of criteria. | <p>Actually, no actions.</p> <p>Tips for Suppliers:</p> <ol style="list-style-type: none"> 1. Think about opportunity for development in terms of progressing sustainability and innovation. 2. Focus on driving sustainability objectives and influencing the market supply. 3. If possible consider improvements for the supply base. |

STEP 2. Sustainability Requirements Development

All contracts require specifications that describe the need to be fulfilled through the contract. A detailed scope of requirements and specifications to products and services should be developed according to the needs of organization.

Sustainability specifications should usually reflect the following issues:

- The sustainability priorities and objectives for the procurement;
- Potential sustainable procurement responses for addressing the prioritized sustainability objectives, including consideration of the stage of the procurement process at which the identified sustainability impacts will be addressed;

- The overall approach to market with regard to sustainability for the goods or service.

This stage is a key to ensuring that the outcome fully satisfies the needs, presents significant scope to drive the sustainability agenda with suppliers, demonstrate leadership on SPP. The analysis of the sustainability priorities and objectives may help to define sustainability specifications associated with the impacts, see Table 2.3.

Identification of specification is not a simple task, but it is extremely important to ensure that organization gets what it needs at the optimum cost, whilst maximizing sustainability. When developing specifications it is important to distinguish between product requirements and product preferences and build in tolerances for suppliers to adhere to, not restricting the supply and build cost into a product.

Table 2.3 – Sustainability Specification Identification Template

| Sustainability impact | Opportunity to influence markets (high/medium/low) | Scope to improve (high, medium, low) | Priority | Sustainability Specification |
|-----------------------|--|--------------------------------------|--------------|--|
| Energy Use | Medium | High | High | Consumption of energy during use: should tend to reduce |
| Toxic Waste | Medium | High | Low – Medium | Low content of identified toxic substances within product: should tend to decrease |

Actions Guide

| Customer | Supplier |
|--|---|
| <ol style="list-style-type: none"> 1. Define basic qualification criteria for bidders.* 2. Prepare information about the required technical, qualitative and quantitative characteristics of the procurement object, including the relevant technical specifications. 3. Rethink and revise specifications in order to improve sustainability outcomes. 4. Define specific environmental or social criteria. Specify key quality or performance standards | <p>Actually, no actions.</p> <p>Tips for Suppliers:</p> <p>Think about capacities to improve sustainability characteristics for products and services to be ready for new market challenges.</p> |
| <p>*The procuring entities may establish the following qualification criteria:</p> <ul style="list-style-type: none"> • Availability of equipment, resources and technology; • Availability of relevant qualified staff with necessary knowledge and experience; • Availability of the documented experience in performance of similar contracts; • Financial standing (the balance sheet, the profit and loss account, the cash flow statement, the statement from the bank confirming non-existence (existence) of debts under loan agreements). | |

STEP 3. Introducing of the Environmental Criteria into Tender Documentation

Tender documentation traditionally contains information about volumes, service level agreement and terms and conditions along with a detailed specification to ensure consistency on pricing, product quality, operational functionality and that product are fit for purpose.

Sections of a tender document where environmental criteria can be introduced are as follows:

- The subject matter of the contract;
- The technical specifications for the product/work/service;
- The selection criteria for candidates;
- The contract award criteria;
- The contract performance clauses.

These stages will be described in more detail in the following chapter of this handbook.

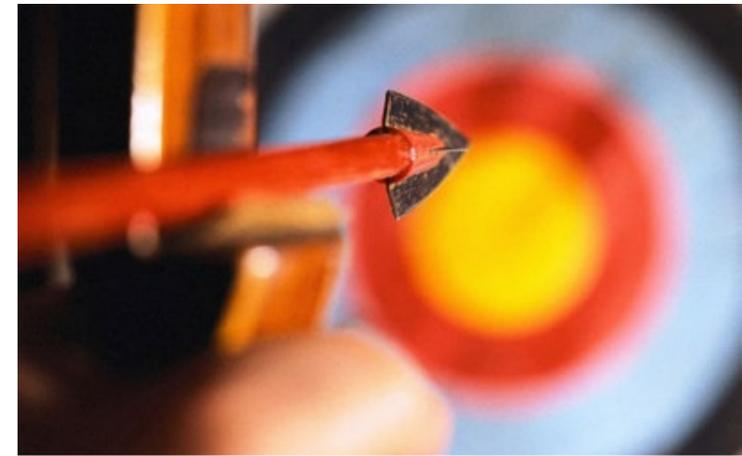
Actions Guide

| Customer | Supplier |
|---|---|
| <ol style="list-style-type: none"> 1. Develop a Tender Documentation. 2. Introduce environmental requirements and criteria where it is possible / necessary | <ol style="list-style-type: none"> 1. Read all documentation carefully. 2. Check own capacity and capability to deliver the contract. 3. Check whether it is possible to meet all the pre-conditions. 4. Answer all questions, appropriate to how they have been asked (explain, confirm, outline) and take into account their weighting. 5. Show how it is possible to add value. Is it possible to offer more than supplier is asking for? Explain competitive advantages, if available. 6. Submit offer on time. |

STEP 4. Evaluate and Select Suppliers

Prequalification of prospective bidders is used to ascertain who meet specific criteria, and have the necessary capabilities to completely meets customers' needs. Evaluate a range of suppliers to determine which have the highest likelihood of meeting specified needs and requirements. These suppliers are then invited to bid for the contract.

It is recommended to have a structured and logical supplier evaluation process.



Actions Guide

| Customer | Supplier |
|---|--|
| <ol style="list-style-type: none"> 1. Describe an evaluation methodology. 2. Select appropriate suppliers | <ol style="list-style-type: none"> 1. Provide any additional or necessary information about improved characteristics of products or environmental advantages of services/works. |

STEP 5. Evaluate Bids and Award Contracts

Once the tenders are submitted, bids must be evaluated and validated in order to select the preferred supplier. Whether tendering contracts for the supply of goods or services, tender evaluation should be carried out in a structured, disciplined and transparent manner.

SPP requests to explore price comparisons alongside technical capability, capacity, quality of service and sustainability performance. Whole life costs should also be considered including the decommissioning, removal or disposal costs.

The bid evaluation process is distinct and separate from the supplier selection process. The bid evaluation is usually always made on the basis of best Value for Money, this is defined differently by different organisations. The bid evaluation process must provide a fair, transparent and accountable method for evaluating supplier bids on the basis of balancing sustainability and other non-financial factors with cost. This is best applied and demonstrated by the use of a properly constructed bid evaluation model.

Actions Guide

| Customer | Supplier |
|--|---|
| <ol style="list-style-type: none"> 1. Describe an evaluation methodology. 2. Define performance measures and reporting requirements. 3. Reach agreement on terms via negotiation, if applicable. 4. Ensure timely completion of contract signing and administration. 5. Keep all participants informed. | <ol style="list-style-type: none"> 1. Ensure timely completion of contract signing and administration. |

STEP 6. Contract Performance Monitoring

Where a contract includes sustainability, public authorities must monitor contractor compliance with identified provisions.

In order to measure the benefits associated with sustainable procurement, it is vital that related performance measures and reporting requirements are specified in the tender document.



Actions Guide

| Customer | Supplier |
|---|---|
| 1. Performance measures and reporting requirements. | 1. Ensure timely completion of reports. |

2.3. INCLUSION OF ENVIRONMENTAL CRITERIA INTO A TENDER DOCUMENTATION

Unfortunately Ukrainian legislation on the public procurement does not define clearly where and how sustainability criteria can be introduced in tender documents in contradistinction to EU legislation.

However there are no any restrictions which may limit to apply sustainability criteria as long as basic procurement principles are followed. Environmental criteria can be included in tender documents without contravening national legislation, and this fact allows practicing public procurement on the basis of sustainability principles.

Drawing on the experience of EU and the Procurement Directives there are few sections which may be modified for the purpose of the SPP:

- The subject of the contract;
- The technical specifications for the product/work/service;
- The qualification and award criteria, specific conditions of the contract performance.

2.3.1. THE SUBJECT OF THE CONTRACT

Subject of the contract reflects what exactly goods, services and works are going to be purchased by the public authority. Procurement laws do not limit organisations' needs in general, thus proving a free choice to authorities to choose suppliers which meet their demands and requirements within the limits of the budget.

Subject of the contract as a key element in contract formation should state all important sustainability considerations, which are to be taken into account in a procurement process. And in this case a transparency of the procurement procedure will be achieved.

Examples of correct definition of the contract subject for the SPP:

- Purchase of environmentally friendly all-purpose cleaning products.
- Purchase of high efficiency lighting equipment (lamps, ballasts, luminaires).

- Purchase of food (or a certain food product group) coming at least partially from organic sources.
- Purchase/Purchase and installation of water-based heaters with low environmental impact.
- The construction of new office buildings to high energy and environmental performance standards. *or* The carrying out of major renovations to existing office buildings to high energy and environmental performance standards.

It is important to understand that recalling on any sustainability and/or environmental aspects in the subject of the contract should not include all exact environmental or other additional requirements (advisable describe this information in the technical specifications or award criteria). It should clearly states to potential bidders the intention of the contracting authority to buy goods and services with improved characteristics, e.g., environmentally friendly, environmentally safe, energy efficient etc.

There are few differences when include environmental considerations at the definition stage for the different types of contracts: works, services and goods supply.

Goods supply contracts. The public procurement laws do not prescribe in any way what contracting authorities should buy and are consequently neutral as far as the subject matter of a contract is concerned. Environmental awareness can influence this choice. For example, rather than purchasing new printers for every desk, a contracting authority might consider a contract for shared printing facilities incorporating up-to date energy and paper saving features.

Work contracts usually include the supply of goods as well as the design/ execution of the works. That is why it is recommended to consider environmental aspects at all stages of this contract. For instance, contracting authorities may demand to design a low-energy consuming administrative building, taking account of insulation standards, the use of

specific construction materials, and the installation of energy efficient heating and lighting systems. At the same time, they may demand to execute of the works, taking into account environmental considerations, for instance, requirements relating to energy and water use or waste management and disposal on and around the construction site.

Service contracts. Environmental considerations may be taken into account in the mode of performing service contracts. A specific method of cleaning buildings, using only products that are the least harmful to the environment may be prescribed. Segregation in the collection of household waste for re-cycling or efficient disposal may be prescribed. It can be required that, for instance, public transport services are to be carried out by energy efficient vehicles.

TIPS

How to define the subject of the contract based on the sustainability manner?

1. Without fail mention about intention to buy goods/services/works with specific features, but do not indicate all details.

- For example,*
- Contract for environmentally safe cleaning services including selective waste collection.*
 - Contract for energy efficient computers and IT equipment.*

2. As all Procurement laws are less concerned with WHAT contracting authorities buy than HOW they buy it, it is recommended to strictly follow all the guiding principles of the public procurement.

Contracting entities shall treat economic operators equally and non-discriminatory and shall act in a transparent way (Article 2 of the Procurement Directive and Article 10 of the Utilities Procurement Directive).

3. Do not use unsubstantiated claims and environmental marks which have no formal recognition. General descriptions purporting to suggest environmental soundness, such as "environmentally friendly" and "comes from managed forests", are meaningless if unexplained.

The most relevant principles for the public procurement in the EU are the following:

- The principle of goods movement freedom;
- The principle of freedom to provide services;
- The principle of non-discrimination;
- The principle of equal treatment;
- The principle of proportionality;
- The principle of transparency.

For example:

You can write that you want to purchase "**Environmentally safe cleaning products and detergents**", but you cannot state "**Cleaning products and detergents supplied by national producers only**" as the definition of national is discriminatory – it does not allow the free movement of goods.

You can write that you want to "**Purchase of energy efficient imaging equipment with reduced environmental impact**", but you cannot state that you want to buy "**Energy Star certified imaging equipment**" as you are discriminating, not giving equal treatment to all proposals because you demand a specific certification.

2.3.2. DRAWING UP TECHNICAL SPECIFICATIONS

After the subject of the contract is defined (reminder: it should reflect only the general intention of the contracting authority to procure products with sustainability features), the next step is

to translate intentions into measurable technical specifications what the product/service must meet.

The principal purpose of drawing up technical specifications is to ensure that the contracting authority purchases products/services/works that it sets out to procure. Including of specifications relating to environmental and social considerations means that tenderers who is not able to comply with them will be excluded from the tendering process.

If the contracting authority is seeking to procure a product that has a low impact on the environment, it might look at the impacts that occur during the production, use, and disposal phases of the product's life cycle and wish to make specifications relating to each of those phases. For instance, the contracting authority is going to order a cleaning service with low impact on the environment and, that's why technical specifications may include assessment of impacts that occur during different stages of the service's life cycle and wish to make specifications relating to each of stage.

What's the difference?

Technical specifications are used to define the subject matter of the contract more specifically. Ability to meet the technical specifications is a prerequisite for being considered a candidate for the contract. Technical specifications can be defined in relation to technical standards or performance/functional requirements.

Award criteria enable the contracting authority to compare the relative advantages of different combinations of criteria. The criteria are weighted and each tender is scored on the basis of its satisfaction of each criterion. Ability to meet all the award criteria is not a prerequisite for being considered a candidate for the contract. Further, a contracting authority may set up the criteria so that it can award extra points to those candidates that go beyond minimum requirements to achieve additional advantages.

Specific conditions (also called contract performance clauses) may be included in the contract to specify how the contract is to be performed. Under current EU legislation, there is no expectation that ability to comply with such clauses will be assessed before the tender is awarded, therefore ability to comply cannot form the basis of advance exclusion.

Source: Identifying Opportunities for Sustainable Public Procurement Briefing No.5: Technical Specifications

For example:

It is discriminatory to demand "certified FCS paper", or "certified Nordic Swan heat insulations", however the contracting authority may indicate "eco-label certification".

Plastic parts heavier than 25g shall have a permanent marking identifying the material, in conformity with ISO 11469: 2000 or equivalent standard.

b) Performance or Functional Requirements

In this approach, the procurer defines only desirable or demanded properties or characteristics of products/services without detailing of the technical specifications. An example of such a specification could be the following: "*Indoor air conditions in a building: inside temperature between 18-22° C during winter and 26-28 °C during summer and a relative humidity of 50%*". In this case, the bidder may choose any method for achieving the requirement without having to follow very specific technical specification for the heating/cooling systems that will be used.

c) Production and Process Methods

Procurer may develop criteria with respect to any specific materials as well as the process and production method of the products. This approach is especially useful if there are few available methods for productions and consumption of products/services.

For example, you can demand that paper is produced without the use of chlorine (TCF); food is organically produced (without the use of chemical pesticides and fertilizers) in compliance with EEC Regulation 2092/91 of 24 June 1991 and 1804/99/EC.; electricity is generated from renewable sources.

d) Use of Variants

If the contracting authority is not sure that the suppliers will be able to meet all the environmental specifications, but wish to include sustainability specifications in their tender documents, it

There are few **approaches to define technical specifications** including environmental and social considerations:

a) Environmental Standards and Eco-Label Criteria:

- Use current national or international standards (e.g., environmental standards) to define exact requirements that the product/service must correspond. Also, each reference shall be accompanied by the words 'or equivalent', as the procurer cannot reject a tenderer who can prove that their product or service meets the standards mentioned in an equivalent manner.
- Use environmental criteria of the eco-labelling schemes. These criteria should clearly define a distinction in environmental performance in comparison to average products in the same category. Of course, eco-labels can also be used to prove compliance but you must always allow other means of demonstration.

ATTENTION!

It is forbidden to require suppliers to certify product or services according to specific eco-labelling scheme. If a specific label is mentioned, it should be always accompanied by the words "or equivalent".

is possible to ask the supplier to offer alternative proposals. This gives more flexibility to procurers in case there are no offers that meet all the environmental specifications. Suppliers should be informed in the bidding documents that alternative proposal with better environmental performance are accepted.

The contracting authorities can use variants by:

- Setting the minimum (non-environmental) requirements of the product/service to be bought. This represents Variant 1 - the “neutral” offer;
- Setting additional environmental specifications (as well as the minimum requirements from Variant 1) for the product/service to be bought in.

This represents Variant 2 - the “green” offer.

Only offers that fulfill at least the minimum requirement are taken into consideration.

Alternative proposal 1 is the basic one, which includes the minimal technical specifications that all bidders must respect.

Alternative proposal 2 is **Alternative proposal 1** + environmental criteria.

If one or more offers are received for Alternative proposal 2, procurement practitioners can make their choice on the base of best value for money considering also the additional environmental criteria.

Otherwise they can proceed to a standard evaluation of offers based on **Alternative proposal 1**, without having to repeat the tender exercise.

Public authorities should note in the technical specifications the types of evidence that can be provided to demonstrate compliance with the sustainability criteria specified.

For example, for cleaning products a technical specification on substances requirements “The

product shall not contain substances that have been identified as substances of very high concern and included in the list foreseen in Article 59 of Regulation (EC) No 1907/2006 (the REACH Regulation) in a quantity that exceeds 0.01% by weight of the final product” may require verification as a relevant Type I Ecolabel or a declaration that none of the substances are on the candidate list provided.

2.4. QUALIFICATION (SELECTION) OF THE SUPPLIERS

Identification of the winner of the procurement procedure is carried out in two stages:

1. Selection Stage – to assess a capacity and ability of tendered to perform and meet the requirements of the contract;

2. Award stage – to examine the offers in order to choose the best one, i.e. the best price or the most economically advantageous tender.

What's the difference?

Selection criteria relate to the contractor and include aspects such as economic and financial standing as well as professional and technical knowledge. They aim at ensuring that the tenderers are reliable and responsible and that they have sufficient experience with the type of contract to be able to deliver it properly.

Award criteria relate to the offer based on the lowest price or the most economically advantageous tender. So for example, the criteria such as tenderers' experience, manpower and equipment or their ability to perform the contract by the anticipated deadline are considered as selection criteria and not award criteria.

Thus, the qualification (selection) criteria describe the qualifications, knowledge, skills, abilities and experience of the supplier. They used in the pre-qualification procedure to submit documents certifying their compliance with the qualification criteria.

The procuring entities may establish the following qualification criteria:

- Availability of equipment, resources and technology;
- Availability of relevant qualified staff with necessary knowledge and experience;
- Availability of the documented experience in performance of similar contracts.

The qualification criteria established by the procuring entity and the list of documents confirming the information of bidders or participants in the pre-qualification procedure about their compliance with such criteria shall be stated in the tender documents or qualification documents, and be demanded in the course of negotiations with a bidder (in case of the application of the negotiated procurement procedure).

All of the mentioned above criteria may include environmental aspects.

In the EU there are defined three types of qualification criteria: exclusion criteria, technical capacity criteria and financial capacity criteria. And only two first may include environmental aspects:

a) Exclusion criteria may exclude companies for environmental reasons. For example, if the company has been condemned for environmental crimes, as long as this is considered by the national law as a reason for incapacity or prohibition to contract with public entities due to grave professional misconduct;

b) Technical capacity criteria which focus on the ability of the tenderer to perform the contract. These usually include proof of the experience of the tenderer, a list of relevant projects implemented, a description of technical facilities, etc.



For example, if the subject of the contract is to “design and construction of a bio-climatic building”, the technical capacity of the bidders with a list of previous buildings they have constructed using bio-climatic principles may be assessed. Or, in case of “construction of a bridge in a protected area” will require the establishment of a series of specific management measures aimed at ensuring the effective protection of fauna and flora in the area whilst building the bridge, e.g. control of noise levels, waste collection, etc. In this case, the possession of an EMS for construction sites (but not for other sites such as a factory) can be used as a means of proof that the bidder has the technical capacity to perform the contract accordingly.



2.5. AWARDING A CONTRACT

The last stage of the procurement procedure is the contract award. In this stage, the contracting authorities evaluate the quality of the offers that complied with the technical specifications in order to choose the most appropriate one. Award criteria enable the contracting authorities to value more sustainable tenders over less sustainable tenders, but not at any price.

There are 2 ways of awarding a contract, based on:

- a) Lowest price;
- b) Most economically advantageous offer.

In the first case, the final decision is based solely upon the price of the bids. Therefore, if no environmental criteria have been defined in previous stages, you will not have the opportunity to include them in this stage. If you choose this option, you should make sure environmental criteria are introduced in the technical specifications.

If the principle of the “most economically advantageous offer” is applied, other award criteria can be taken into account, along with the price. These criteria may concern quality, delivery date, technical merit or environmental characteristics for example. In this case, it is very important that environmental award criteria are:

- Related to the subject of the contract;
- Objectively quantifiable,
- Weighted in relation to the other award criteria (arranging them in decreasing order) and, clearly defined in the tender documents in order to guarantee transparency.

Using the award phase to introduce environmental criteria can be a good idea if you are unsure about the availability or cost of the more environmentally friendly product/service.

Introducing environmental award criteria basically says that you prefer “greener” products; however if they are much more expensive they will not be selected. The “weight” you give to the environmental criteria in the evaluation will determine how much extra you are willing to pay.

It is possible to include environmental award criteria even if you have also included environmental minimum standards in the specifications – this provides an opportunity to reward even better performance.

For example, if you are contracting a computer leasing service, you could specify in the technical specifications a certain energy consumption level. In the award criteria you might want to give preference to equipment that consumes even less energy. Therefore you could set up the award criteria as follows:

- for the economic offer: up to 80 points;
- for energy consumption even lower than that defined in the technical specifications: up to 20 points.

When considering the economic offer itself, this does not need to be restricted to just the price – it is better to consider the “life-cycle costs” of the product/service you are contracting. This includes not just the purchase price but also the usage costs (such as electricity or water consumption), maintenance costs, and final disposal costs.

2.6. SPECIFIC CONDITIONS: CONTRACT PERFORMANCE CLAUSES

Finally, public authorities can also introduce environmental criteria in the contract performance clauses – i.e. the rules for how a contract must be carried out. These clauses do not have any influence on the awarding of the contract; however they need to be set out explicitly in the call for tender and clearly related to the performance of the contract.

The contract performance clauses can only relate to the manner in which the contract is carried out. This means that they cannot be “disguised” technical specifications, award criteria or selection criteria and all potential bidders should in principle be capable of complying with them. No means of proof can be requested during the tendering phase.

The contractor is obliged to follow these conditions when carrying out the work or supplying the contracts. If they fail to do so, the contracting authority can either set a financial penalty or even seek the cancellation of the contract.

Some examples of contract performance clauses are:

Products shall be delivered in bulk instead as individual units;

The contractor must use reusable containers when delivering products;

The contractor must collect the packaging materials and used products that they supply for recycling or reuse;

All products must indicate the dosage that should be used in order to avoid overuse;

The services will have to be carried out in compliance with the procedures and criteria fixed in the organisation's EMS.

In summary, it is possible to introduce environmental criteria in tender documents provided the following basic principles are taken into consideration:

1. All environmental criteria are explicitly mentioned in the tender document;
2. The wordings of the criteria respect the general principles of transparency, nondiscrimination and equal treatment;
3. The criteria relate to the subject-matter of the contract;
4. Criteria have to be objectively quantifiable;
5. Any form of appropriate proof of compliance is accepted.

A pre-done list of possible sustainability criteria is used as an aid to this work (Table 3.3.).

2.7. AVAILABLE TOOLS FOR PROVISION OF SUSTAINABLE PROCUREMENT

In many cases persons who are responsible for procure of goods, services and works are not environmental experts. However the Sustainable Public Procurement requires consideration of different sustainability issues including both environmental and social aspects, that's why different approaches should be used to study different shades of sustainable production and consumption.

To identify products with improved characteristics and rank them from most sustainable to less sustainable there are available few common tools and techniques which may increase the capacity of public authorities to use procurement tools to make sustainable their purchasing. These tools are applicable for study of production impacts and consumption consequences at different stages of the products and services life cycle.

All available tools and techniques can be subdivided into two groups:

1. Tools to account the environment impacts of the products and services which are under procure, to evaluate an environmental consequences of any activity connected with public procurement (e.g., *Life Cycle Assessment, Life Cycle Costs, Carbon Footprint, Environment Product Declaration, Risks Assessment* etc.).

2. Tools for identification of technical specifications and selection/awarding criteria (e.g., *Environmental Norms and Standards, Eco-Labeling Schemes* etc.).

It is also very important to conduct the post-implementation monitoring of SPP, how to measure progress made with which indicators, and how to collect results, this will help to show success later on and communicate it to other administrations.

2.7.1. LIFE CYCLE ASSESSMENT

Life cycle assessment (LCA) is a methodological framework for estimating and assessing the inputs, outputs and potential environmental impacts of a



product system throughout its life cycle. LCA is a structured, internationally standardised method and management tool (ISO 14040 “Environmental management — Life cycle assessment — Principles and framework”, ISO 14044:2006 “Environmental management — Life cycle assessment — Requirements and guidelines”) for quantifying the emissions, resources consumed and environmental and health impacts that are associated with goods and services (products). LCAs take into account the product’s full life cycle: from the extraction of resources, over production, use and recycling up to the disposal of the remaining waste.

Generally, LCA has four analytical stages: goal and scope definition, life cycle inventory, impact assessment, and interpretation of the results. In many ways, the first stage is the most important. The goal and scope define what is studied, what alternatives are compared and how. After the goal and scope are well defined, the comparison of different alternatives can be done on a common basis, often defined as the functional unit.

In public procurement, LCA could help to learn about the environmental aspects of the product, fulfill customer requirements, define environmental criteria for SPP and choose between alternatives. More generally, life cycle assessment provides possibilities to introduce innovations as well as methods and systems where the performance requirements can also favor competition for environmental development. LCA as a tool to measure the environmental impacts of tenders may provide the best framework for assessing the potential environmental impacts of products, and thus is an important tool supporting SPP.

2.7.2. LIFE CYCLE COSTING

Environmental cost calculation method is used to calculate the monetary costs of environmental impacts of tenders. Life cycle costing (LCC) is defined as an economic assessment considering

all agreed projected significant and relevant cost flows over a period of analysis expressed in monetary value. The projected costs are those needed to achieve defined levels of performance, including reliability, safety and availability.

In the context of Sustainable Public Procurement, the use of LCC is essential to demonstrate that procurement processes and decisions have to move beyond considering the purchase price of a good or service, for the purchase price does not reflect the financial and non-financial gains that are offered by environmentally and socially preferable assets as they accrue during the operations and use phases of the asset life cycle.

Typical LCC analyses are therefore based on:

- Purchasing costs and all associated costs such as delivery, installation, commissioning and insurance;
- Operating costs, including utility costs such as energy and water use and maintenance costs;
- End-of-life costs such as removal, recycling or refurbishment and decommissioning;
- Longevity and warranty time frames of the asset.

2.7.3. PRODUCT/SERVICE CARBON FOOTPRINT

Product/service carbon footprint (PCF) can be defined as GHG emissions of a product across its life cycle, from raw materials through production (or service provision), distribution, consumer use and disposal or recycling. It includes the greenhouse gases, such as carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O), together with families of gases including hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs). Typically, the three gases mentioned first contribute most to the indicator of climate change, the Global Warming Potential (GWP).

As defined by the Intergovernmental Panel on Climate Change (IPCC), the GWP is an indicator



that reflects the relative effect of GHGs in terms of climate change considering a pre-defined time period. Typically, a time period of 100 years is considered.

PCF can be calculated by multiplying amounts of GHG emissions by their respective GWP values. CF is expressed in carbon dioxide equivalents (CO₂e). This unit is used for comparing the radiative forcing of other GHGs to carbon dioxide. In other words, the GWP value for CO₂ is 1, whereas for CH₄ it is 25, and for N₂O it is 298, for instance.

Many different calculating schemes for PCF exist, including among others: GHG protocol, ISO 14067 and PAS2050 (BSI 2008, GHG Protocol 2011). Typically, the level of detail given in the standards differs. Each standard has a slightly different focus on the links between product category rules. Other assumptions and allocation procedures can also explain the differences between calculating schemes.



At present, the various protocols have not been harmonized. Thus, comparability between products and their carbon footprints is limited. Additionally, for example, the results based on GHG protocol are not meant as a platform for comparing other products. Some comparisons in the results would be possible if sufficient information, i.e. a detailed report, is provided and considered.

However, as the provided information would be very technical, it could be difficult and time-consuming for a non-expert to understand all the assumptions and make justified comparisons between products.

2.7.4. ENVIRONMENT PRODUCT DECLARATION

Environmental product declaration (EPD) presents the environmental impact of a product or service throughout its life cycle, i.e. the results of a LCA. Within each EPD system, the results should be comparable, as they follow certain rules (product category rules). The Swedish EPD system was launched in 1998, and later became truly interna-

tional (International EPD 2011). A climate declaration is a further development of EPDs that focuses on climate-related data and gives the impact in CO₂e. The method for producing climate declarations follows ISO standards 14040, 14044, and 14025.

Product category rules (PCR) provide guidance and rules for the collection of data and other information, as well as how the calculations on climate declarations or EPDs should be done to transfer the data about the environmental impact.

2.7.5. ENVIRONMENT MANAGEMENT SYSTEMS

Environment Management System (EMS) is a tool for managing the impacts of production and consumption on the environment. EMS monitors environmental performance, similar to the way a financial management system monitors expenditure and incomes. Accordingly, it is highly appropriate to enquire about an environmental management system when procuring services and contracting works.

A good EMS should be integrated in the corporate plan and policies, set clear targets for the improvement of management of environmental performance, comply with all existing environmental laws and be clearly communicated to stakeholders.

Sometimes procurers may confuse Environmental Management Systems (EMS) with environmental labels. It is important to stress that EMS do not certify the environmental quality of a product or service. An EMS certifies that a system is in place in the organisation to keep track of the environmental performance.

The main difference with environmental labels is that EMS certification concerns a company, and not a product. More precisely, EMS certify that a company has an environmental management

system in place. As such, they can only be used in the suppliers' selection phase.

For procurement purposes, the fact that a company has an EMS is a proof of goodwill towards the protection of the environment but it is not a direct proof of good environmental performance. An EMS enables a company to be more efficient in detecting source of environmental problems than a non-certified one.

When selecting suppliers, service providers or contractors, procurement practitioners can ask bidders to demonstrate their technical capacity to carry out the contract and to take measures for the protection of the environment. These specific cases are those when the execution of the contract can cause environmental damages; here the proof of environmental care is directly related to the subject matter of the contract. An example can be a large construction project in a naturally sensitive area, where it is necessary to establish particular measures of environmental protection.

It is important to note that procurers and requisitioners cannot require bidders to register with a particular EMS scheme, in the same way as they cannot require them to carry an environmental label. Procurement professionals have to accept all internationally recognised certificates or other valid means of proof of bidders technical capacity. Nonetheless, an ISO 14001 or EMAS certification can serve as (non-exclusive) proof of technical capacity.



Eco-Management and Audit Scheme is a voluntary EU regulation for environmental control and environmental auditing in the aim of reducing a company's environmental footprint. EMAS is based on the ISO 14001 requirements, but also include requirements for a transparent and reviewed environmental audit. EMAS also entails taking more clearly

into account the environmental footprint of sub-suppliers, meaning the roll of purchasers.

The list of environmental aspects that are to be taken into consideration specifically includes the suppliers' environmental footprint and the identification of significant environmental aspects in conjunction with the procurement process. This type of approach can be effective for both customers and suppliers.



ISO 14001 is an international environmental management standard aimed at reducing a company's environmental footprint.

The basic level for the ISO 14001 requirements is to prevent negative environmental effects and to comply with national legislation. At the same time, the standard stipulates continuous work on achieving objectives and relentlessly pursuing improvements to the company's environmental impact, as well as ensuring that the organisation governs and controls the environmental aspects that are deemed to have a major environmental impact.

2.7.6. RISKS ASSESSMENT

To maximize the efficiencies and sustainability and minimize damage to the environment, human health and local ecosystems, risk assessment is a useful tool to study risks associated with air emissions, water pollution and waste accumulation of products production and consumption.

Sustainability Risk Assessment is intended to ensure that environmental, social and economic (sustainability) issues are assessed, understood and managed in all key procurement decisions that relate to the procurement of goods and services.

The risk assessment assesses the sustainability risk of a particular contract and prioritises areas to address within the tendering process:

Step 1: Consider questions on sustainability in relation to the upcoming tender.

Step 2: Make a list of the Sustainability Risks.

Step 3: Assess the sustainability risk and value.

Step 4: Prioritise management of the sustainability risks and determine actions.

Types of Sustainability Risks

The impacts upon the environment, the community, the local economy and on issues such as equalities need to be investigated. Risks under this remit include:

- Risk of causing harm to the environment, through execution of the contract, e.g. utilising a service or using an item of equipment;
- Risk of damaging the organisation’s reputation, through execution of the contract. This could be attributable to any environmental damage caused or likely to be caused through contract execution throughout the supply-chain, or to the reputation of the supplier delivering the contract;
- Risk of missing opportunities to aggregate benefits across service delivery areas;
- Risk of delivering poor value for money resulting in remedial costs and greater maintenance requirements.

2.7.7. ENVIRONMENTAL NORMS AND STANDARDS

Environmental norms and standards may be a useful tool for bridging the competency gap between product specific features and environmental requirements.

Environmental norms and standards are policy guidelines that regulate the effect of human activity upon the environment. Seeking and enforcing environmental norms and standards – whether volun-

tary or legal – seek to regulate and reduce the amounts of pollutants discharged into the environment with the ultimate objective of achieving at least some degree of sustainability. Norms and standards may specify a desirable state or limit alterations.

2.7.8. ENVIRONMENTAL LABELLING

Eco-labels primarily deal with the environmental performance of a product or service. Eco-labels can be helpful in managing the environmental criteria associated with a product or service, and can be used to help define specifications or be used directly as a requirement for products.

Types of Eco-Labels

The International Organization for Standardisation (ISO) has identified three broad types of voluntary labels, with ecolabelling fitting under the strongest Type 1 designation.

TYPE I: a voluntary, multiple-criteria based, third party program that awards a license that authorises the use of environmental labels on products indicating overall environmental preferability of a product within a particular product category based on life cycle considerations.

TYPE II: informative environmental self-declaration claims.

TYPE III: voluntary programs that provide quantified environmental data of a product, under pre-set categories of parameters set by a qualified third party and based on life cycle assessment, and verified by that or another qualified third party.

Environmental labels can bring a valuable contribution to the implementation of sustainable procurement. Labels can be used in different ways by procurement practitioners to include green criteria in their tenders, without having to be experts in environmental issues, namely:

- (1) Translate the environmental criteria of the labels into technical specifications
- (2) Verify compliance with technical specifications
- (3) Benchmark offers at the award stage
- (4) Use single issues and performance labels for a progressive approach

However, in accordance with Ukrainian legislation, procurement practitioners can never require suppliers to have their product or services registered under an ecolabelling scheme.

There are a number of environmental labels available worldwide, and this may confuse of procurers,

who may not know which scheme is more suitable for their needs. The Table 2.4 provides general information on well-known labels, and gives specific indications on useful labels for commonly procured items. The list is far from being exhaustive, and it does not imply that the choice of one of the mentioned labels is preferred or recommended.

This tool designed to compare different types of labels, that can be selected by country or product can be found at the link:

<http://www.standardsmap.org/>

Table 2.4 – Appropriate environmental labels for Sustainable Procurement

| Quality label/ organisation | Main object of certification | Issuer of certificate | Geographical distribution |
|---|--|--|---|
|  <p>BLUE ANGEL</p> | Over 100 products and services (incl. ICT, textiles, building materials, lighting). | German Institute for Quality Assurance and Certification (RAL)(Type I) | Germany Products availableworld-wide |
|  <p>EU ECOLABEL</p> | Over 30 products and services (incl. ICT, textiles, building materials, lighting). | EU (Type I) | EU and some other countries |
|  <p>NORDIC ECOLABEL</p> | The Nordic Ecolabel is a voluntary ecolabelling scheme that evaluates a product’s impact on the environment throughout the whole life cycle. There are 63 product groups within the Nordic Ecolabel. | Type I | Nordic countries and some others |
|  <p>GREAN CRANE</p> | Over 30 products and services (incl. textiles, building materials, cleaning products, food) | The body of environmental certification and labeling All Ukraine NGO "Living Planet"(Type I) | Ukraine |

| | | | |
|--|---|---|-----------|
|  | Energy consumption of electronic devices (incl. white goods, computers, multi-functional devices) | US EPA (Type I) Voluntary Sustainability Standard (VSS) | Worldwide |
|  | Wood products | FSC | Worldwide |
|  | Wood products | PEFC | Worldwide |

Some of these labels address only single environmental issues. This approach may be useful for a progressive implementation of sustainability in procurement, but procurement professionals must be aware that ecolabels remain – in all product categories - the best guarantee of a complete approach to environmental problems.

The most complete list of ecolabels for all sorts of product categories worldwide can be found at The Global Ecolabelling Network (GEN).

GEN is a non-profit association of third-party, environmental performance recognition, certification and labelling organizations founded in 1994 to improve, promote, and develop the "ecolabelling" of products and services.

<http://www.globalecolabelling.net/>

It is good practice to consult experts on environmental procurement whenever using environ-

mental criteria from labels, to make sure they are appropriate, accurate and relevant to your tender. It is also important to check if the market can provide products that comply with the criteria developed and if the price is affordable.

Many of products which are in daily use may have symbols that appear often on products and packaging, but should not be confused with environmental labels.

These symbols give indications on how the products can be recycled, but they do not mean that products have actually been recycled nor contain any recycled content!

A well-known, internationally recognised symbol is the **Mobius Loop**. The symbol is not a trademark, and this is why it appears in different variants (the arrows can be green or black, filled with colour or not, in different shapes). The three arrows represent the three moments of the recycling process: collection, transformation into a new product, and finally re-use.



Many procurers and requisitioners will be familiar with this symbol, but not everybody knows the exact meaning of its variants. The basic version of the Mobius Loop, without any number, means that the product is recyclable, but not that it will actually be recycled at the end of its life.



Loop contains a percentage number, at the product is made with recycled e indicated percentage.



Another symbol commonly found on products and packages is the Green Dot. Many believe that the Green Dot indicates that the product is recycled or recyclable, but this is not the case. The Green Dot is a trademark for an industry-based recovery system of packaging. The symbol only indicates that the producer is included in the waste recovery programme against the payment of a fee.

2.7.9. SOCIAL LABELLING

Labels do not only certify environmental performance. The technique of labelling products to help consumers make their purchase choice on the base of considerations that are not only economic is used also in relation to social issues. Social labels usually cover issues such as human rights, workers' rights, ban of child labour, payment of a fair price to developing countries producers, etc.

Social labels resent of the current uncertainty – in comparison to the fast development of green procurement - on how to include social issues in public purchasing.

When writing technical specifications, procurers have to make sure that the specifications are relevant to what is being procured. If some criteria from social labels are included in the technical specifications, it is important to do it while maintaining a clear link to the subject matter of the contract. For example, if the procurement practitioner wants to

ensure that the coffee purchased has been produced "fairly", the best option is to give the right title to the contract, e.g. "Purchase of fair trade coffee".

What are the main social labels?



Belgium has developed a national social label, which certifies the respect of ILO fundamental principles during all stages of the value chain.



The Fairtrade Labelling Organizations (FLO) International is a non-profit, multi-stakeholder association involving 23 member organizations. It contributes to sustainable development by offering better trading conditions to marginalized producers and workers in developing countries. The Fair Trade mark appears on a wide range of products like coffee, fruit, rice, juices, chocolate, cotton, footballs, flowers.



Rainforest Alliance certification is a comprehensive process that promotes and guarantees improvements in agriculture and forestry. To earn the seal, foresters and farmers have to ensure that their production meets criteria of sustainability under the aspects of protection of the environment, decent working conditions, respect of local communities.



The Rugmark certification guarantees that carpets and rugs are produced without employment of child labour; verification of this requirement is ensured through independent certification and rigorous inspections.

Sources: A guide to environmental labels for procurement practitioners of the United Nations system, UNOPS, 2009.

SECTION III

CRITERIA FOR
SELECTED
PRODUCT GROUPS*Key Challenges*

- What are major environmental impacts of the selected product groups?
- How to define sustainability criteria for the selected product groups?
- What are main environmental criteria for three product groups? What should be evaluated?
- What is a verification of compliance with the Sustainability Criteria?

3.1. ASSESSING THE ENVIRONMENTAL IMPACTS FOR THE SELECTED PRODUCT GROUPS

Production and consumption of any product or services are connected with impacts on the environment and human health. Due to intensive consumption of natural and energy resources, using danger and toxic substances as well as accumulation of waste, most of these anthropogenic factors have impact in a negative way on different ecosystems and living organisms. Any business activity produces positive outputs (products and services) and negative (emissions, waste, wastewater etc.). These impacts can include all relevant aspects of the natural, social, economic and human environment.

Negative impact leads to degradable changes in the environment and undesirable consequences for human being. For instance, impacts caused by emissions lead to climate change (caused by Greenhouse gas (GHG) emissions), eutrophication (over-fertilization caused by pollution with nitrogen and phosphorus), human and eco-toxic effects caused by urban and regional air pollution, indoor air pollution and other toxic emissions. Impacts related to resource use may lead to depletion of non-renewable resources (fossil energy carriers and metals) and biotic resources (most notably fish and wood), or habitat change and resource competition due to water and land use.

To examine the environmental consequences or impacts, both beneficial and adverse, the Environmental Impact Assessment (EIA) is widely popular method supported by the ISO 14000 family of International Standards. EIA should provide public authorities and other organizations with advice

on the environmental acceptability of development environmental criteria and planning of the sustainable procurement process.

In this Handbook the environmental impacts are analysed for three product groups: cleaning products, paints and varnishes and heat insulation materials as these products were identified as priority to meet the main goal of this guidance.

3.1.2. ENVIRONMENTAL IMPACTS OF CLEANING PRODUCTS AND DETERGENTS

A wide variety of cleaning products are in daily use in households and industrial sectors. Cleaning products and processes affect the environment in many ways as the consequences of chemical compounds.

Environmental impacts of cleaning products are associated with all stages of their life cycle: from raw materials extraction to waste treatment. The raw materials mostly consist of petroleum, a valuable, but limited and nonrenewable natural resource. Additionally, the environment is affected during manufacturing as significant amounts of energy and water are consumed, and waste is produced.

Other environmental impacts include plastic packaging components used in bottles made from petroleum and ingredients such as phthalates used to keep the bottles from becoming brittle and breaking or leaking. Packaging also includes cardboard shipping cartons made from tree fibers. Finally, chemical products are disposed down the drain or evaporate into the air where they have further environmental impacts.

At the same time most of detergents may be highly danger for human health and other living organisms (e.g., water organisms) due to chemical composition and improper use as shown in the Table 3.1.

To summarized most of environmental impacts of the cleaning products life cycles there is described



an environmental aspects (interaction with the environment) and environmental impacts (any change to the environment, whether adverse or beneficial, resulting from a facility's activities, products, or services) in the Table. 3.2.

Overall, the key impacts from the life cycle of cleaning products relate to climate change, impacts on human health, ecotoxicity, eutrophication, water consumption and waste generation.

These impacts can best be reduced by minimizing the energy consumed in heating the water used during the cleaning, excluding or limiting certain substances in the products, applying correct product doses, optimizing the way a cleaning service is performed, minimizing the packaging.

Green Cleaning Products are environmentally benign alternatives which involve the use of products that biodegrade into compounds that are environmentally friendly and do not pose detrimental environmental concerns. Many of these products include natural solvents such as citrus, seed and vegetable oils that can be safely recycled back into the environment.

Taking into account all above mentioned environmental impacts, Sustainable Public Procurement for Cleaning Products is aimed to reflect the key environmental risks. This approach is summarized in the Table 1.3.

Table 3.1 – Cleaning Products and Their Potential Health Effects

| Product Type | Harmful Ingredients | Potential Health Hazards |
|------------------------------|--|---|
| Air fresheners & deodorizers | Formaldehyde | Toxic in nature; carcinogen; irritates eyes, nose, throat and skin; nervous, digestive, respiratory system damage |
| Bleach | Sodium hypochlorite | Corrosive; irritates and burns skin and eyes; nervous, respiratory, digestive system damage |
| Disinfectants | Sodium hypochlorite | Corrosive; irritates and burns skin and eyes; nervous, respiratory, digestive system damage |
| | Phenols | Ignitable; very toxic in nature; respiratory and circulatory system damage |
| | Ammonia | Toxic in nature; vapor irritates skin, eyes and respiratory tract |
| Drain cleaner | Sodium/potassium hydroxide (lye) | Corrosive; burns skin and eyes; toxic in nature; nervous, digestive and urinary system damage |
| Floor cleaner/wax | Diethylene glycol | Toxic in nature; causes nervous, digestive and urinary system damage |
| | Petroleum solvents | Highly ignitable; carcinogenic; irritate skin, eyes, throat, nose and lungs |
| | Ammonia | Toxic in nature; vapor irritates skin, eyes and respiratory tract |
| Oven cleaner | Sodium/potassium hydroxide (lye) | Corrosive; burns skin, eyes; toxic in nature; causes nervous and digestive system damage |
| Toilet bowl cleaner | Sodium acid sulfate or oxalate or hypochloric acid | Corrosive; toxic in nature; burns skin; causes digestive and respiratory system damage |
| | Chlorinated phenols | Ignitable; very toxic in nature; cause respiratory and circulatory system damage |
| Window cleaners | Diethylene glycol | Toxic in nature; causes nervous, digestive and urinary system damage |
| | Ammonia | Toxic in nature; vapor irritates skin, eyes and respiratory tract |

Source: adapted from Li Ho "Pollution Issues: Household Pollutants"

Table 3.2 - Inputs and Outputs through the Cleaning Products Life Cycle

| Input | Life Cycle Stages | Output | |
|--|---|---|---|
| | | Environmental Aspects | Environmental Impacts |
| Natural Resources: • Crude Oil • Water Energy Resources | Raw Materials Extraction and Processing | Consumption of natural and energy resources | Depletion of non-renewable resources |
| | | Air emissions | • Air pollution • Climate change and global warming |
| | | Process waste generation | • Land pollution and ground water pollution • Release of toxic substances |
| | | Wastewater discharges | • Water pollution • Degradation of aquatic habitat and drinking water supply |

| | | | |
|---------------------------------|---------------------------|--|---|
| Energy Resources | | Consumption of energy resources | Depletion of non-renewable resources |
| Water | | Wastewater discharges | <ul style="list-style-type: none"> Water pollution Degradation of aquatic habitat and drinking water supply |
| <u>Chemicals Use:</u> | | Release of toxic substances in the environment | ---- |
| Surfactants | | | Relatively toxic to aquatic organisms |
| Builders | | | Remobilize heavy metals stored in river sediments, bringing the heavy metals back into the water system. |
| Phosphorous | | | Eutrophication |
| Solvents / VOCs | | | <ul style="list-style-type: none"> Air pollution Formation of ground level ozone Photochemical smog Impair human health (headaches, fatigue or irritation to the eyes, nose, throat, lungs or skin) |
| Bleaching Agents | Manufacture / Formulation | | Toxic to aquatic ecosystems, slowly degradable in the aquatic environment |
| Biocides | | | <ul style="list-style-type: none"> Very toxic for aquatic organisms May cause long-term adverse effects in the aquatic environment Harmful by inhalation and if swallowed, May cause sensitisation by skin contact known to have endocrine disrupting, neurotoxic, developmental and reproductive toxic effects |
| Preservatives | | | <ul style="list-style-type: none"> Very toxic for aquatic organisms May cause long-term adverse effects in the aquatic environment Harmful by inhalation and if swallowed May cause sensitisation by skin contact |
| Enzymes | | | <ul style="list-style-type: none"> May help to reduce a contribution to global warming, reduce contribution to acidification, eutrophication, photochemical ozone formation and energy use |
| Fragrances | | | |
| Energy Resources | Distribution | Energy consumption by transport (fuels) | <ul style="list-style-type: none"> Air pollution Climate change and global warming |
| Energy Resources | | Consumption of energy resources | <ul style="list-style-type: none"> Depletion of non-renewable resources Air pollution Climate change and global warming |
| Water | Use | Wastewater discharges | <ul style="list-style-type: none"> Water pollution |
| | | Release of toxic substances in the environment | <ul style="list-style-type: none"> Degradation of aquatic habitat and drinking water supply |
| Package and packaging materials | Disposal | Waste packaging | <ul style="list-style-type: none"> Waste accumulation Land pollution and ground water pollution Release of toxic substances |

Source: adapted from the ISO 14040

Table 3.3 – The SPP Approaches against Key Environmental Impacts

| Key Environmental Impacts | SPP Approach |
|--|---|
| Climate change Human health Ecotoxicity Eutrophication Water consumption Waste generation | <ul style="list-style-type: none"> • Use cleaning products that are effective at lower temperatures. • Avoid certain hazardous substances in the product. • Avoid phosphorus and limit biocides in the product. • Limit the overall "critical dilution volume" of the product. • Provide information on recommended dosages. • Decrease the use of products through reviewing cleaning plans and techniques. • Improve the training of cleaning staff. • Decrease the quantity of packaging used. • Ensure the recyclability of the packaging used and the use of recycled packaging. • The buyer should study the possibility of concluding contracts for cleaning services instead of making purchases of cleaning products. Thus, you can reduce the number of products used, improve efficiency, get rid of the need to buy, and also maintain and rationally manage the product. |

Source: EU GPP Criteria for Cleaning Products & Services.

3.1.3. ENVIRONMENTAL IMPACTS OF PAINTS AND VARNISHES

The key environmental impacts of paints and varnishes are associated with their production. The quantity of paint used is therefore an important factor which in turn is influenced by how much residual paint is left unused and how long the paint lasts for until a new paint layer needs to be applied.

In terms of paint ingredients solvents, binders and TiO2 (white pigment) manufacture have an important environmental impact during raw material and

paint production. Solvent based paints have a higher overall environmental impact than water based paints.

Hazardous functional additives to the paint such as preservatives, plasticisers, pigments and extenders can have a wide range of health and environmental implications.

Potential impacts for human health, as well as inputs and outputs during the life cycle for paints and varnishes are similar to those given for cleaning products.

Taking into account all above mentioned environmental impacts, the Sustainable Public Procure-

Table 3.4 – The SPP Approaches against Key Environmental Impacts

| Environmental Aspects | SPP Approach |
|---|---|
| <ul style="list-style-type: none"> • Solvent, binder and TiO2 manufacture have an important contribution to the environmental impact in paint production. • Solvent based paints have a higher environmental impact than water based paints. • Hazardous functional additives can have a wide range of health and environmental implications. • Unused product is a wasted resource and can cause environmental harm if not disposed of properly. | <ul style="list-style-type: none"> • Minimise the impact of production by addressing specific ingredients and dosage. • Reduce the hazardous properties of the overall formulation. • Promote durable paints. • Incentivizes minimisation of product wastage, including re-use and recycling. |

Source: EU GPP Criteria for Paints and Varnishes.

ment for Paints and Varnishes is aimed to reflect the key environmental risks. This approach is summarized in the Table 3.4.

3.1.4. ENVIRONMENTAL IMPACTS OF HEAT INSULATION MATERIALS

During the life cycle of the thermal insulation, hazardous materials are a key environmental impact, especially in the chemical makeup of blowing agents. This can impact on air and water quality, as well as human health, with many of the substances identified as carcinogenic or irritant to those with breathing disorders.

The hazardous properties of these substances make many of them unsuitable for landfill in non-hazardous sites. Some can be recycled thus reducing the impact on the environment.

Energy consumption is another key impact, especially during manufacture and transportation. However, the reduction in energy use in buildings, by choosing highly efficient insulation, with good thermal resistance is vitally important and must be the first consideration. This will reduce energy consumption in the in-use phase by lessening the need for fuel for



space heating, balancing out the embodied energy within the insulation materials. Once the desired thermal resistance has been decided there is still scope to consider the environmental impacts of the various insulation materials that satisfy that main requirement.

Potential impacts for human health, as well as inputs and outputs during the life cycle for heat insulation materials are similar to those given for cleaning products.

Taking into account all above mentioned environmental impacts, Sustainable Public Procurement for Heat Insulation Materials is aimed to reflect the key environmental risks. This approach is summarized in the Table 3.5.

Table 3.5 – SPP Approaches against Key Environmental Impacts

| Key Environmental Impacts | SPP Approaches |
|--|---|
| <ul style="list-style-type: none"> • Energy consumption, especially in manufacturing and transportation. • Energy consumption in the building as a result of less efficient insulation. • Pollution of air, land and water due to the use of hazardous materials e.g. blowing agents. • Use/extraction of raw materials. • Production of hazardous waste. • Generation of waste material, including hazardous wastes and packaging and its disposal. | <ul style="list-style-type: none"> • Purchase most energy efficient insulation. • Purchase insulation appropriate for a situation to ensure maximum benefit. • Purchase insulation that restricts the use of hazardous materials. • Promote effective maintenance of insulation to extend its useful life. • Promote end of life management e.g. take back schemes / re-use / recycling. • Purchase products designed to be easily dismantled and recycled. • Promote the use of environmentally sound materials. • Promote use of recycled materials in insulation and packaging, either directly or in the case of packaging through participation in an accredited recycling scheme. |

Source: EU GPP Criteria for Heat Insulation Materials.

3.2. DEFINING OF THE ENVIRONMENTAL CRITERIA FOR TENDERING

Defining of sustainability criteria (additionally to price and quality criteria) is intended to evaluate and procure products or services which best fit to the requirements of sustainable production and consumption.

Traditionally main assessment criteria for tender bids are:

- Price (aimed to choose more economically advantageous offer);
- Quality and functional characteristics;
- Operating costs associated with the use of products and/or systems;
- Terms of delivery or terms of performance;

- After-sales service;
- Other benefits which may occur in connection with the tender offer;
- Other qualifying criteria (availability of equipment and material and technical base, availability of suitably qualified staff with appropriate knowledge and experience of the presence of documented experience in similar agreement etc.).

Public authorities choose evaluation criteria taking into account specific(s) of the product/service or any other requirements.

The development of criteria for verifying sustainability of the procurement has been driven by two separate, but related, influences:

- The need for public authorities to demonstrate progress towards sustainable development and greening of their activities;
- Environmental, social and market drivers, in

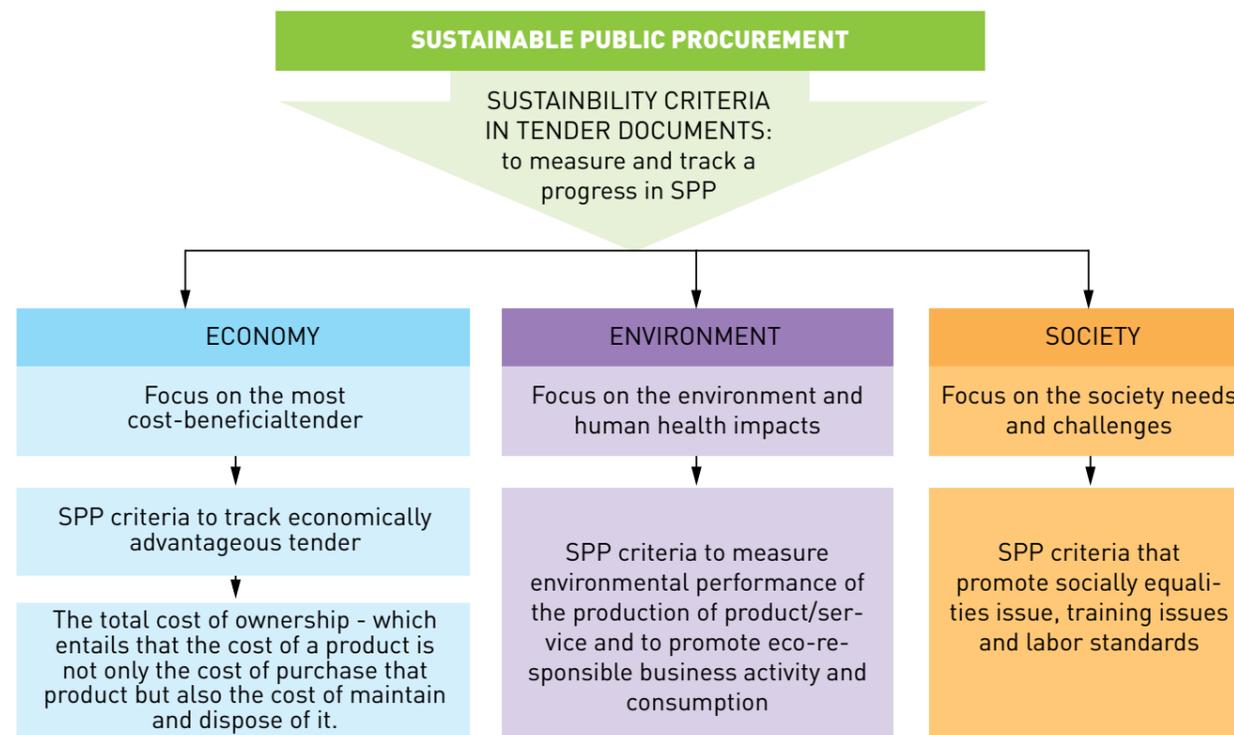


Fig. 3.1.-Sustainability Criteria for the SPP

many cases stimulated by environmental and other cause-oriented groups, for sustainable production and consumption.

Some important feature and barriers for integration of sustainability criteria are described in the Table 3.6.

Effectiveness in achieving of the sustainable procurement goals and objectives is largely dependent on the formation and development of adequate applicable criteria for evaluation bids.

Source: adapted from Katriina Alhola Environmental criteria in public procurement. Focus on tender documents.

Table 3.6 - Sustainability Criteria for the SPP

| Important Features | Barriers / Obstacles |
|---|--|
| <p>Economic Viability relates to providing a range of goods and services in the long term with proceeds re-invested and local populations benefiting to the extent possible.</p> <p>Key aspects are:</p> <ul style="list-style-type: none"> • Sustainable production & consumption products and services; • Maintenance of non-market services and benefits (air, water, recreation etc.); • Local processing and employment; • Minimisation of waste; • Economic and financial viability. <p>Environmental Sustainability – environmental performance generally considers the following aspects:</p> <ul style="list-style-type: none"> • Knowledge of environmental impacts, their prioritisation, and plans to address them; • Maintenance of biological diversity at the ecosystem, species and genetic levels; • Protection of representative ecosystems from all types of exploitation; • Reduction/efficient use of energy (for electrical goods) • Reduction/efficient use of materials • Soil and water protection; • Protection of rare, threatened and endangered species; • Avoidance (or reduction in use) of chemicals; • Disposal of used material. <p>Social Acceptability – acceptance of public procurement management by society is determined partly by national and local laws and regulations, and partly by what local people and the international community expect.</p> <p>Principles relate to:</p> <ul style="list-style-type: none"> • national sustainability policies; • impacts on local communities (including indigenous people); • impacts on and treatment of employees. | <p>Lack of knowledge regarding environmental issues, not least as related to harmful chemicals, and on the legal scope to set environment criteria in public procurement. Traditional economic considerations dominate, particularly among personnel with responsibility for procurement.</p> <p>Communication barriers – in many cases the prevents from a legislation/government sides for establishing good and long-standing contacts with suppliers, which makes it more difficult to develop sustainable value chains.</p> <p>Concern over legal disputes – lack of clarity in legislation and practice, combined with the risk of being brought before the courts, causes many contracting authorities to shy away from setting strict criteria concerning environmental protection and social sustainability. Checking of qualification criteria and assessment of tenders are seen as particularly difficult points to deal with.</p> <p>Limited opportunities to set criteria – in the study, several respondents felt that criteria could only be set for chemicals in the procured finished products, while some were of the opposite opinion. Others state that criteria must not be disproportionately high, which in itself creates a lack of clarity and problems with setting limits.</p> |

Source: adapted from Katriina Alhola Environmental criteria in public procurement. Focus on tender documents

Despite the equivalent importance of three components: **Economic, Environmental and Social**, in order to prevent negative effects on the environment and human health the environmental requirements (in a form of environmental criteria) should be introduced into the tender documents as a part of qualifying criteria.

Environmental criteria are measurable provable environmental requirements intended to assess the environmental performance of product/service in order to identify the presence or level of the factor/characteristic impacting the environment and human health as well as safety level. Compliance with environmental criteria confirms the environmental benefits of products.

Main purpose of the environmental criteria is to promote production and consumption of products and services aimed at reducing the consumption of energy and other natural resource, impact on

ecosystems, contain a limited amount of hazardous substances and their level of exposure to various environmental components.

Environmental criteria should meet the following **requirements**:

- To be harmonized with the legal framework regarding the selected product categories in setting the terms, definitions, test methods and technical documentation;
- To be established in the realistically achievable level within the given possibilities and the accuracy of their estimates;
- Be based on reasonable scientific and technical principles and clear these environmental impacts throughout the life cycle to determine the environmental advantages of the chosen category;

ANALYSIS OF AVAILABLE ENVIRONMENTAL CRITERIA – studying and drawing up a list of environmental criteria taking into account the state regulations, national and international standards required for the selected product categories.

SELECTION OF THE MOST IMPORTANT ENVIRONMENTAL CRITERIA – environmental criteria that are most important (significant) for public authority with regard of product functions and application, taking into account what the market is able to provide

EVALUATION – evaluate and compare the different tender bids to choose a preferred bidder.

VERIFICATION – assessment of compliance with certain criteria.

SELECTION OF SUITABLE/OPTIMAL PROPOSALS – choose a preferred bidder.

Pic. 3.2 – Flow Diagram for Selection and Evaluation of Products/Services on the Basis of Environmental Criteria

Source: adapted from The Resolution No. 529 of the Cabinet of Ministers of Ukraine “On Approval of Technical Regulation on Environmental Labeling” as of May 18, 2011

- Limit the most significant impacts of production on the environment and human health and to be accessible for at least 20% for selected products represented in Ukraine;
- Consider state environmental policy and development of the area to which the selected product category.

Regardless of procurement strategies, introducing of the SPP criteria is permitted by current legislation. Environmental criteria should be developed according to the requirements of legislation in the field of environmental protection, hygiene standards, classifications and lists the most common hazardous pollutants and waste. When developing the environmental criteria it is recommended to guide by the following:

- Resolution No. 529 of the Cabinet of Ministers of Ukraine “On Approval of Technical Regulation on Environmental Labeling” as of May 18, 2011;
- ISO 14024 “Environmental Labels and Declarations. Type I Environmental Labelling. Principles and Procedures”;
- ISO 14040: 2004 “Environmental management. Life Cycle Assessment. Principles and Framework”.

Environmental criteria should support the implementation of best practices and increase the environmental awareness of consumers and end-users.

There are five main stages according to which the selection and evaluation of products/services on the basis of environmental criteria is performed (Pic. 3.2).

Verification of Compliance with Sustainability Criteria

The specific assessment and verification requirements should be indicated for each criterion in a form of declarations, documentation, analyses, test reports or other evidence to show compliance with



the criteria. These documents may originate from the applicant and/or his supplier(s) and/or their supplier(s), as appropriate.

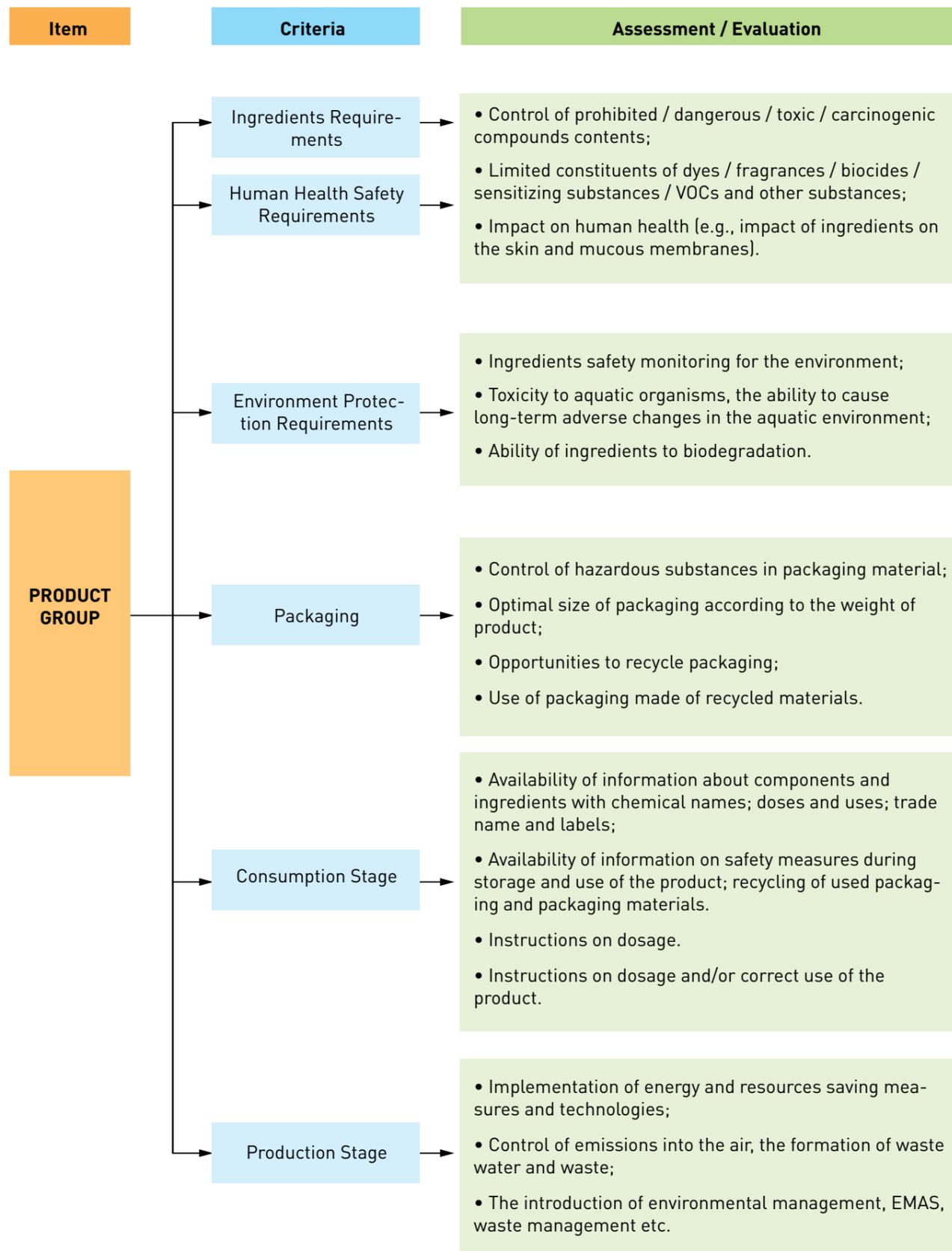
If appropriate, test methods other than those indicated for each criterion may be used if the competent body assessing the application accepts their equivalence.

Where possible, the testing shall be performed by laboratories.

Where appropriate, competent bodies may require supporting documentation and may carry out independent verifications.

WHAT SHOULD BE EVALUATED?

Evaluation of tender bids is not just about the conformity and verification of compliance with sustainability criteria, it should be performed with a full understanding and responsibility for the consequences of production and consumption. Main criteria groups and assessment aspects are shown on the pic. 3.3.



Pic. 3.3. Flow Diagram for Criteria Groups and Assessment Aspects

Source: adapted from the ISO 14044:2006

3.3. ENVIRONMENTAL CRITERIA FOR CLEANING PRODUCTS AND SERVICES

Criteria for Cleaning Products

In this handbook the environmental requirements both for cleaning products and cleaning services are described.

In terms of cleaning products, these cover the following groups of cleaning products:

(a) All-purpose cleaners, sanitary cleaners and window cleaners intended for the routine cleaning of floors, walls, ceilings, windows and other fixed surfaces, and which are either diluted in water prior to use or used without dilution. All-purpose

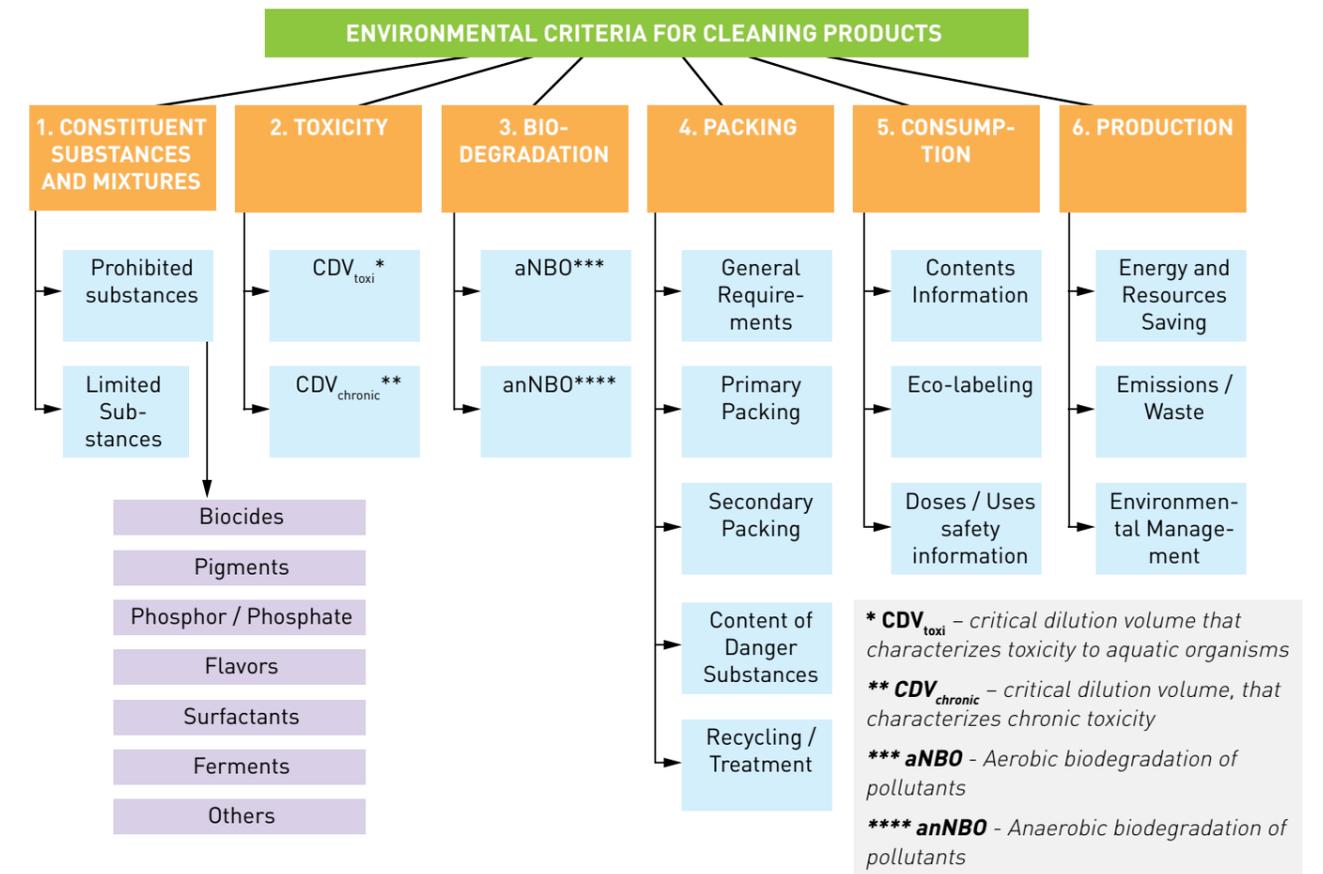
cleaners mean products intended for indoor use in buildings which include domestic, commercial and industrial facilities.

(b) Detergents and rinse aids for dishwashers intended for the routine cleaning of kitchen devices and equipment by means of dishwashers.

(c) Hand dishwashing detergents intended for the removing of food material residues, from kitchenware surfaces, including dishes, pots, pans, utensils and a wide range of other items by means of hands.

(d) Laundry detergents and pre-treatment stain removers for washing machines.

General structure of the environmental criteria and sub-criteria for each criteria group are described on the pic. 3.4. Detailed information about criteria with a specific data is presented in the Annex I.



Pic. 3.4. General Structure of the Environmental Criteria on the Cleaning Products

Source: adapted from the EU GPP Criteria for Cleaning Products & Services



3.4. ENVIRONMENTAL CRITERIA FOR PAINTS AND VARNISHES

The product group of paints and varnishes comprises indoor decorative paints and varnishes, wood stains and related products intended for use by consumers and professional users.

Paint and varnish products include:

- Floor paints;
- Products which are tinted by distributors at the request of professional decorators;
- Tinting systems;
- Decorative paints in liquid or paste formulas which may have been pre-conditioned, tinted or prepared by the manufacturer to meet consumer's needs, including wood paints, wood and decking stains, masonry coatings and metal finishes primers and undercoats of such product systems.

Criteria for Cleaning Services

Many authorities have their cleaning services carried out by private contractors. The tendering procedure for selecting the contractor offers opportunities for improving the environmental and health performance of these services.

The reduction in the use of cleaning chemicals through using appropriate dosages or new cleaning techniques is a particularly efficient way to reduce the environmental impacts of cleaning.

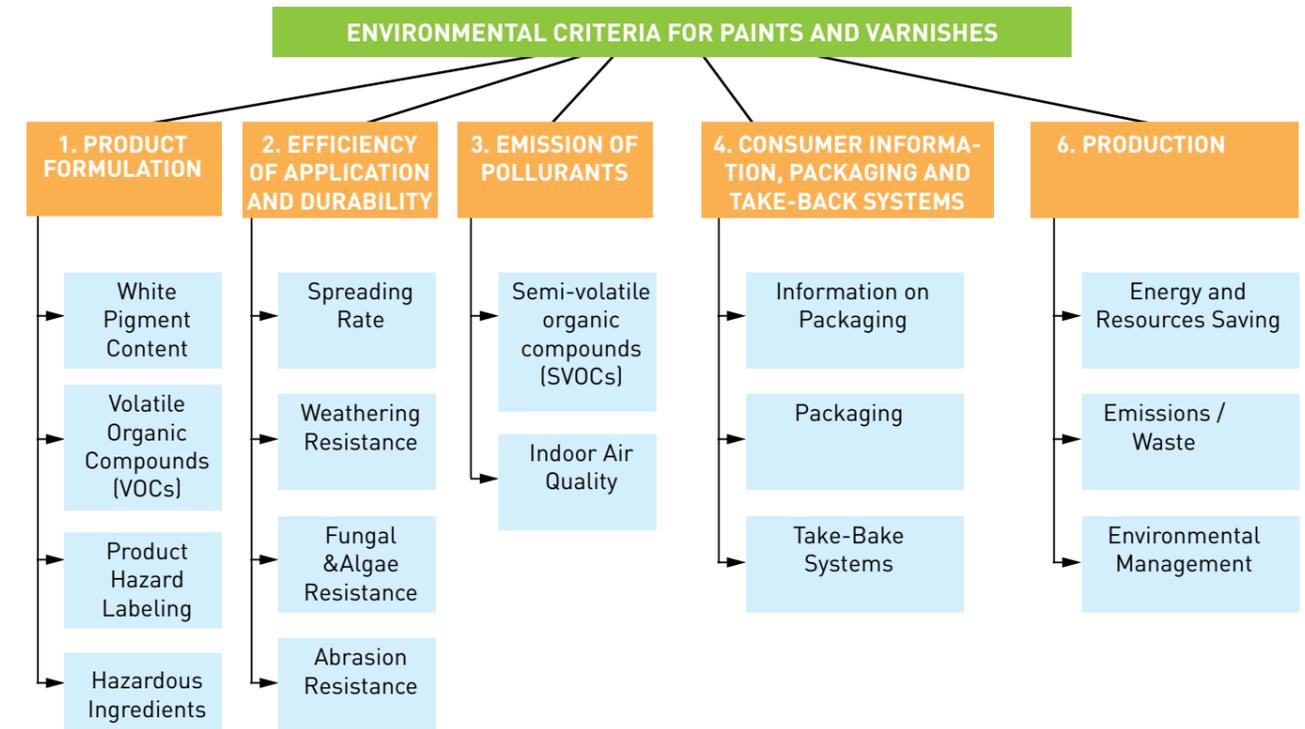
The tenderer must demonstrate its capacity to carry out the service in an environmentally sound manner. This must include evidence of the regular training of staff on health, safety and environmental aspects of cleaning activities and evidence of compliance with environmental and health and safety obligations.

Detailed information about criteria with a specific data is presented in the Annex I.

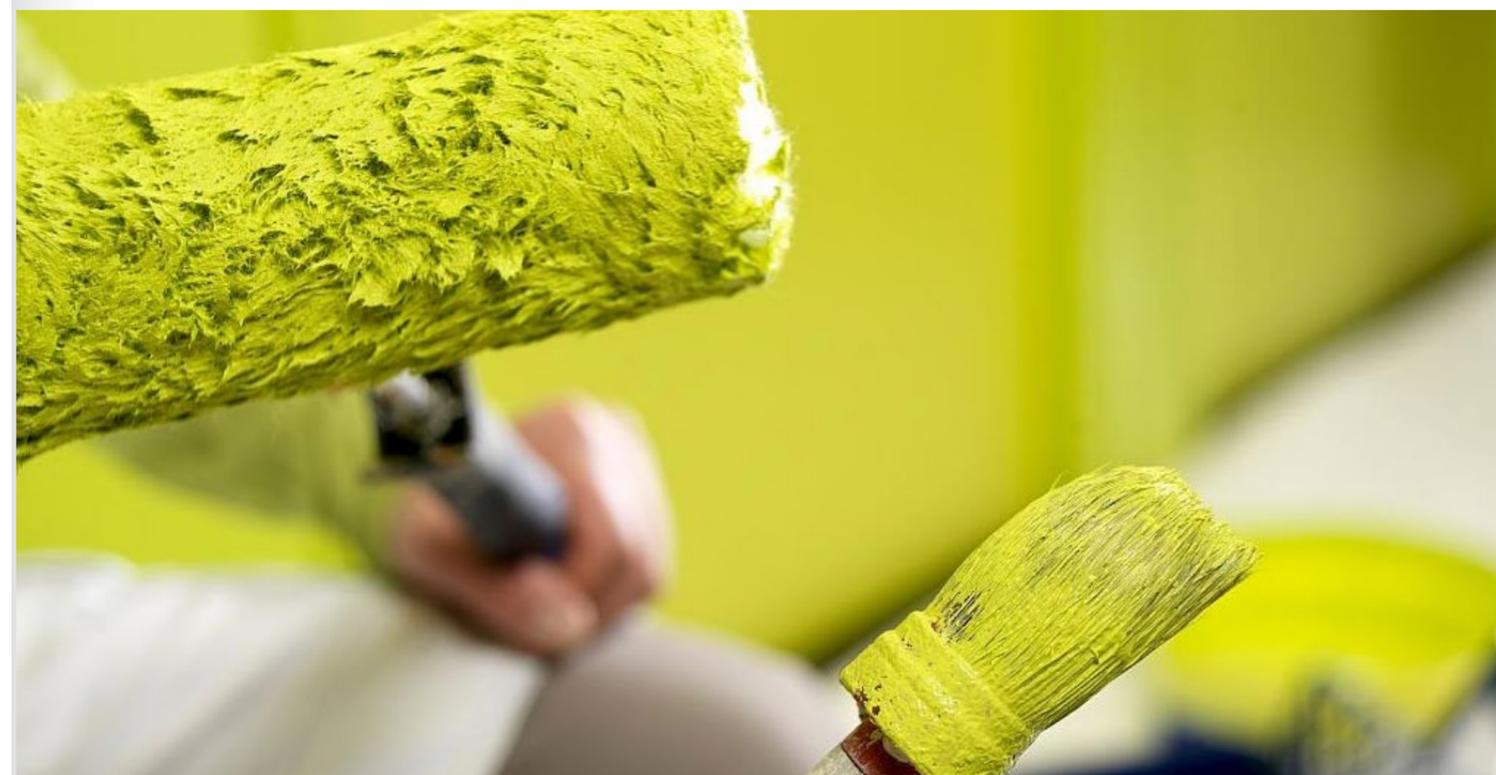
The product group does not comprise:

- Anti-fouling coatings;
- Wood preservation products;
- Coatings for particular industrial and professional uses, including heavy-duty coatings;
- Powder coatings;
- UV curable paint systems;
- Paints primarily intended for vehicles;
- Products that do not form film over the substrate, with the exemption of road markings;
- Transparent chemical floor coatings using reactive resins as binders for thick layer coverings for industrial floors.

General structure of the environmental criteria and sub-criteria for each criteria group are described on the pic. 3.5. Detailed information about criteria with a specific data is presented in the Annex I.



Pic. 3.5. General Structural Scheme of the Environmental Criteria for the Paints and Varnishes
Source: adapted from the EU GPP Criteria for Paints and Varnishes



3.5. ENVIRONMENTAL CRITERIA FOR HEAT INSULATION MATERIALS

Panels for both indoor and outdoor use are included. The product group includes panels in which the main function is one or more of the following: internal or outdoor cladding of buildings, construction panels, sound absorbent panels, panels for subfloors, facade panels, panels for subroofs and panels for production of furniture, outdoor furniture, internal fittings, etc.

The following material types are included in the product group:

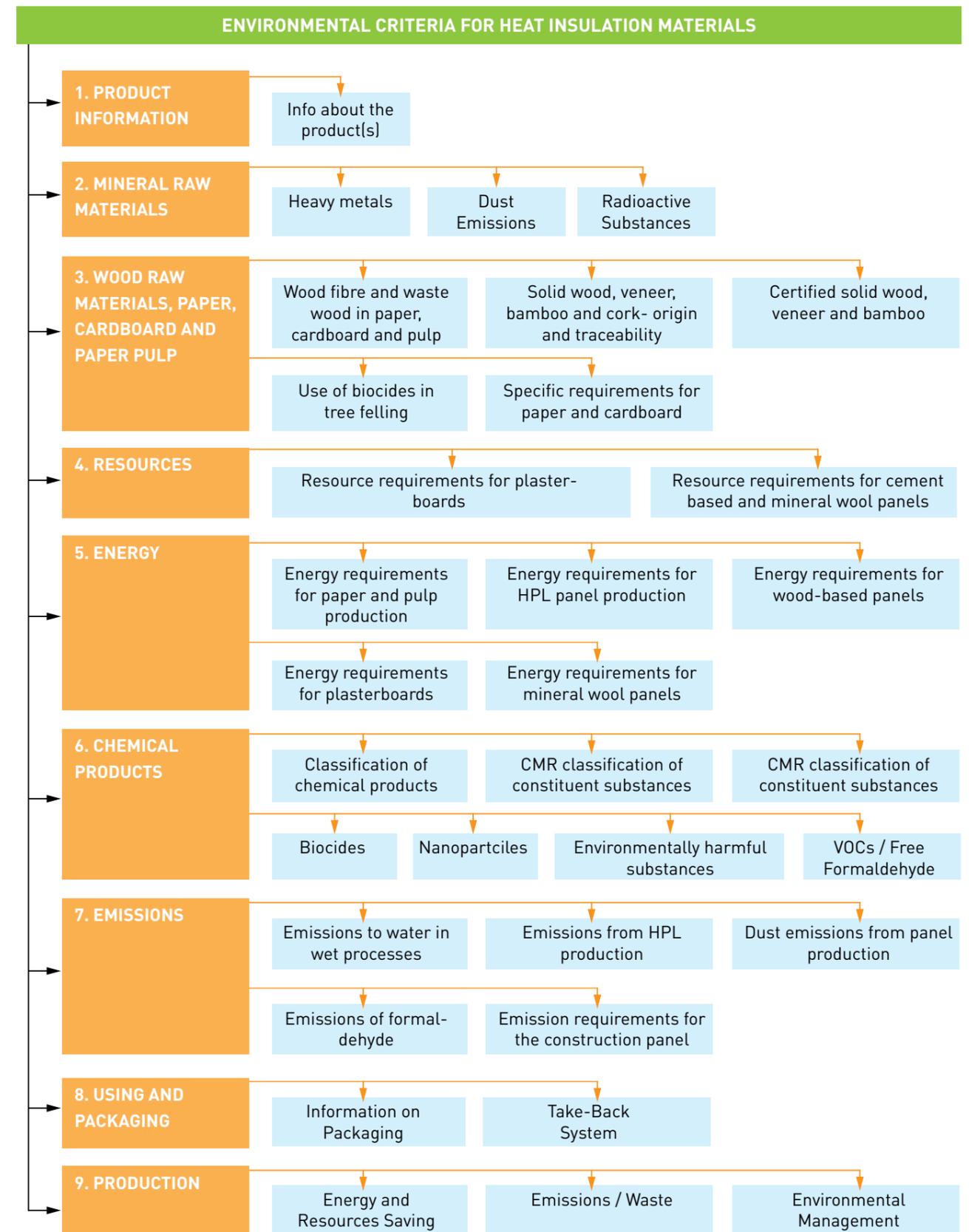
- Wood-based panels with or without laminated surface;
- Solid wood (surface-treated) for assembly into a panel for indoor use, e.g. by the consumer;
- Panels based on renewable raw materials other than wood;
- High pressure laminate panels;
- Plasterboards;

- Mineral wool panels (where the main function is **not** thermal insulation);
- Cement-based panels for example fibre cement and cement panels. In addition, magnesium oxide panels for indoor use only.

The product group does not cover the following product types: panels with total more than 15% by weight of materials other than the above are not included in the product group; panels or cladding in which the main function is to insulate against heat or cold loss. Panels which are marketed as insulation panels or insulation products are thus not included; wet room panels; magnesium oxide panels for outdoor use; roofing panels (outer roof); whole prefabricated wall elements are not included in the product group; floor coverings; facade panels in solid wood.

Fibre-based panels with more than 15 % cement will be included in the functional unit "Cement-based panels". Panels based on renewable raw materials other than wood must fulfill the energy requirement for wood-based panels.

General structure of the environmental criteria and sub-criteria for each criteria group are described on the pic. 3.6. Detailed information about criteria with a specific data is presented in the Annex I.



Pic. 3.6. General Structural Scheme of the Environmental Criteria for the Heat Insulation Materials

Source: adapted from the EU GPP Criteria for Heat Insulation Materials

SECTION IV

THE SUSTAINABILITY ISSUES FOR TENDERERS

Key Challenges

- What are competitive advantages of the sustainable production and consumption for suppliers and vendors?
- How do companies manage their sustainability?
- What are available methods for business to respond the sustainability requirements?

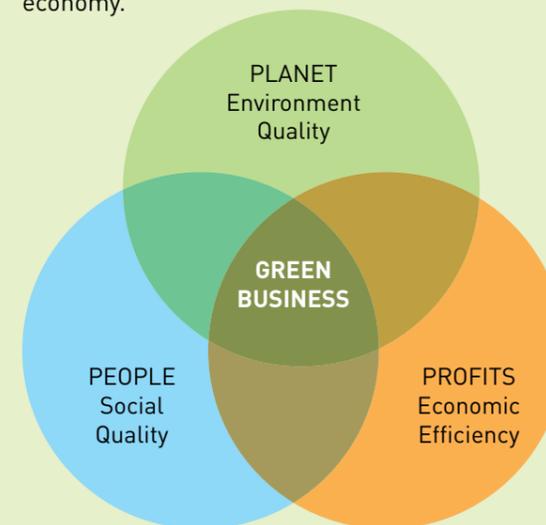
4.1. SUSTAINABILITY PERFORMANCE AS A COMPETITIVE ADVANTAGE FOR TENDERERS

Today government and public authorities often include the sustainability issues and requirements when procure goods, services and works due to increased awareness on environmental and social challenges around the World. Public organizations demand for goods and services that achieve value for money and generate benefits not only to the organisation, but also to society and the economy, while minimising damage to the environment. In view of this fact, suppliers and vendors, including a business at whole, need to take active actions to be able to meet these demands and requirements in the sustainability context.



SUSTAINABLE ENTREPRENEURSHIP (or **GREEN ENTREPRENEURSHIP**) is a way of economically viable and socially empowering business development with respect to environmental challenges. Businessmen try to find business opportunities that arise in the context of global and local environmental challenges.

Consideration of environmental, economic and social axes in the business core is an innovative solution to the way of goods and services are produced and consumed, and proposes a business model which contributes to the greening of the economy.



Pic. 4.1. The Triple-Bottom Line of the Sustainability for Business

Source: *The Green Business Booklet, International Labour Office, 2015 Manisha Mishra, Sohina Singh and Arpita Goyal,*

The Sustainable Public Procurement is a powerful way to stimulate more sustainable production and consumption patterns in the society. Although going to the sustainable business practice is rather novel trend in the modern business world, many companies are active in this movement, as it is a trend with a variety of benefits for business owners. Taking into account that the sustainable business aid to reduce, mitigate, prevent and enhance capacities to cope with environment pollution and degradation risks, today all need environmentally oriented business more than business as usual.

HOW COMPANIES MANAGE SUSTAINABILITY: THE MOST COMMON WAYS



Reducing waste



Buying energy-efficient products



Buying recycled products



Seeking non-toxic products



Reducing water use

To be sustainable, business should adopt principles, policies, and practices that help to protect the environment, prevent degradation of the ecosystems and improve the quality of life for customers, employees, the communities. By changing of production patterns, the sustainable business may change a consumption pattern into sustainable one (see examples in the Table 4.1); and in such way consumers, including public authorities, have wide opportunities to buy green and environmentally friendly products and services.



Table 4.1 – Comparison of Business Doing Approaches: Business as Usual VS Sustainable Business

| Business Sectors | Specific Features for Business as usual | Specific Features for Sustainable Business |
|--|--|---|
| Building and construction Housing Industrial and infrastructure construction | <ul style="list-style-type: none"> Huge energy use and emissions Extensive natural materials use Waste Formation and accumulation Intensive water consumption Decrease of health and labor safety | <ul style="list-style-type: none"> Decrease of energy and materials use; use of secondary raw materials Use of less energy intensive technologies Develop of renewable technologies at all scales Increase resource efficiency of processes during production Waste to resource, reuse, recycling and energy recovery from waste |
| Food and Beverage Agricultural production | <ul style="list-style-type: none"> Overfishing Increasing meat consumption Total environmental degradation Intensive resource and energy use Waste Formation and accumulation Water consumption Worker rights | <ul style="list-style-type: none"> Re-building overfished and depleted fish stocks Adoption of resource-conserving practices Focus on health and wellbeing Improving supply chain conditions Waste to resource, reuse, recycling and energy recovery from waste |
| Transport | <ul style="list-style-type: none"> Environmental degradation and land use Use of non-renewable and non-biodegradable fuels Road safety Emissions | <ul style="list-style-type: none"> Collectively manage resources between private and public partners Improved valuation of heritage and culture Waste to resource, reuse, recycling and energy recovery from waste |

Source: *The Green Business Booklet, International Labour Office, 2015 Manisha Mishra, Sohina Singh and Arpita Goyal, 2015.*

Going sustainability does not simply mean spending money in order to reduce environmental and social impacts; it also involves benefiting from opportunities to reduce costs and risks associated with any company or business. Sustainable businesses must follow a sustainable approach and green standards in their operational management and in the output of products as well as to comply with labor standards and decent work principles.

Adopting a sustainable approach can therefore offer a wide range of benefits as simple as, for instance,

reducing costs by switching off equipment when it is not needed. Also sustainability is a “two-way traffic” with wide-ranging opportunities both for business and customers (see Table 4.2).

Thus, sustainability may provide business with the opportunity to implement and adopt environmentally sustainable practices to create a more responsible and modern approach towards the products and services production. There are many successful examples of how these opportunities can be turned into a sound business in which all stakeholders benefit.

Table 4.2 – Advantages and Benefits of Sustainable Business

| For Business | For Consumers |
|---|---|
| Lower Costs and Expenditures | |
| <ul style="list-style-type: none"> Reduction of production expenses due to environmentally friendly technologies and equipment Increasing of operation efficiency due to better use and conservation of resources Better prices for products (e.g. organic products) Reduced resource consumption leading to financial savings Reduced waste generation, lower costs of waste management | <ul style="list-style-type: none"> Decreasing of market price on the environmentally safe and environmentally friendly products & services Market extension of products availability with improved characteristics Protection of the environment, decreasing of the nature degradation process |
| Meeting Demands And Expectations | |
| <ul style="list-style-type: none"> New opportunities to offer novel products and services which are demanded by customers Higher demand for environmentally friendly products and improved market access Increasing of business competitiveness by means of increase customer loyalty and market share, what finally may produce a higher return on investment Meet procurement requirements for government authorities | <ul style="list-style-type: none"> Wide opportunities to buy products better for the environment and human health |
| New sources for revenue through innovations | |
| <ul style="list-style-type: none"> New business opportunities due to environmental innovations Decreasing of the nature pollution Business reputation and increased brand value | <ul style="list-style-type: none"> Better quality of the environment New innovative products and services with improved characteristics |
| Risks Management | |
| <ul style="list-style-type: none"> Prevent potential negative consequences that result from impacts (or perceived impacts) on the natural environment (i.e. air, water, soil) or communities of people (e.g. employees, customers, local residents) A long term outlook may ensure longevity and make business successful in the future | <ul style="list-style-type: none"> Forestall negative impacts on the environment and human health Improvement of quality of the environment |
| Staff Retention and Attraction | |
| <ul style="list-style-type: none"> Embedding sustainability into business allows attracting and retaining talent workers Creating Decent Work and Employment through Green Jobs | <ul style="list-style-type: none"> Creation of new job positions and workplaces |

Source: *The Green Business Booklet, International Labour Office, 2015 Manisha Mishra, Sohina Singh and Arpita Goyal, 2015.*



4.2. HOW TO RESPOND THE SUSTAINABILITY REQUIREMENTS: TIPS FOR TENDERERS

There are a lot of approaches to transform business model as usual into sustainable one. Traditionally it is distinguish two basic ways for business to become sustainable:

A. Produce green and/or environmentally friendly products/services, products and services that are resource efficient and benefit the environment (e.g. recycled paper, renewable energy, energy-saving equipment, organic food etc.);

B. Providing of goods or services through an environmentally friendly process or by means of clean technologies.

Also these two approaches are appropriate both for new and existing businesses. Sustainable businesses can either be started afresh as a start-up, or can be created by transitioning existing businesses by greening them.

A. MANUFACTURING OF GREEN AND/OR ENVIRONMENTALLY FRIENDLY PRODUCTS/SERVICES

The environmental goods and services industry is widely seen as a new growth sector, generating wealth and creating jobs as well as playing a major role in the transition of economies towards sustainable development.

A product/service may be considered as environmentally friendly if:

- It is produced in a manner which causes less environmental harm than a comparable/like product/service;
- Its use or consumption has an environmentally beneficial end-effect;
- It contributes to cleaning up or reducing damage to the environment.

To produce environmental goods and services there are **8 STRATEGIES** which are widely used to find opportunities in product design:

1. New concept development – develop solutions that meet user needs, create business opportunities and minimising damage to the environment (e.g. roll-up bottles, new type of rechargeable batteries).

2. Selection of low-impact materials – choose those raw materials which pose less harmful impact on the nature (e.g. raw materials from waste).

3. Reduction of material usage – use new technologies and methods to decrease amount of raw materials at the production stage (e.g., trim the weight of a plastic bottle or aluminum can, use less packaging).

4. Optimisation in production operations – make changes or adjustments to prevent negative impacts, increase an efficiency of materials and energy use etc.

5. Optimisation of distribution system – think whether it is possible to make more rational a distribution/logistics of products between different stages of life cycle.

6. Reduction of impact during use – think about possibilities to avoid harmful impact and accumulation of used products as waste.

7. Optimisation of product life.

8. Optimisation of product end-of-life system – offer new approaches for waste management or find best treatment/recycling waste technologies.

B. ECO-TECHNOLOGIES. CLEAN TECHNOLOGIES

Environmentally friendly technology utilizes many methods for reducing the impact that various activities have upon the earth. To be considered environmentally friendly, a product or action should be sustainable, produce as little waste and pollution as possible, and utilize the recycling and reuse of materials whenever possible.

Energy is one well-known area of green technology. Sustainable sources of energy include wind power, hydroelectric power, biofuels, and solar energy. These environmentally friendly technologies can now be used to power homes, businesses, and even small electronic devices. Solar-powered garden lights, remote controls, and electric shavers are all available for eco-conscious consumers.

Eco-technology often involves some of the following:

- Recycled, recyclable and/or biodegradable content
- Plant-based materials
- Reduction of polluting substances
- Reduction of greenhouse gas emissions
- Renewable energy
- Energy-efficiency
- Multi-functionality
- Low-impact manufacturing

WAYS TO TRANSFORM BUSINESS INTO SUSTAINABLE ACTIVITY

There are plenty of examples of entrepreneurs that have demonstrated that a look through the lens of sustainability reveals opportunities to improve natural environment, people’s quality of life, while at the same time creating economic value.

Of course, business is a complex system which interacts with the nature in a different ways, that’s why there are distinguish 6 main directions for sustainability transformations:

| | |
|---|--|
| ENVIRONMENT → | Understand the impact of products, services and supply chain the business has on the environment |
| RESOURCES OPTIMAL AND RATIONAL USE → | Assess and evaluate the natural resources consumption. Investigate ways to reduce resources consumption. |
| ENERGY → | Assess and evaluate the energy resources consumption. Investigate ways to reduce energy resources consumption. |
| GREEN HOUSE GAS EMISSIONS → | Assess and manage Greenhouse Gas (GHG) Emissions as a result of business activities, product manufacturing. |
| SOCIETY AND ETHICS → | Demonstrate social responsibility through activities that have a positive impact on society. |
| BIODIVERSITY → | Measure the health, maintenance and improvement of an ecosystem. |

Source: *The Green Business Booklet, International Labour Office, 2015 Manisha Mishra, Sohina Singh and Arpita Goyal, 2015.*



There is no “one-size-fits-all” method for pursuing an environmentally responsible business, as each company has unique characteristics and circumstances that will affect how it views its operational context and its defining sustainability.

The framework below (Tab. 4.3) is intended to assess a firm’s effects on society and the challenges and opportunities associated with taking these impacts into account in decision making and business activities.

Table 4.3 - Sustainability Assessment Framework

| Assessment Phases | Task Delineation | Description |
|--------------------------|---|--|
| Plan ↓ | Sustainability Value Creation | Identify issues and set priorities |
| | Environmental Impact Assessment (EIA) | Set goals |
| | Impact Significance Determination | Evaluate significance of environmental impacts. Decision makers typically consider only the significant impacts in deciding among alternatives. Significant impacts will be the focus of mitigation measures and possible adjustment of project features. |
| Do ↓ | Develop a Sustainable Business Strategy | Prepare a matrix of proposed actions. Develop ideas for proceeding and the business case for them; and Decide on direction, approach, boundaries and focus areas. |
| | Implement Best Available Solutions | Conduct a market research find best available solution for business. |
| Check ↓ | Assure and Report on Progress | Measure and assure performance. Engage stakeholders. Report on performance, internally and externally. |
| Improve ↓ | Evaluate and Improve | Evaluate performance. Identify opportunities for improvement. Engage stakeholders. |
| ← Cross-check | One cycle completed | Return to plan and start the next cycle. |

Source: *The Green Business Booklet, International Labour Office, 2015 Manisha Mishra, Sohina Singh and Arpita Goyal, 2015.*



AVAILABLE TOOLS AND METHODS WHICH MAY HELP TO MAKE BUSINESS MORE SUSTAINABLE

I. ENVIRONMENTAL MANAGEMENT

1.1. Environmental Management System – ISO 14001

ISO 14001 is the most established international standard for environmental management. Implementing an environmental management system will help to:

- Comply with environmental rules and regulations;
- Analyze activities and establish actual and potential environmental impacts;
- Measure, control and reduce waste;
- Meet supply chain requirements;
- Reduce operating costs by discovering and implementing more sustainable practices.

1.2. Sustainable Events Management – ISO 20121

It is a specific standard helps organizations in events management, sporting, training businesses, convention centers to:

- Minimize negative impacts on the environment, communities and local economy;
- Cut costs through better energy and waste management;
- Protect against any negative publicity;
- Create a positive image for event participants and organizers;

Be in a position to demonstrate your green business model and credentials.

II. ENVIRONMENTAL LABELING

The tool that helps business to become more sustainable and competitive in national and international markets. The tool helps private and public procurers to select/choose more sustainable products.

Eco-labeling aims to inform the consumer in a concise and accessible form about the verified and confirmed environmental characteristics or advantages of the labeling products.

Eco-labeling has a wide scope of application - from food, industrial products, construction materials to real estate and services. General principles and methods of their application are set out in the international standards of ISO 14020 "Eco-labeling and declarations". This series of standards was introduced into the Ukrainian national standardization system in 2002-2003 (direct application).

In accordance with the standards of the ISO 14020 series, eco-labeling is divided into three main types for:

- a) voluntary, multiple-criteria based, third party program that awards a license that authorises the use of environmental labels on products indicating overall environmental preferability of a product within a particular product category based on life cycle considerations (type I).
- b) informative environmental self-declaration claims (type II);
- c) voluntary programs that provide quantified environmental data of a product, under pre-set categories of parameters set by a qualified third party and based on life cycle assessment, and verified by that or another qualified third party (type III).

Type I determines the competitive advantage of the object of environmental certification regarding its impact on the state of the environment and human health at all stages of his/her life cycle. An object of certification may be a finished product, service or facility construction. This type of labeling provides for the establishment of environmental criteria for each product category to assess its benefits and is more reliable, since the right to its application is provided by a third party (conformity assessment body) based on the results of the evaluation.

Eco-labeling of type I is a guide for the end user, customer, supplier or retailer, a retailer focused on safer products with improved functional characteristics. The principles and methods of its application are set out in the international standard ISO 14024.

According to ISO 14024, environmental claims about product benefits can be presented in the form:

- a sign of eco-labeling, belonging to the legal rights of conformity assessment bodies (under the sign of eco-labeling must be indicated the environmental certificate number);
- phrases that indicate a certain environmental advantage of the certification object validated by the certification body.

Since 2003, the system of environmental certification and labeling has started to develop in accordance with the requirements of DSTU ISO 14024 as an independent and voluntary system in Ukraine. Its development was focused at promoting the formation of a market for products with improved environmental characteristics according to established evaluation criteria.

As a rule, the requirements of environmental criteria cover (but are not limited to follows):

- the effectiveness of environmental policy and the effectiveness of managing the environmental aspects of a life cycle of product;
- indicators of energy efficiency, physical and technical characteristics, durability, restriction or prohibition of the application of parts on environmental and human health risk factors in accordance with Regulation No. 1907/2006 of the European Parliament and of the EU Council of December 18, 2006 on registration, assessment, authorization and restriction of chemicals (REACH) (for industrial products);
- level of contamination of natural raw materials with toxic elements containing GMOs and hazardous impurities (for food, fabrics, cosmetics);

- indicators of specific activity of radionuclides;
- indicators of energy intensity of the technological process of production;
- indicators of consumption of water and other resources in the production process;
- indicators of environmental impacts of production activities and volumes creating wastes of production and consumption.

Type II labeling gives an idea of a certain characteristic, which is associated with environmental impacts, which may be useful for operation, maintenance, repair or disposal. Labeling of II type refers to self-declarations, that is, statements that do not require additional independent third-party assessment (certification). Phrases of such statements, their interpretation, methods of justifying their application and warnings regarding misleading consumers are set out in the international standard ISO 14021.

According to the standard ISO 14021 application of phrases:

- is fit for compost;
- is capable to decompost;
- a demountable construction;
- a product with extended shelf life;
- recovered energy;
- is fit suitable for recycling;
- a content of recycled materials;
- a recycled material;
- a recovered material;
- reduced power consumption;
- reduced the use of resources;

- reduced water consumption;
- is fit for reuse;
- is fit for refilling;
- low-waste

is recommended to indicate certain environmental characteristics of product.

These phrases are classified as "ecological self-declarations", or type II of environmental labeling, and should be used together with an explanatory supplement to prevent misleading interpretations as to their meaning. Recommendations for explanatory additions are defined in the ISO 14021 standard.

Type III environmental declarations present quantified environmental information on the life cycle of a product to enable comparisons between products fulfilling the same function. Such declarations

- are provided by one or more organizations,
- are based on independently verified life cycle assessment (LCA) data, life cycle inventory analysis (LCI) data or information modules in accordance with the ISO 14040 series of standards and, where relevant, additional environmental information,
- are developed using predetermined parameters, and
- are subject to the administration of a programme operator, such as a company or a group of companies, industrial sector or trade association, public authorities or agencies, or an independent scientific body or other organization.

Type III environmental declarations as described in this International Standard are primarily intended for use in business-to-business communication, but their use in business-to-consumer communication is not precluded. It is recognized that a developer of a Type III environmental declaration

cannot precisely determine the audience. However, it is important to consider the information needs of different purchaser or user groups, for instance large businesses, small and medium sized enterprises (SMEs), public procurement agencies and consumers. Those responsible for developing Type III environmental declarations and programmes based on this International Standard will need to pay due attention to the level of awareness of the target audience.

In programmes based on this International Standard, the organization making the declaration will be required to ensure that data are independently verified either internally or externally. This could, but does not necessarily, mean third-party verification except in the case of business-to-consumer declarations. ISO provides a general definition for "certification" (procedure by which a third party gives written assurance that a product or process conforms to specified requirements). Nevertheless, "certification" is understood and conducted differently in different regions. To avoid confusion, this International Standard uses the term "third-party verification" instead of "certification". However, at the moment there is no body that does the third-party verification in Ukraine.

Harmonization of general programme instructions and particularly product category rules (PCR) are encouraged between programmes to meet the principle of comparability. This includes mutual recognition of rules with respect to PCR development, PCR review and verification procedures, administrative procedures and declaration format. To ensure comparability, programme operators are encouraged to work cooperatively to achieve harmonization of the programmes and to develop mutual recognition agreements.

In the practice of developing Type III environmental declarations, programmes or their declarations are referred to by various names such as Eco-Leaf, eco-profile, environmental declaration of product, environmental product declaration (EPD) and environmental profile.

III. ENERGY

Energy Management – ISO 50001

The latest best practice framework for energy management helps organizations better manage and maintain their energy consumption enabling them to:

- Increase energy efficiency;
- Manage risks surrounding future energy supplies;
- Cut energy bills with positive impact on the bottom line;
- Build and support corporate reputation with good environmental credentials.

IV. GREEN HOUSE GAS EMISSIONS

4.1. Carbon Management – ISO 14064

An organizational level standard which enables participation in emissions trading schemes such as European Union Emissions Trading Scheme (EU ETS).

4.2. Product Carbon Footprint/Carbon Neutrality – PAS 2050/PAS 2060

These standards help to quantify, monitor, report and verify the carbon footprint or neutrality of a specific product or service.

V. RESOURCES OPTIMIZATION

5.1. Water Footprinting – ISO 14046

A new standard which demonstrates an organization's leadership in environmental protection and helps manage and reduce water consumption.

5.2. Material Flow Cost Accounting (MFCA) – ISO 14051

A management process tool standard which helps trace all materials through production and measures the output in finished products or waste material. It provides a framework which helps develop an integrated approach to optimizing the use of materials.

5.3. Forest Stewardship Council Chain of Custody

FSC certification gives confidence to consumers that products purchased originate from well-managed forests and controlled sources. All these standards can help organizations to:

- Identify opportunities to reduce resource usage and operational costs;
- Improve green credentials;
- Reduce business costs associated with inefficient use of materials, energy, systems and waste management.

VI. SOCIAL AND ETHICAL**6.1. Business Social Compliance Initiative**

BSCI is a leading business-driven initiative for companies committed to improving working conditions in the global supply chain worldwide. These standards can help organizations:

- Protect against any negative publicity;
- Prove transparency, visibility, trust and confidence in reporting through a trusted 3rd party;
- Achieve best practice in ethical employment, trading and operation;
- Maintain existing business and attract new customers and investors;

- Improve relations with workers, trade unions, NGOs and customers.

6.2. Sustainability Report Assurance

SRA processes are conducted in accordance with the globally recognized Global Reporting Initiative Guidelines (GRI), and Accountability AA 1000 Assurance Standard.

ANNEX I

CRITERIA FOR THE
SELECTED PRODUCT
GROUPS: DETAILED
DESCRIPTION

This application contains detailed explanations regarding the requirements of environmental criteria for selected product groups. It is the group of cleaning materials, which provides: all-purpose, sanitary and window cleaners, and cleaning services; the group of paints and varnishes and heat insulating materials group.

To form requirements, the standards implemented in the system of environmental certification and marking in Ukraine according to ISO 14024 are applied. The standards establish environmental criteria for products advantages, concerning the potential impacts on the environment and human health at all stages of the life cycle. These standards harmonized with European legislation and adopted in the edition of 2016.

The standards define environmental criteria, requirements and verification. Verification establishes a list of documents which a tenderer can provide in the tender documentation to verify compliance with the requirements. The relevance of these environmental criteria for the implementation of the process of strategies, plans and programs developing can be checked according to the current editions of the standards of the environmental certification and labeling system. They are reviewed once every five years. The recommended period for the subsequent revision of the standards for certain product groups is envisaged in 2021.

1.1. ENVIRONMENTAL CRITERIA ON ALL-PURPOSE,
SANITARY AND WINDOW CLEANERS

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION |
|--|--|---|
| 1. CONSTITUENT SUBSTANCES AND MIXTURES | | |
| PROHIBITED OR LIMITED CONSTITUENT SUBSTANCES AND MIXTURES | 1.1. Prohibited using substances and mixtures that have been identified as substances of very high concern and have been included in the REACH Regulation. | <ul style="list-style-type: none"> Products with a relevant Type I Ecolabel; Provision of the ingredients listed on the product label, the safety data sheet (SDS), the manufacturer's website and any other relevant technical data sheets, along with their CAS-Number (where available) and a declaration that none of the listed ingredients are on the candidate list. |
| | <p>1.2. Prohibited using ingredients that are classified with any of the Hazard Statements or Risk-phrases, or combinations thereof.</p> <p>These criteria do not apply to biocides, which are dealt with separately below:</p> <ul style="list-style-type: none"> EUH029, EUH031, EUH032 (contact with water or acids liberates toxic gases); R29, R31, R32 (contact with water or acids liberates toxic gases); H300, H301, H304, H310, H311, H330, H331, H370, H371, H372, H373 (toxic, fatal or may cause organ damage); R23, R24, R25, R26, R27, R28, R65, R39/23, R39/24, R39/25, R39/26, R39/27, R39/28, R48/20, R48/21, R48/22, R48/23, R48/24, R48/25, R68/20, R68/21, R68/22 (toxic, very toxic or irreversible effects); H317, H334 (sensitising), except for enzymes; R42, R43 (sensitising), except for enzymes; H340, H341 (mutagenic); | <ul style="list-style-type: none"> Products with a relevant Type I Ecolabel; For each product offered, all substances contained above 0.01% by weight of the final product must be listed, together with their CAS Number (where available) and any Hazard Statements or Risk-phrases with which they are classified. |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION |
|------------------------|--|---|
| | <ul style="list-style-type: none"> R46, R68 (mutagenic); H350, H350i, H351 (carcinogenic); R40, R45, R49 (carcinogenic); H360D, H360F, H360FD, H360Fd, H360Df, H361f, H361d, H361fd, H362 (toxic for reproduction); R60, R61, R62, R63, R64 (toxic for reproduction); EUH070 (toxic by eye contact); R39-41 (toxic by eye contact); H400, H410, H411, H412 (except for fragrances), H413 (harmful to aquatic organisms); R50, R50/53, R51/53, R52/53 (except for fragrances), R53 (harmful to aquatic organisms); EUH059 (hazardous to the ozone layer); R59 (dangerous for the ozone layer); | |
| | 1.3. Surfactants classified as H400 or R50 are allowable provided the concentration in the product is <25%/M where M is the M-factor. | <ul style="list-style-type: none"> Products with a relevant Type I Ecolabel; |
| | <p>1.4. Phosphorus.</p> <p>Limits for use:</p> <p><i>All-purpose cleaners:</i> 0.02 g of the dosage of the product recommended by the manufacturer for 1 l of washing water for cleaners that are diluted before use or 0.2 g per 100 g of product for all purpose cleaners for products that are used without dilution.</p> <p><i>For sanitary cleaners</i>–1g per 100g of product</p> <p><i>For window cleaners</i> – prohibited in use.</p> | <ul style="list-style-type: none"> Products with a relevant Type I Ecolabel; The total quantity of elementary phosphorus must be given (per functional unit). |
| | 1.5. Phosphates must not be included in the product. | The total quantity of phosphates must be given. |
| | 1.6. Fragrances in hand dishwashing detergents for professional use must not be included in the product. | For hand dishwashing detergents for professional use, all fragrances contained above 0.01% by weight of the final product must be listed. |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION |
|------------------------|---|---|
| | 1.7. Biocides must not be included in the product, unless used as preservatives. | <ul style="list-style-type: none"> Products with a relevant Type I Ecolabel; |
| | <p>1.8. Biocides must not be included in the product which are classified as H410 or R50/53 or H411 or R51/53 in accordance with Directive 67/548/EC, Directive 1999/45/EC or Regulation (EC) No 1272/2008, unless they are not potentially bio-accumulative.</p> <p>In this context, a biocide is considered to be potentially bioaccumulative if the log Pow (log octanol/water partition coefficient) is > or = to 3.0 (unless the experimentally determined BCF < or = to 100).</p> | <ul style="list-style-type: none"> The name and function of all biocides must be listed. For all biocides classified as H410 or R50/53 or H411 or R51/53 the log Pow or BCF must be given. |
| 2. TOXICITY | <p>Limits for the critical dilution volume (CDVchronic) of the product:</p> <p>2.1. For products which are diluted with water prior to use, the CDVchronic of the recommended dose expressed for 1 litre of washing water shall not exceed 18,000 litres.</p> <p>2.2. For products which are used without dilution, the CDVchronic for 100 g of the product shall not exceed 52,000 litres.</p> <p>2.3. For sanitary cleaners –the CDVchronic for 100 g of the product shall not exceed 80,000 litres.</p> <p>2.4. For window cleaners – the CDVchronic for 100 g of the product shall not exceed 4,800 litres.</p> <p>2.5. For hand dishwashing detergents – the CDVchronic of the recommended dose for preparing 1 litre of dishwashing water for cleaning of normally soiled dishes shall not exceed 3,800 litres.</p> <p>2.6. For heavy-duty laundry detergents and colour-safe detergents (all types) the CDVchronic shall not exceed 35,000 litres per kg wash.</p> <p>2.7. For low-duty laundry detergents (all forms) the CDVchronic shall not exceed 20,000 litres per kg wash.</p> <p>2.8. For pre-treatment stain removers the CDVchronic shall not exceed 3,500 litres per kg wash.</p> <p>2.9. For dishwasher detergents – the CDVchronic shall not exceed 25,000 litres per wash.</p> | <ul style="list-style-type: none"> Products with a relevant Type I Ecolabel; Other proofs as a technical dossier of the manufacturer or a test report from a recognised body. |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION | | | | | | | | | | | | | | | | | | | | | | | | |
|---|--|--|--------------------------------|---------------------------------|------------------------|-------|-------|-------------------|------|------|---------------------|------|------|---------------------------------------|------|------|---------------------------|-------|-------|-----------------------|------|------|-------------------|------|------|---|
| | <p>2.10. For multi-functional dishwasher detergents the CDVchronic shall not exceed 30,000 litres per wash.</p> <p>2.11. For rinse aids the CDVchronic shall not exceed 10,000 litres per wash.</p> | | | | | | | | | | | | | | | | | | | | | | | | | |
| 3. AEROBIC AND/OR ANAEROBIC NON-BIODEGRADABLE ORGANIC MATERIAL | <p>3.1. The product's total content of aerobic (aNBO) non-biodegradable organic materials must not exceed the limits stated below per litre of in-use solution. The product's total content of anaerobic (anNBO) non-biodegradable organic materials must not exceed the limits stated below per litre of in-use solution.</p> <p>aNBO and anNBO values are calculated for all organic substances in the detergent.</p> <p><i>Threshold values for aNBO and anNBO</i></p> <table border="1"> <thead> <tr> <th>Market /category</th> <th>aNBO (g/litre in-use solution)</th> <th>anNBO (g/liter in-use solution)</th> </tr> </thead> <tbody> <tr> <td>Concentrated, consumer</td> <td>0.100</td> <td>0.100</td> </tr> <tr> <td>RTU WC, consumer*</td> <td>2.10</td> <td>6.00</td> </tr> <tr> <td>RTU other, consumer</td> <td>2.00</td> <td>2.00</td> </tr> <tr> <td>RTU window, consumer and professional</td> <td>2.00</td> <td>2.00</td> </tr> <tr> <td>Concentrated professional</td> <td>0.045</td> <td>0.250</td> </tr> <tr> <td>RTU WC, professional*</td> <td>2.25</td> <td>30.0</td> </tr> <tr> <td>RTU, professional</td> <td>0.70</td> <td>0.70</td> </tr> </tbody> </table> | Market /category | aNBO (g/litre in-use solution) | anNBO (g/liter in-use solution) | Concentrated, consumer | 0.100 | 0.100 | RTU WC, consumer* | 2.10 | 6.00 | RTU other, consumer | 2.00 | 2.00 | RTU window, consumer and professional | 2.00 | 2.00 | Concentrated professional | 0.045 | 0.250 | RTU WC, professional* | 2.25 | 30.0 | RTU, professional | 0.70 | 0.70 | <ul style="list-style-type: none"> Calculation of aNBO and anNBO for the product; Reference to the DID-list, dated 2007 or later. If the substance is not contained in the DID-list, the parameters must be calculated using the guide-lines contained in part B of the DID-list and the associated documentation must be enclosed. |
| Market /category | aNBO (g/litre in-use solution) | anNBO (g/liter in-use solution) | | | | | | | | | | | | | | | | | | | | | | | | |
| Concentrated, consumer | 0.100 | 0.100 | | | | | | | | | | | | | | | | | | | | | | | | |
| RTU WC, consumer* | 2.10 | 6.00 | | | | | | | | | | | | | | | | | | | | | | | | |
| RTU other, consumer | 2.00 | 2.00 | | | | | | | | | | | | | | | | | | | | | | | | |
| RTU window, consumer and professional | 2.00 | 2.00 | | | | | | | | | | | | | | | | | | | | | | | | |
| Concentrated professional | 0.045 | 0.250 | | | | | | | | | | | | | | | | | | | | | | | | |
| RTU WC, professional* | 2.25 | 30.0 | | | | | | | | | | | | | | | | | | | | | | | | |
| RTU, professional | 0.70 | 0.70 | | | | | | | | | | | | | | | | | | | | | | | | |
| 4. PACKAGING | <p>4.1. The weight utility ratio (WUR) for the primary packaging must not exceed the following values:</p> <ul style="list-style-type: none"> For concentrated products, including liquid concentrates and solids. that are diluted in water | <ul style="list-style-type: none"> Declaration/documentation from the packaging manufacturer regarding material | | | | | | | | | | | | | | | | | | | | | | | | |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION |
|------------------------|---|---|
| | <p>prior to use – WUR 1.20 g packaging per litre use solution (washing water).</p> <ul style="list-style-type: none"> For ready-to-use products i.e. products used without further dilution – WUR 150 g packaging per litre use solution (washing water). For laundry detergents: The weight utility ratio (WUR) for the primary packaging must not exceed the following values: powders – WUR 1.2 g/kg wash and others (e.g. liquids, gels, tablets, capsules) – WUR 1.5 g/kg wash. | <ul style="list-style-type: none"> type of packaging components (e.g. lid, spray nozzle, bottle and label). Calculation of the weight-to-utility ratio (WUR) and documentation regarding reuse of the packaging, if applicable. Declaration from the packaging manufacture regarding the content of recycled materials (if recycled materials are used). If $t > 1$: documentation demonstrating how many times the packaging is re-used for the same function (sales statistics or equal documentation). |
| | 4.2. The cardboard packaging shall consist of ≥ 50 –80% recycled material. | <ul style="list-style-type: none"> Products with a relevant Type I Ecolabel; Other appropriate proofs: technical dossier of the manufacturer or a test report from a recognised body. |
| | 4.3. Sprays containing propellants must not be used. | Written declaration confirming that no propellants are used. |
| | 4.4. Products packaged as trigger sprays must be sold as part of a refillable system. | Written declaration confirming the trigger sprays are refillable, together with details of how to obtain refills and their prices. |
| | 4.5. Plastic packaging (including caps, lids and pumps) and labels containing PVC or plastic based on other types of chlorinated materials must not be used. | Data sheet or declaration specifying the plastics that are used (including labels and caps). |
| | 4.6. DIN labelling To facilitate identification for recycling, plastic bottles | Documentation of primary packaging demonstrating that marking complies with DIN |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION |
|------------------------|---|--|
| | that are used as packaging must be marked in accordance with DIN 6120, section 2, ISO 11469:2000 or equivalent standard. Caps, lids and pumps are exempt from this requirement | 6120 or equivalent marking regulations. Images of the product marking or data sheet specifying the marking. Marking may also be specified on the submitted label. |
| 5. CONSUMPTION | <p>5.1. All products must be delivered with clear dosing instructions.</p> <p>The information text on the packaging must comply with the regulation 648/2004/EC and 907/2006/EC on detergents.</p> <p>Clear user instruction as to use of the product.</p> <p>Clear instruction regarding area of application.</p> <p>If the product requires dilution before use, the recommended dose at a normal level of soiling/normal use must be stated clearly on the packaging.</p> <p>In the case of consumer products, for example, the dose may be shown as x number of ml equivalent to y capsful per z number litres of water.</p> <p>In the case of products intended for use by professional users, the dose may be specified as, for example, x number of ml equivalent to y strokes of the pump or number of lines on the dosing equipment per z litres of water. The information sheet or technical datasheet must state the recommended dispensing device (e.g. pump, graduated cylinder, pipette or similar).</p> <p>Information on the recommended wash temperatures should be Provided for laundry detergents.</p> | <p>Label, draft of the label or copy of the information (information text and user instructions) on the primary packaging and/or technical product data sheet (if there is one). The information on the label and/or product data sheet shall be provided in the local language.</p> |
| | <p>5.2. Dosage requirements</p> <p>The recommended dosage for a laundry detergents for a water hardness of 2.5 mmol CaCO₃/l shall not exceed the following amounts for normally soiled textiles (heavy duty detergents, colour-safe detergents) and lightly soiled textiles (low-duty detergents) respectively.</p> <ul style="list-style-type: none"> Heavy-duty laundry detergent – 17.0 g/kg wash (powders/tablets) or 17.0 ml/kg wash (liquids); | <p>The recommended dosage for medium water hardness must be provided for normally soiled textiles and lightly soiled textiles. Where the recommended dosage is per load, this should relate to a 4.5 kg (dry textile) load for heavy-duty detergents and colour-safe detergents and a 2.5 kg (dry textile) load for low-duty detergents.</p> |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION |
|------------------------|--|--|
| | <ul style="list-style-type: none"> Colour-safe detergent – 17.0 g/kg wash (powders/tablets) or 17.0 ml/kg wash (liquids); Low-duty laundry detergent – 17.0 g/kg wash (powders/tablets) or 17.0 ml/kg wash (liquids). If recommendations for both prewash and subsequent wash apply, the total recommended dosage (prewash and subsequent wash) shall comply with the maximum dosage. | |
| 6. PRODUCTION | <p>6.1. Energy conservation and resources use – energy and resources saving measures and the rational use of primary/secondary resources may be implemented into production process.</p> <p>6.2. Emissions/discharges of pollutants into the environment – Indicators of environment pollution and waste accumulation (including wastewater) should be at least – within the limits; desirable – at least above the limits.</p> <p>6.3. Environmental management system; sustainable production and consumption.</p> | <p>Appropriate means of proofs: written declarations, certifications and labeling.</p> <p>An environmental management system (such as EMAS, or ISO 14001) if covering and attesting environmental management capacities as laid down in the selection criteria, shall be recognised as evidence of compliance, as will other evidence of equivalent environmental management measures.</p> |

Source: adapted from the COY OEM 08.002.12.065:2016

1.2. ENVIRONMENTAL CRITERIA FOR CLEANING SERVICES

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION |
|--|--|---|
| 1. CONSTITUENT SUBSTANCES AND MIXTURES | 1.1. Products used by the cleaning company must meet the relevant criteria as mentioned above. | The tenderer must supply a list of the products that will be used, together with proof of compliance with the specifications for criteria mentioned above. |
| 2. CONTRACT PERFORMANCE CLAUSES | 2.1. After the first six months of the contract, and thereafter at the end of every year of the contract, a balance must be submitted by the contractor indicating the name and quantity of the cleaning products used. For any products not mentioned in the initial bid the contractor shall provide the required proof of compliance with the technical specifications. | Reports listing the products used. The contractor should also be able to justify the cleaning frequency and range of products used. |
| | 2.2. Staff and organisation All cleaning staff employed in carrying out the service must be regularly trained for their various tasks. This training should cover cleaning agents, methods, equipment and machines used; waste management and aspects of health, safety and the environment. | A record of these training measures (introductory/vocational training) should be kept at the disposal of the contracting authority. |
| | 2.3. In agreement with the contracting authority, precise work instructions on environmental protection and on health and safety standards in carrying out the service shall be produced and displayed in the buildings in a way that they can be consulted by cleaning staff at any time. | Displayed instructions to be made available for inspection by the contracting authority. |
| | 2.4. A facility manager, foreman/forewoman or co-ordinator should be nominated to organise and supervise the cleaning. The appointed person should stay in contact with the contracting authority and be reachable during working hours. The facility manager, foreman/forewoman or coordinator has to be sufficiently trained in the fields of occupational health and safety standards, application techniques and environmental issues. | The contractor shall supply the name of the responsible member of staff, details of their qualifications and training, and contact details. |
| | 2.5. Environmentally friendly cleaning techniques The contractor should use reusable microfibre cloths where appropriate. | Within 6 months of the beginning of the contract, the contractor will provide a report to the contracting authority on the practice of using microfibre cloths. |

Source: adapted from the COY OEM 08.002.12.065:2016

1.3. ENVIRONMENTAL CRITERIA FOR PAINTS AND VARNISHES

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION | | | | | | | | | | | |
|--|---|--|---------------------|-----------------------------------|---|----|--|----|--|----|--|----|--|
| 1. PRODUCT FORMULATION | <p>1.1. White pigment content</p> <p>White pigment content (white inorganic pigments with a refractive index higher than 1,8) per m² of dry film:</p> <ul style="list-style-type: none"> for indoor products - equal to or lower than 36 g/m² and for outdoor products - 38 g/m², with the exception of indoor wall paints claiming Class 1 wet scrub resistance (WSR) - for which 40 g/m². Undercoats and primers - equal to or lower than 25g/m². <p><i>This requirement does not apply to transparent and semi-transparent coatings.</i></p> | <ul style="list-style-type: none"> Documentation for the paint formulation, supported by testing results. | | | | | | | | | | | |
| | <p>1.2. Content of Volatile Organic Compounds (VOCs)</p> <p>Limits for VOCs are given in table 1.</p> <p>The content of VOCs shall be determined for the ready to use product and shall include any recommended additions prior to application such as colourants and/or thinners.</p> <p>Table 1 - VOC content limits</p> <table border="1"> <thead> <tr> <th>Product Description</th> <th>VOCs limits (g/l including water)</th> </tr> </thead> <tbody> <tr> <td>1. Interior matt walls and ceilings (Gloss <25@60°)</td> <td>10</td> </tr> <tr> <td>2. Interior glossy walls and ceilings (Gloss>25@60°)</td> <td>40</td> </tr> <tr> <td>3. Exterior walls of mineral substrate</td> <td>25</td> </tr> <tr> <td>4. Interior/Exterior trim and cladding paints for wood and metal</td> <td>80</td> </tr> <tr> <td>5. Interior trim varnishes and woodstains, including opaque woodstains</td> <td>65</td> </tr> </tbody> </table> | | Product Description | VOCs limits (g/l including water) | 1. Interior matt walls and ceilings (Gloss <25@60°) | 10 | 2. Interior glossy walls and ceilings (Gloss>25@60°) | 40 | 3. Exterior walls of mineral substrate | 25 | 4. Interior/Exterior trim and cladding paints for wood and metal | 80 | 5. Interior trim varnishes and woodstains, including opaque woodstains |
| Product Description | VOCs limits (g/l including water) | | | | | | | | | | | | |
| 1. Interior matt walls and ceilings (Gloss <25@60°) | 10 | | | | | | | | | | | | |
| 2. Interior glossy walls and ceilings (Gloss>25@60°) | 40 | | | | | | | | | | | | |
| 3. Exterior walls of mineral substrate | 25 | | | | | | | | | | | | |
| 4. Interior/Exterior trim and cladding paints for wood and metal | 80 | | | | | | | | | | | | |
| 5. Interior trim varnishes and woodstains, including opaque woodstains | 65 | | | | | | | | | | | | |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION | | | | | | | | | | | | | | | | |
|--|--|--|--|--|----------------|--|-------------------|--|----|----------------------------------|----|--|----|----------------------------|----|------------------|----|--|
| | <table border="1"> <tr> <td>6. Exterior trim varnishes and woodstains, including opaque woodstains</td> <td>75</td> </tr> <tr> <td>7. Interior and Exterior minimal build woodstains</td> <td>50</td> </tr> <tr> <td>8. Primers</td> <td>15</td> </tr> <tr> <td>9. Binding primers</td> <td>15</td> </tr> <tr> <td>10. One-pack performance coating</td> <td>80</td> </tr> <tr> <td>Two-pack reactive performance coatings for specific end use such as floors</td> <td>80</td> </tr> <tr> <td>Decorative effects coating</td> <td>90</td> </tr> <tr> <td>Anti-rush paints</td> <td>80</td> </tr> </table> | 6. Exterior trim varnishes and woodstains, including opaque woodstains | 75 | 7. Interior and Exterior minimal build woodstains | 50 | 8. Primers | 15 | 9. Binding primers | 15 | 10. One-pack performance coating | 80 | Two-pack reactive performance coatings for specific end use such as floors | 80 | Decorative effects coating | 90 | Anti-rush paints | 80 | |
| 6. Exterior trim varnishes and woodstains, including opaque woodstains | 75 | | | | | | | | | | | | | | | | | |
| 7. Interior and Exterior minimal build woodstains | 50 | | | | | | | | | | | | | | | | | |
| 8. Primers | 15 | | | | | | | | | | | | | | | | | |
| 9. Binding primers | 15 | | | | | | | | | | | | | | | | | |
| 10. One-pack performance coating | 80 | | | | | | | | | | | | | | | | | |
| Two-pack reactive performance coatings for specific end use such as floors | 80 | | | | | | | | | | | | | | | | | |
| Decorative effects coating | 90 | | | | | | | | | | | | | | | | | |
| Anti-rush paints | 80 | | | | | | | | | | | | | | | | | |
| | <p>1.3. Product hazard labeling</p> <p>The final product shall not be classified and labelled as being acutely toxic, a specific target organ toxicant, a respiratory or skin sensitizer, or carcinogenic, mutagenic or toxic for reproduction hazardous to the environment, in accordance with Regulation (EC) No 1272/2008 (CLP Regulation), as indicated in Table 2 or shall not carry a precautionary statements required for products with these classifications.</p> <p>Table 2 - Final product classification</p> <table border="1"> <tr> <td>Acute toxicity</td> <td>Acute Tox. 1 Acute Tox. 2 Acute Tox. 3</td> </tr> <tr> <td>Specific target organ toxicity – repeated exposure</td> <td>STOT RE 1 or 2</td> </tr> <tr> <td>Specific target organ toxicity – single exposure</td> <td>STOT SE 1, 2 or 3</td> </tr> </table> | Acute toxicity | Acute Tox. 1 Acute Tox. 2 Acute Tox. 3 | Specific target organ toxicity – repeated exposure | STOT RE 1 or 2 | Specific target organ toxicity – single exposure | STOT SE 1, 2 or 3 | <ul style="list-style-type: none"> Appropriate documentation confirming that the products to be supplied are not classified and/or do not require labelling with the listed hazards. <p>The documentation can include calculations of mixture classification carried out in accordance with the rules provided in the CLP Regulation and/or Safety Data Sheets.</p> | | | | | | | | | | |
| Acute toxicity | Acute Tox. 1 Acute Tox. 2 Acute Tox. 3 | | | | | | | | | | | | | | | | | |
| Specific target organ toxicity – repeated exposure | STOT RE 1 or 2 | | | | | | | | | | | | | | | | | |
| Specific target organ toxicity – single exposure | STOT SE 1, 2 or 3 | | | | | | | | | | | | | | | | | |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION | | | | | | | | | | | | |
|--|--|-----------------|---------------------------------|--|--|---|---------------------------------|--------------------------------------|---|---------------------------|-------------------------|--------------------|------------------------|--|
| | <table border="1"> <tr> <td>Carcinogenicity</td> <td>Carc. 1A Carc. 1B Carc. 2</td> </tr> <tr> <td>Germ cell mutagenicity</td> <td>Muta. 1A Muta. 1B Muta. 2</td> </tr> <tr> <td>Reproductive toxicity</td> <td>Repr. 1A Repr. 1B Repr. 2</td> </tr> <tr> <td>Hazardous to the aquatic environment</td> <td>Aquatic Acute 1 Aquatic Chronic 1 or 2 Aquatic Chronic toxicity 3</td> </tr> <tr> <td>Respiratory Sensitization</td> <td>Resp. Sens. 1, 1A or 1B</td> </tr> <tr> <td>Skin sensitization</td> <td>Skin Sens. 1, 1A or 1B</td> </tr> </table> | Carcinogenicity | Carc. 1A Carc. 1B Carc. 2 | Germ cell mutagenicity | Muta. 1A Muta. 1B Muta. 2 | Reproductive toxicity | Repr. 1A Repr. 1B Repr. 2 | Hazardous to the aquatic environment | Aquatic Acute 1 Aquatic Chronic 1 or 2 Aquatic Chronic toxicity 3 | Respiratory Sensitization | Resp. Sens. 1, 1A or 1B | Skin sensitization | Skin Sens. 1, 1A or 1B | |
| Carcinogenicity | Carc. 1A Carc. 1B Carc. 2 | | | | | | | | | | | | | |
| Germ cell mutagenicity | Muta. 1A Muta. 1B Muta. 2 | | | | | | | | | | | | | |
| Reproductive toxicity | Repr. 1A Repr. 1B Repr. 2 | | | | | | | | | | | | | |
| Hazardous to the aquatic environment | Aquatic Acute 1 Aquatic Chronic 1 or 2 Aquatic Chronic toxicity 3 | | | | | | | | | | | | | |
| Respiratory Sensitization | Resp. Sens. 1, 1A or 1B | | | | | | | | | | | | | |
| Skin sensitization | Skin Sens. 1, 1A or 1B | | | | | | | | | | | | | |
| | <p>1.4. Hazardous ingredients</p> <p>The paint shall not contain the following substances at or greater than the concentration limits and in accordance with the restrictions in Table 3.</p> <p>Table 3 - Paint hazardous ingredient requirements</p> <table border="1"> <thead> <tr> <th>Ingredient</th> <th>Concentration Limit</th> </tr> </thead> <tbody> <tr> <td>Preservatives: <ul style="list-style-type: none"> Preservatives shall be non-bio-accumulative and any associated risk mitigation measures shall be implemented. </td> <td>Log Kow ≤ 3.2 or Bioconcentration Factor (BCF)</td> </tr> </tbody> </table> | Ingredient | Concentration Limit | Preservatives: <ul style="list-style-type: none"> Preservatives shall be non-bio-accumulative and any associated risk mitigation measures shall be implemented. | Log Kow ≤ 3.2 or Bioconcentration Factor (BCF) | <ul style="list-style-type: none"> Appropriate documentation confirming compliance with this criterion. Compliance with maximum concentration limits established in the criteria can be verified using Safety Data Sheets obtained from raw material suppliers and Safety Data Sheets for mixture. <p>Additionally:</p> <ul style="list-style-type: none"> for formaldehyde: a test report shall be provided based on the | | | | | | | | |
| Ingredient | Concentration Limit | | | | | | | | | | | | | |
| Preservatives: <ul style="list-style-type: none"> Preservatives shall be non-bio-accumulative and any associated risk mitigation measures shall be implemented. | Log Kow ≤ 3.2 or Bioconcentration Factor (BCF) | | | | | | | | | | | | | |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION |
|------------------------|--|---|
| | <ul style="list-style-type: none"> Dry film preservatives shall not be used with the exception of areas of: <ul style="list-style-type: none"> high humidity outdoor paints. | <ul style="list-style-type: none"> use of the Merckoquant method or high-performance liquid chromatography (HPLC) method (See Annex 3), |
| | Alkylphenoethoxylates: Alkylphenoethoxylates (APEOs) and their derivatives shall not be used in any paint or varnish preparations or formulation. | <ul style="list-style-type: none"> for metals: for which a test report shall be provided based on the use of ISO 3856 series or equivalent, for preservatives: if requested by the contracting authority, a test report shall be provided confirming that the preservatives used are non-bioaccumulative. |
| | Formaldehyde: Free formaldehyde in the white base, tinting base and worst case colour tint, with the exception of where formaldehyde donors are required or are present in polymer dispersions, in which case the following value shall apply: | |
| | Phthalates: The following phthalates shall not be intentionally added as plasticisers: <ul style="list-style-type: none"> DEHP (Bis-(2-ethylhexyl)-phthalate) BBP (Butylbenzylphthalate) DBP (Dibutylphthalate) DMEP (Bis(2-methoxyethyl) phthalate DIBP (Diisobutylphthalate) DIHP (Di-C6-8-branchedalkylphthalates) DHNUP (Di-C7-11-branchedalkylphthalates) DHP (Di-n-hexylphthalate) | |
| | Metals: Cadmium, lead, chromium VI, mercury, arsenic, selenium | |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION | | | | | | | | | | | | | | | | | | |
|---|---|------------------------------------|------------------------------------|---|--|-----------------|---|-------------------------|--|-----------|---|--|---|-------------------------------------|---|---------------------------|------------------------------------|----------------------------|---|--|
| 2. EFFICIENCY OF APPLICATION AND DURABILITY | 2.1. Spreading rate The paint shall achieve an efficient spreading rate according to the applicable performance requirement in Table 4. Table 4 - Spreading rates for specific paint products <table border="1"> <thead> <tr> <th>Type of Paint</th> <th>Spreading rate (m²/l)</th> </tr> </thead> <tbody> <tr> <td>White paints and light-coloured paints (including finishes and intermediates)</td> <td>Indoors – 8 Outdoor – 6 Indoor & outdoor - 8</td> </tr> <tr> <td>Tinting systems</td> <td>8</td> </tr> <tr> <td>Primers and undercoats:</td> <td></td> </tr> <tr> <td>a. opaque</td> <td>8</td> </tr> <tr> <td>b. with blocking/sealing, penetrating/binding properties</td> <td>6</td> </tr> <tr> <td>c. with special adhesion properties</td> <td>6</td> </tr> <tr> <td>Thick decorative coatings</td> <td>1 m² per kg of product</td> </tr> <tr> <td>Elastomeric outdoor paints</td> <td>4</td> </tr> </tbody> </table> | Type of Paint | Spreading rate (m ² /l) | White paints and light-coloured paints (including finishes and intermediates) | Indoors – 8 Outdoor – 6 Indoor & outdoor - 8 | Tinting systems | 8 | Primers and undercoats: | | a. opaque | 8 | b. with blocking/sealing, penetrating/binding properties | 6 | c. with special adhesion properties | 6 | Thick decorative coatings | 1 m ² per kg of product | Elastomeric outdoor paints | 4 | <ul style="list-style-type: none"> Test report using the following methods, or their equivalent: ISO 6504/1 (Paints and varnishes – determination of hiding power – Part 1: Kubelka-Munk method for white and light-coloured paints) ISO 6504/3 (Part 3: determination of contrast ratio (opacity) of light-coloured paints at a fixed spreading rate), NF T 30 073 for paints specially designed to give a three-dimensional decorative effect or which are characterised by a very thick coat. |
| | Type of Paint | Spreading rate (m ² /l) | | | | | | | | | | | | | | | | | | |
| White paints and light-coloured paints (including finishes and intermediates) | Indoors – 8 Outdoor – 6 Indoor & outdoor - 8 | | | | | | | | | | | | | | | | | | | |
| Tinting systems | 8 | | | | | | | | | | | | | | | | | | | |
| Primers and undercoats: | | | | | | | | | | | | | | | | | | | | |
| a. opaque | 8 | | | | | | | | | | | | | | | | | | | |
| b. with blocking/sealing, penetrating/binding properties | 6 | | | | | | | | | | | | | | | | | | | |
| c. with special adhesion properties | 6 | | | | | | | | | | | | | | | | | | | |
| Thick decorative coatings | 1 m ² per kg of product | | | | | | | | | | | | | | | | | | | |
| Elastomeric outdoor paints | 4 | | | | | | | | | | | | | | | | | | | |
| 2.2. Weathering resistance (only outdoor paints) Resistance to the possible forms of weathering-induced deterioration for masonry, wood and metal paints according to the Table 5. Paints shall be exposed to artificial test conditions for 1000 hours. Corrosion resistance for metal paints shall also include blistering. Tests should be performed on the tinting base. | <ul style="list-style-type: none"> Test results demonstrating performance of the paint according to the requirements listed in Table 5. With the exception of corrosion for metal paints the artificial weathering conditions shall reflect the conditions described in ISO 11507 or (for outdoor wood finishes) QUV accelerated weathering apparatus with cyclic | | | | | | | | | | | | | | | | | | | |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION | | | | | | | | | | | | | | | | | | | | | |
|----------------------------------|--|----------------------------------|-------------------------|------------------|-------------------|--|------------|----------|----------------------------|---------------|---|---|------------|----------|--|------------|------------|---|------------|-----------|-------------------------------------|------------|---|
| | <p>Table 5 - Weathering resistance tests</p> <table border="1"> <thead> <tr> <th>Weathering induced deterioration</th> <th>Performance requirement</th> <th>Recommended Test</th> </tr> </thead> <tbody> <tr> <td>Decrease of gloss</td> <td>Less than or equal to 30% of its initial value</td> <td>ISO 2813</td> </tr> <tr> <td>Chalking</td> <td>1.5 or better (0.5 or 1.0)</td> <td>EN ISO 4628-6</td> </tr> <tr> <td>Flaking</td> <td>Flake density 2 or less, flake size 2 or less</td> <td>ISO 4628-5</td> </tr> <tr> <td>Cracking</td> <td>Crack quantity 2 or less, crack size 3 or less</td> <td>ISO 4628-4</td> </tr> <tr> <td>Blistering</td> <td>Blister density 3 or less, blister size 3 or less</td> <td>ISO 4628-2</td> </tr> <tr> <td>Corrosion</td> <td>Rusting equal to or better than Ri2</td> <td>ISO 4628-3</td> </tr> </tbody> </table> | Weathering induced deterioration | Performance requirement | Recommended Test | Decrease of gloss | Less than or equal to 30% of its initial value | ISO 2813 | Chalking | 1.5 or better (0.5 or 1.0) | EN ISO 4628-6 | Flaking | Flake density 2 or less, flake size 2 or less | ISO 4628-5 | Cracking | Crack quantity 2 or less, crack size 3 or less | ISO 4628-4 | Blistering | Blister density 3 or less, blister size 3 or less | ISO 4628-2 | Corrosion | Rusting equal to or better than Ri2 | ISO 4628-3 | <p>exposure with UV(A) radiation and spraying according to EN 927-6 or their equivalent.</p> <ul style="list-style-type: none"> For corrosion the relevant atmospheric corrosivity categories in EN ISO 12944-2 and the accompanying procedures specified in EN ISO 12944-6, or equivalent, shall be used. Anti-rust paints for steel substrates shall be tested after 240h salt spray following ISO 9227 or equivalent. |
| Weathering induced deterioration | Performance requirement | Recommended Test | | | | | | | | | | | | | | | | | | | | | |
| Decrease of gloss | Less than or equal to 30% of its initial value | ISO 2813 | | | | | | | | | | | | | | | | | | | | | |
| Chalking | 1.5 or better (0.5 or 1.0) | EN ISO 4628-6 | | | | | | | | | | | | | | | | | | | | | |
| Flaking | Flake density 2 or less, flake size 2 or less | ISO 4628-5 | | | | | | | | | | | | | | | | | | | | | |
| Cracking | Crack quantity 2 or less, crack size 3 or less | ISO 4628-4 | | | | | | | | | | | | | | | | | | | | | |
| Blistering | Blister density 3 or less, blister size 3 or less | ISO 4628-2 | | | | | | | | | | | | | | | | | | | | | |
| Corrosion | Rusting equal to or better than Ri2 | ISO 4628-3 | | | | | | | | | | | | | | | | | | | | | |
| | <p>2.3. Fungal and algal resistance of the film (only outdoor paints)</p> <p>Exterior masonry and wood paints for which fungal and/or algal resistant properties are requested in the tender shall meet the requirements in Table 6. Only base paints shall be required to meet the criterion.</p> <p>Table 6 - Fungal and algal resistance requirements</p> <table border="1"> <thead> <tr> <th>Application</th> <th>Fungal Resistance</th> <th>Algae Resistance</th> </tr> </thead> <tbody> <tr> <td>Masonry</td> <td>Class 1 or lower</td> <td>Score of 0</td> </tr> <tr> <td>Wood</td> <td>Class 1 or lower</td> <td>Score of 0</td> </tr> </tbody> </table> | Application | Fungal Resistance | Algae Resistance | Masonry | Class 1 or lower | Score of 0 | Wood | Class 1 or lower | Score of 0 | <ul style="list-style-type: none"> Test results demonstrating compliance according to the test methods EN 15457 and/or EN 15458, or their equivalent. For coatings containing encapsulated dry-film biocides altered conditioning protocols shall also be accepted. Manufacturers shall provide information about any variation in conditioning along with test results of the EN 15457 and/or 15458 standards. | | | | | | | | | | | | |
| Application | Fungal Resistance | Algae Resistance | | | | | | | | | | | | | | | | | | | | | |
| Masonry | Class 1 or lower | Score of 0 | | | | | | | | | | | | | | | | | | | | | |
| Wood | Class 1 or lower | Score of 0 | | | | | | | | | | | | | | | | | | | | | |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION | | | | | | | | | | | | | | | | | | | | | | |
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| | <p>2.4. Abrasion resistance of floor paints</p> <p>Floor coatings and floor paints shall demonstrate an abrasion resistance not exceeding 70 mg weight loss after 1000 test cycles with a 1000 g load and a CS10 wheel according to EN ISO 7784-2.</p> | <ul style="list-style-type: none"> Test results carried out according to EN ISO 7784-2 or equivalent. | | | | | | | | | | | | | | | | | | | | | | |
| 3. EMISSION OF POLLUTANTS | <p>3.1. Content of Semi Volatile Organic Compounds (SVOCs)</p> <p>Limits of Semi Volatile Organic Compounds (SVOCs) content equal to less than the limits given in Table 7.</p> <p>Table 7 - SVOCs content limits</p> <table border="1"> <thead> <tr> <th>Product Description</th> <th>VOCs limits (g/l including water)</th> </tr> </thead> <tbody> <tr> <td>1. Interior matt walls and ceilings (Gloss <25@60°)</td> <td>30¹ / 40²</td> </tr> <tr> <td>2. Interior glossy walls and ceilings (Gloss>25@60°)</td> <td>30¹ / 40²</td> </tr> <tr> <td>3. Exterior walls of mineral substrate</td> <td>40</td> </tr> <tr> <td>4. Interior/Exterior trim and cladding paints for wood and metal</td> <td>50¹ / 60²</td> </tr> <tr> <td>5. Interior trim varnishes and woodstains, including opaque woodstains</td> <td>30</td> </tr> <tr> <td>6. Exterior trim varnishes and woodstains, including opaque woodstains</td> <td>60</td> </tr> <tr> <td>7. Interior and Exterior minimal build woodstains</td> <td>30¹ / 40²</td> </tr> <tr> <td>8. Primers</td> <td>30¹ / 40²</td> </tr> <tr> <td>9. Binding primers</td> <td>30¹ / 40²</td> </tr> <tr> <td>10. One-pack performance coating</td> <td>50¹ / 60²</td> </tr> </tbody> </table> | Product Description | VOCs limits (g/l including water) | 1. Interior matt walls and ceilings (Gloss <25@60°) | 30 ¹ / 40 ² | 2. Interior glossy walls and ceilings (Gloss>25@60°) | 30 ¹ / 40 ² | 3. Exterior walls of mineral substrate | 40 | 4. Interior/Exterior trim and cladding paints for wood and metal | 50 ¹ / 60 ² | 5. Interior trim varnishes and woodstains, including opaque woodstains | 30 | 6. Exterior trim varnishes and woodstains, including opaque woodstains | 60 | 7. Interior and Exterior minimal build woodstains | 30 ¹ / 40 ² | 8. Primers | 30 ¹ / 40 ² | 9. Binding primers | 30 ¹ / 40 ² | 10. One-pack performance coating | 50 ¹ / 60 ² | <ul style="list-style-type: none"> Test report according to ISO 11890-2 or equivalent. In principle the calculation will also be accepted as a proof of compliance, however the contracting authority reserves the right to request test results. |
| Product Description | VOCs limits (g/l including water) | | | | | | | | | | | | | | | | | | | | | | | |
| 1. Interior matt walls and ceilings (Gloss <25@60°) | 30 ¹ / 40 ² | | | | | | | | | | | | | | | | | | | | | | | |
| 2. Interior glossy walls and ceilings (Gloss>25@60°) | 30 ¹ / 40 ² | | | | | | | | | | | | | | | | | | | | | | | |
| 3. Exterior walls of mineral substrate | 40 | | | | | | | | | | | | | | | | | | | | | | | |
| 4. Interior/Exterior trim and cladding paints for wood and metal | 50 ¹ / 60 ² | | | | | | | | | | | | | | | | | | | | | | | |
| 5. Interior trim varnishes and woodstains, including opaque woodstains | 30 | | | | | | | | | | | | | | | | | | | | | | | |
| 6. Exterior trim varnishes and woodstains, including opaque woodstains | 60 | | | | | | | | | | | | | | | | | | | | | | | |
| 7. Interior and Exterior minimal build woodstains | 30 ¹ / 40 ² | | | | | | | | | | | | | | | | | | | | | | | |
| 8. Primers | 30 ¹ / 40 ² | | | | | | | | | | | | | | | | | | | | | | | |
| 9. Binding primers | 30 ¹ / 40 ² | | | | | | | | | | | | | | | | | | | | | | | |
| 10. One-pack performance coating | 50 ¹ / 60 ² | | | | | | | | | | | | | | | | | | | | | | | |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|---|--|-----------------------------------|--|-----------------------------------|------------------|---------|--------------------|--|--------|-------|--------------|--|---|----|------------------------------|-----|--|--|------------------|-----|--|--|----------------------|----|--|--|---|
| | <table border="1"> <tr> <td>Two-pack reactive performance coatings for specific end use such as floors</td> <td>50¹ / 60²</td> </tr> <tr> <td>Decorative effects coating</td> <td>50¹ / 60²</td> </tr> <tr> <td>Anti-rush paints</td> <td>60</td> </tr> </table> <p>Notes: ¹ Indoor white paints and varnishes ² Indoor tinted paints / outdoor paints and varnishes</p> | Two-pack reactive performance coatings for specific end use such as floors | 50 ¹ / 60 ² | Decorative effects coating | 50 ¹ / 60 ² | Anti-rush paints | 60 | | | | | | | | | | | | | | | | | | | | | |
| Two-pack reactive performance coatings for specific end use such as floors | 50 ¹ / 60 ² | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Decorative effects coating | 50 ¹ / 60 ² | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Anti-rush paints | 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <p>3.2. Indoor Air Quality: Indoor paints</p> <p>Products with content or emissions lower than the limits indicated in Table 8.</p> <p>Table 8 - Indoor paint hazardous content and emissions to air limits</p> <table border="1"> <thead> <tr> <th rowspan="2">Product</th> <th rowspan="2">Concentration limit (ppm)</th> <th colspan="2">Emissions to air limits (mg/m³)</th> </tr> <tr> <th>3 days</th> <th>28 days</th> </tr> </thead> <tbody> <tr> <td>TVOCs¹</td> <td></td> <td>10 000</td> <td>1 500</td> </tr> <tr> <td>Formaldehyde</td> <td></td> <td>-</td> <td>60</td> </tr> <tr> <td>Isothiazolinones - sum total</td> <td>500</td> <td></td> <td></td> </tr> <tr> <td>MIT²</td> <td>200</td> <td></td> <td></td> </tr> <tr> <td>CIT/MIT³</td> <td>15</td> <td></td> <td></td> </tr> </tbody> </table> <p>1 Total Volatile Organic Compounds 2 Methylisothiazolinone 3 5-chloro-2-methyl-4-isothiazolin-3-one (CIT) / 2-methyl-4-isothiazolin-3-one (MIT) in a ratio of 3:1</p> | Product | Concentration limit (ppm) | Emissions to air limits (mg/m ³) | | 3 days | 28 days | TVOCs ¹ | | 10 000 | 1 500 | Formaldehyde | | - | 60 | Isothiazolinones - sum total | 500 | | | MIT ² | 200 | | | CIT/MIT ³ | 15 | | | <p>The tenderer shall verify that one or more of the selected technical improvements have been met based on analytical testing according to EN 16402 or equivalent for TVOCs and formaldehyde. For verification of isothiazolinones content Safety Data Sheets shall be provided.</p> |
| Product | Concentration limit (ppm) | | | Emissions to air limits (mg/m ³) | | | | | | | | | | | | | | | | | | | | | | | | |
| | | 3 days | 28 days | | | | | | | | | | | | | | | | | | | | | | | | | |
| TVOCs ¹ | | 10 000 | 1 500 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Formaldehyde | | - | 60 | | | | | | | | | | | | | | | | | | | | | | | | | |
| Isothiazolinones - sum total | 500 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| MIT ² | 200 | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| CIT/MIT ³ | 15 | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION |
|---|---|--|
| 4. CONSUMER INFORMATION, PACKAGING AND TAKE-BACK SYSTEMS | <p>4.1. Information on the packaging</p> <p>The following information must be placed on the packaging or enclosed with each individual product:</p> <ul style="list-style-type: none"> The purpose, substrate and other conditions of application for which the product is intended. This shall include advice on preparation, e.g. correct preparation of the substrate or temperature. Estimate of "normal" coverage (e.g. l/m², g/m or equivalent). Recommended preventive safety measures for users, such as safety equipment and ventilation (particularly when working in enclosed spaces or similar). Recommendations on cleaning used tools and how waste products from cleaning can best be disposed of (to limit water pollution). These recommendations are to be adapted to the product types and areas of application. Pictograms shall also be used where appropriate. Recommendations on how the product is to be stored after opening, including safety instructions where relevant. Recommendations on the disposal of residual product and packaging. | <p>Label, product sheet or equivalent and description of how the information accompanies each product.</p> |
| | <p>4.2. Packaging</p> <p>Packaging must be resealable, unless documentation can be provided that the entire product will always be used in one go.</p> <p>The type of plastic material must be documented by the manufacturer. Product packaging and labels must not contain halogenated plastic.</p> <p>Any surface coating of the packaging must not contain halogens.</p> <p>Metal packaging must not be used for packs of less than 1 litre, unless this is justified by special health and environmental arguments.</p> | <p>Photo of the packaging showing that the packaging can be resealed. Or descriptions of whether the entire product is always used in one go.</p> <p>Description of the packaging type and size.</p> <p>Declaration from the packaging manufacturer that no halogenated plastics have been used or product data sheets clearly showing that the requirement is met by all parts of the packaging, including lids, caps, etc.</p> |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION |
|------------------------|---|---|
| | | <p>Declaration from the packaging manufacturer that the packaging has not been surface coated, or that the surface coating does not contain halogens.</p> <p>Declaration from the label producer that no halogenated plastics have been used.</p> |
| | <p>4.3. Take-back systems</p> <p>Relevant national regulations, legislation and agreements within the sector regarding take-back systems for products and packaging shall be complied with in all the countries where the Ecolabelled products are marketed. Relevant take-back systems are PYR (Fi), Grønt punkt (No) and FTi AB or TMR AB (Sw). Other relevant take-back systems may also be approved, if it is documented that the system is equivalent to the above mentioned systems.</p> | <p>Declaration from the applicant regarding affiliation to existing recycling/processing agreements. Appendices 1 can be used. If other system than the mentioned is used, then documentation showing that the system is equivalent must be submitted.</p> |
| 5. PRODUCTION | <p>5.1. Energy conservation and resources use – energy and resources saving measures and the rational use of primary/secondary resources may be implemented into production process.</p> | <p>Appropriate means of proofs: written declarations, certifications and labeling.</p> |
| | <p>5.2. Emissions/discharges of pollutants into the environment – Indicators of environment pollution and waste accumulation (including wastewater) should be at least – within the limits; desirable – at least above the limits.</p> | <p>An environmental management system (such as EMAS, or ISO 14001) if covering and attesting environmental management capacities as laid down in the selection criteria, shall be recognised as evidence of compliance, as will other evidence of equivalent environmental management measures.</p> |
| | <p>5.3. Environmental management system; sustainable production and consumption.</p> | |

Source: adapted from the COY OEM 08.002.12.019:2016

1.4. ENVIRONMENTAL CRITERIA FOR HEAT INSULATION MATERIALS

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION | | | | | | | | | |
|--------------------------|--|--|---|---|--|----------------------|----------------------|---------|----|----|--|
| 1. PRODUCT INFORMATION | <p>1.1. Information about the product(s)</p> <p>Tenderer should submit the following information about the product(s):</p> <ul style="list-style-type: none"> Brand name(s) and trade name(s); Description of product(s) included in the tender bid. A product datasheet or similar for each product must be forwarded; Description of manufacturing process of the product. Subcontractors must be described with company name, production location, contact person and the production processes used. <p>For each product: Attach a list of materials and chemical products used in producing the panel and any surface treatment of the panel. The list must contain the weight percentage of the constituent materials/chemical products in the panel. Safety datasheets for each chemical product must be included.</p> | <p>Any information requested by the requirement. A product datasheet may be sent as part of the documentation.</p> | | | | | | | | | |
| 2. MINERAL RAW MATERIALS | <p>The requirements apply to mineral raw materials and mineral bi-products (e.g. fly ash) which make up more than 10% by weight of the finished panel.</p> <p>2.1. Heavy metals</p> <p>Mineral raw materials or mineral bi-products must as a maximum contain the following quantities of heavy metals as indicated in table 1.</p> <p>Table 1 - Requirement Level for heavy metal content by either partial opening or total opening of the test sample</p> <table border="1"> <thead> <tr> <th>Heavy metal</th> <th>Partial digestion of the sample by EN 259</th> <th>Partial digestion of the sample by EN 13656</th> </tr> </thead> <tbody> <tr> <td></td> <td>MAX content in mg/kg</td> <td>MAX content in mg/kg</td> </tr> <tr> <td>Arsenic</td> <td>10</td> <td>30</td> </tr> </tbody> </table> | Heavy metal | Partial digestion of the sample by EN 259 | Partial digestion of the sample by EN 13656 | | MAX content in mg/kg | MAX content in mg/kg | Arsenic | 10 | 30 | <p>The declaration from the raw materials producer/refiner, containing measurement results, measurement methods and measurement frequency.</p> |
| Heavy metal | Partial digestion of the sample by EN 259 | Partial digestion of the sample by EN 13656 | | | | | | | | | |
| | MAX content in mg/kg | MAX content in mg/kg | | | | | | | | | |
| Arsenic | 10 | 30 | | | | | | | | | |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | | VERIFICATION |
|------------------------|--|-----|---|
| | Lead | 25 | 25 |
| | Cadmium | 1 | 10 |
| | Mercury | 0,5 | 0,5 |
| | Chrome (total) | 300 | 300 |
| | <p>2.2. Dust emissions</p> <p>The production and refining of mineral raw materials must not generate dust emissions to the atmosphere (via a chimney) of more than 7 mg dry dust/m³ air and 21 mg wet dust/m³ air.</p> | | The declaration from the raw materials producer/refiner, containing measurement results, measurement methods and measurement frequency. |
| | <p>2.3. Radioactive substances</p> <p>The requirement covers all constituent mineral materials described below (> 10% by weight in the panel). The requirement applies for panels for internal uses such as walls, ceilings, sub-floors, fittings and joists. Hence, panels which are only marketed for outdoor use are not covered by the requirement.</p> <p>For panel materials which contain:</p> <p>1. Natural materials such as alum shale or building materials or additives of natural volcanic origin, e.g.: granitoids (such as granites, syenite and orthogneiss); porphyries; tufa; pozzolana; lava</p> <p>or</p> <p>2. Materials containing residues from industries which process naturally occurring radioactive material, e.g.: fly ash; phosphogypsum; phosphorus slag; tin slag; copper slag; red mud (residue from aluminium production); residues from steel production</p> <p>it must be documented that the gamma index (mγ) or activity index (I1) is less than 0.5.</p> <p>The requirement applies to all constituent materials used in panels for internal uses such as walls, ceilings, sub-floors, fittings or joists. Radioactive substances in the panel material are expressed as a gamma/activity</p> | | Sampling programme, including measurement methods, measurement result and measurement frequency. |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION |
|---|---|---|
| | <p>index in accordance with the following formula:</p> $CK/3000 + CRa/300 + CTh/200 < 0.5$ <p>In the above formula, CK, CRa and CTh are the concentrations of potassium-40, radium-226 and thorium-232, expressed as becquerel per kilogram (Bq/kg) of the material. 1% potassium is equivalent to 310 Bq/kg potassium-40, 1 ppm uranium is equivalent to 12.3 Bq/kg of radium-226 and 1 ppm thorium is equivalent to 4.0 Bq/kg of thorium-232.</p> | |
| 3. WOOD RAW MATERIALS, PAPER, CARDBOARD AND PAPER PULP | <p>3.1. Wood fibres, cardboard and pulp</p> <p>The requirement covers raw materials purchased as wood fibre in paper, cardboard and pulp. The requirement does not apply to paper labels attached to the product.</p> <p><i>Annually, at least:</i></p> <p>1. 30% of the fibre raw material in paper, cardboard or pulp must come from forest areas in which operation has been certified under the forestry standard and certification system or which is certified as organically cultivated or where cultivation is in the process of being converted to organic production,</p> <p>or</p> <p>2. 70% of the fibre raw material in paper, cardboard or pulp must be recycled fibre or bi-products such as shavings or sawdust,</p> <p>or</p> <p>3. a combination of 1 and 2. If the fibre raw material in paper, cardboard or pulp consists of less than 70% recycled fibre, the proportion of fibre raw material from certified areas must be calculated according to the following formula:</p> <p>Requirement for proportion of fibre raw material from certified areas in paper, cardboard or pulp (Y):</p> $Y (\%) \geq 30 - 0.4x$ <p>where x = proportion of recycled fibre or bi-products such as shavings and sawdust.</p> | <p>The declaration and any calculations from the supplier of the paper, cardboard or pulp that the requirement has been satisfied.</p> <p>Where points 1 or 3 apply, the paper, cardboard or pulp manufacturer must send a copy of the relevant forestry certificate which complies with the guidelines for forest certification and organic cultivation.</p> <p>When using products controlled by any Ecolabel paper basic module the producer, production plant, name of mass or paper quality and grammage shall be described.</p> |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION |
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| | <p>3.2. Solid wood, veneer, bamboo and cork</p> <p>Constituent raw materials of solid wood, veneer, bamboo, cork and fibre products in the construction panel must comply with the following requirements.</p> <p>Secondary raw materials from trees, e.g. palm leaves, are exempted from the requirement.</p> <p>Residues and waste from other activities in the form of sawdust/wood chips/wood waste/untreated demolition wood and recycled wood fibres are exempt from this requirement. This requires, however, a statement from the supplier, that the raw material is residues, waste or recycled.</p> <p>The licensee must:</p> <ul style="list-style-type: none"> demonstrate traceability for all wood, veneer and bamboo materials; state the name (Ukrainian language) and geographic origin (country and region/province) of the kinds of wood and bamboo used; to have a written procedure for sustainable wood and bamboo supply. <p>Wood, veneer and bamboo raw materials may not be sourced from:</p> <ul style="list-style-type: none"> protected areas or areas in the process of being awarded protected status; areas where ownership or usage rights are unclear; genetically modified trees or plants. <p>Furthermore, forestry operations must not damage: standing natural timber, biodiversity, special ecosystems or important ecological functions important social and/or cultural values.</p> | <p>Name (Ukrainian language or English) and geographical origin (country/state and region/province/municipality) for the wood raw materials used.</p> <p>The traceability system must be described. The Chain of Custody Certificate or certificate number on Traceability Certification may be used as documentation for point 2.</p> <p>Written routines for ensuring sustainable bamboo and wood supply. A requirement for a Chain of Custody Certificate from a supplier may be used as part of the procedure. The procedure must ensure updated lists of all suppliers.</p> <p>For residual, waste or recycled wood raw materials a statement confirming this must be submitted.</p> |
| | <p>3.3. Certified solid wood, veneer and bamboo</p> <p>The requirement applies to solid wood, veneer, bamboo and cork included as raw material for building boards.</p> <p>Secondary raw materials from trees, e.g. palm leaves, are exempted from the requirement.</p> <p>Residues and waste from other activities in the form of</p> | <p>The proportion (%) of certified wood or bamboo included in the applicant's annual ecolabelled production.</p> <p>Copy of forestry certificated signed and approved by a certification body.</p> |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION |
|------------------------|--|---|
| | <p>wood waste and untreated demolition wood and recycled wood are exempt from this requirement. This requires, however, a statement from the supplier, that the raw material is residues, waste or recycled.</p> <p>70% by weight of all wood for parts made of solid wood, veneer, bamboo and cork must come from certified forests. Alternatively, the bamboo may be organically cultivated or the cultivation may be in the process of conversion to organic production.</p> <p>The requirement may be documented as purchased wood and bamboo on an annual basis either for the whole company or the Ecolabeled production alone (minimum 70% certified wood must be credited to the Ecolabeled production.</p> <p>Certification must be performed by an independent third party.</p> <p>Certification must be to a valid forestry standard which fulfills the requirements for standards and certification systems.</p> | <p>Ecolabelling may require further documentation to assess whether the requirements for standards, certification system and certified proportion have been satisfied. E.g. a copy of the certification body's approval report, a copy of the forestry standard including name, address and telephone number of the organisation which drew up the standard, and references to persons who represent the parties and interest groups invited to participate in the development of the forest standard.</p> <p>For residual, waste or recycled wood raw materials a statement confirming this must be submitted.</p> |
| | <p>3.4. Use of biocides in tree felling</p> <p>The requirement applies to solid wood, veneer and bamboo as constituent raw materials.</p> <p>After felling, the wood must not be treated with pesticides with WHO classifications 1A and 1B.</p> <p><i>The requirement relates to the treatment of logs after felling.</i></p> | <p>A statement from the wood suppliers as to the pesticides used and a declaration for each product.</p> |
| | <p>3.5. Specific requirements for paper and cardboard (incl. craft paper)</p> <p>The requirement applies to paper or cardboard (incl. craft paper) which constitute > 10 percent by weight of the finished panel. The requirement should therefore be documented for paper and paperboard commodities that individually represent more than 10 percent by weight of the panel.</p> <p>Emissions of COD from paper and cardboard production</p> <p>The total emissions of acid-consuming organic material (COD - chemical oxygen demand) to water must be less than the specified COD value in Table 2 for the paper or</p> | <p>Submit a description of the sampling programme, including measurement methods, measurement results from previous 12 months and measurement frequency.</p> |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION | | | | | | | | | | | | | | |
|---|---|---|---|---|------|--|------|--------------------------|------|-----------|------|---------------------|-----|---------------------|-----|--|
| | <p>cardboard used (for unfiltered sample).</p> <p>Each type of pulp has its own level in the requirement. The COD emission from pulp production must be included in the total COD calculation for the paper or cardboard used.</p> <p>COD emissions are thus calculated by adding the emissions COD mass kg/ADT (weighted mean of incoming pulps) + COD emission paper machine kg/t.</p> <p>Ecolabelled paper products as well as pulp and paper controlled under the existing Ecolabel basic module for paper, is automatically approved in this requirement.</p> <p>Table 2 - COD requirement levels for different pulp and paper types</p> <table border="1"> <thead> <tr> <th>Pulp type</th> <th>Total COD level kg/ADt for pulp and paper</th> </tr> </thead> <tbody> <tr> <td>Bleached chemical pulp (sulphate and other chemical pulps except sulphite pulp)</td> <td>22.0</td> </tr> <tr> <td>Bleached chemical pulp (sulphite pulp)</td> <td>29.0</td> </tr> <tr> <td>Unbleached chemical pulp</td> <td>14.0</td> </tr> <tr> <td>CTMP pulp</td> <td>19.0</td> </tr> <tr> <td>TMP/Groundwood pulp</td> <td>7.0</td> </tr> <tr> <td>Recycled fibre pulp</td> <td>4.0</td> </tr> </tbody> </table> | Pulp type | Total COD level kg/ADt for pulp and paper | Bleached chemical pulp (sulphate and other chemical pulps except sulphite pulp) | 22.0 | Bleached chemical pulp (sulphite pulp) | 29.0 | Unbleached chemical pulp | 14.0 | CTMP pulp | 19.0 | TMP/Groundwood pulp | 7.0 | Recycled fibre pulp | 4.0 | |
| Pulp type | Total COD level kg/ADt for pulp and paper | | | | | | | | | | | | | | | |
| Bleached chemical pulp (sulphate and other chemical pulps except sulphite pulp) | 22.0 | | | | | | | | | | | | | | | |
| Bleached chemical pulp (sulphite pulp) | 29.0 | | | | | | | | | | | | | | | |
| Unbleached chemical pulp | 14.0 | | | | | | | | | | | | | | | |
| CTMP pulp | 19.0 | | | | | | | | | | | | | | | |
| TMP/Groundwood pulp | 7.0 | | | | | | | | | | | | | | | |
| Recycled fibre pulp | 4.0 | | | | | | | | | | | | | | | |
| 4. RESOURCE REQUIREMENTS | <p>4.1. Plasterboards</p> <p>As a minimum, at least 20% by weight of recycled gypsum must be used in the plasterboard, in the form of waste gypsum from demolition and refurbishment of buildings.</p> <p>The remainder of the constituent gypsum raw material must be industrial gypsum (residual product from power stations).</p> | <p>A declaration from the recycled materials supplier, showing the amount of recycled material received in accordance with the requirement.</p> <p>Applicant's calculation showing that the requirement level has been reached.</p> | | | | | | | | | | | | | | |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION |
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| | <p>This requirement may be documented as an annual average for plasterboard production.</p> <p>4.2. Cement-based and mineral wool panels</p> <p>As a minimum there must be 30% by weight recycled or renewable material in the panel. The requirement may be documented annually for the panel production.</p> <p>For mineral wool panels an exemption is given from this requirement if the panel instead can fulfil the reduced energy requirement of 10 MJ/kg in requirement O16.</p> <p><i>In this requirement recycled raw materials are defined in this requirement as post-consumer, cf. definition in ДСТУ ISO 14021:2002 and waste products such as fly ash and industrial slag.</i></p> | <p>A declaration from the recycled materials supplier, showing the amount of recycled material received in accordance with the requirement.</p> <p>Applicant's calculation showing that the requirement level has been reached.</p> |
| 5. ENERGY REQUIREMENTS | <p>5.1. Energy requirements for paper and pulp production</p> <p>The requirement covers paper and pulp which individually are present at more than 30% by weight in the finished panel.</p> <p>The following requirements must be satisfied for paper or pulp:</p> <p style="text-align: center;">P electricity(total) < 1.25 P fuel(total) < 1.25</p> <p>P stands for energy point for paper/pulp production. In P electricity(total) and P fuel(total), energy points are included from both paper production and the pulps used in the paper. The pulp and paper manufacturer must submit a calculation which shows that the point limits are being satisfied.</p> <p>5.2. Energy requirements for HPL panel production</p> <p>The requirement covers the applied energy for production of the panel and may be documented either for the ecolabelled panel production or for the company's total annual production of HPL panels.</p> <p style="text-align: center;">HPL panels ≤ 2 mm thin:</p> <p>No more than 18 MJ/kg panel may be used for producing the panel.</p> <p style="text-align: center;">HPL panels ≤ 2 mm thick:</p> | <p>When using products controlled by any Ecolabel paper basic module the producer, production plant, name of mass or paper quality and grammage shall be described.</p> <p>A calculation documenting compliance with the requirement should be submitted. The calculation must contain information about: quantity of produced panels, sub-divided into thick and thin, applied electricity and fuel, and which fuel sources are being used.</p> |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION |
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| | No more than 14 MJ/kg panel may be used for producing the panel. | |
| | <p>5.3. Energy requirements for wood-based panels</p> <p>Energy consumption is calculated as an annual average for production or for the whole enterprise. Energy consumption calculated as MJ/kg panel must include the primary panel production and the production of the constituent main raw materials. Main raw materials are the raw materials which make up more than 2% by weight of the finished panel (for example wood fibre and adhesive).</p> <p>Chipboards:</p> <ul style="list-style-type: none"> No more than 7 MJ/kg panel may be applied for producing panels (excluding any surface treatment) <p>Wood fibres/veneer and laminated panels:</p> <ul style="list-style-type: none"> No more than 11 MJ/kg panel may be applied for producing panels (excluding any surface treatment) | <p>In relation to fuel energy, then both energy from purchased fuel, domestically produced fuel and energy from waste products are included. The requirement does not include extraction of resources. Self-produced energy and resold surplus energy should be stated, but will not count as applied energy in the calculation.</p> <p>A calculation documenting compliance with the requirement should be submitted. The calculation must contain information about: quantity of produced panels, applied electricity and fuel and which fuel sources are being used.</p> |
| | <p>5.4. Energy requirements for plasterboards</p> <p>The requirement covers the applied energy for production of the panel and may be documented either just for the evaluation of panel production or for the company's total annual production.</p> <p>No more than 4 MJ/kg plasterboard may be applied for total applied electricity and fuel in panel production.</p> | <p>A calculation documenting compliance with the requirement should be submitted. The calculation must contain information about: quantity of produced panels, applied electricity and fuel, and which fuel sources are being used.</p> |
| | <p>5.5. Energy requirements for mineral wool panels</p> <p>The requirement covers the applied energy for production of the panel incl. the production of mineral wool. The requirement may be documented either just for the evaluation panel production or for the company's total annual production.</p> <p>In total, no more than 20 MJ/kg mineral panel may be applied for electricity and fuel.</p> <p>For panels, that do not comply with the requirement for recycled material, applies a maximum level of 10 MJ/kg panel.</p> | <p>A calculation documenting compliance with the requirement should be submitted. The calculation must contain information about: quantity of produced panels, applied electricity and fuel, and which fuel sources are being used.</p> |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION | | | | | | | | | | | | | | | | | | |
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| | <p>5.6. Energy requirements for cement-based panels</p> <p>The requirement covers the total energy impact from the constituent materials in the panel. The requirement covers all materials used in the panel which are present at more than 1% by weight. To calculate this, table values are applied from Table 3 for each material, weighting them in proportion to the amount of material present in the finished panel.</p> <p>Requirement for building panels: No more than 8 MJ/kg panel may be applied.</p> <p>Requirement for facade panels: No more than 10 MJ/kg panel may be applied</p> <p>The table values express the energy impact of the material with the system limit cradle to gate, e.g. the calorific value. It is not permitted to use privately obtained values.</p> <p><u>Table 3 - Table value for energy for material production cradle to gate</u></p> <table border="1"> <thead> <tr> <th>Material</th> <th>Primary energy MJ/kg (both renewable and fossil-based)</th> </tr> </thead> <tbody> <tr> <td>Portland Cement</td> <td>8</td> </tr> <tr> <td>Kaolin</td> <td>5.4</td> </tr> <tr> <td>Fly ash (hard coal ash from furnace)</td> <td>0.4</td> </tr> <tr> <td>Limestone flour</td> <td>0.4</td> </tr> <tr> <td>Silicate sand</td> <td>0.6</td> </tr> <tr> <td>Aluminium hydroxide</td> <td>10</td> </tr> <tr> <td>Magnesium oxide</td> <td>2.7</td> </tr> <tr> <td>Magnesium chloride (value for MgO)</td> <td>2.7</td> </tr> </tbody> </table> | Material | Primary energy MJ/kg (both renewable and fossil-based) | Portland Cement | 8 | Kaolin | 5.4 | Fly ash (hard coal ash from furnace) | 0.4 | Limestone flour | 0.4 | Silicate sand | 0.6 | Aluminium hydroxide | 10 | Magnesium oxide | 2.7 | Magnesium chloride (value for MgO) | 2.7 | <p>A calculation documenting compliance with the requirement should be submitted.</p> |
| Material | Primary energy MJ/kg (both renewable and fossil-based) | | | | | | | | | | | | | | | | | | | |
| Portland Cement | 8 | | | | | | | | | | | | | | | | | | | |
| Kaolin | 5.4 | | | | | | | | | | | | | | | | | | | |
| Fly ash (hard coal ash from furnace) | 0.4 | | | | | | | | | | | | | | | | | | | |
| Limestone flour | 0.4 | | | | | | | | | | | | | | | | | | | |
| Silicate sand | 0.6 | | | | | | | | | | | | | | | | | | | |
| Aluminium hydroxide | 10 | | | | | | | | | | | | | | | | | | | |
| Magnesium oxide | 2.7 | | | | | | | | | | | | | | | | | | | |
| Magnesium chloride (value for MgO) | 2.7 | | | | | | | | | | | | | | | | | | | |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION | | | | | | | | | | | | | | | | | | | | | | |
|--|---|-------------------|----|--|---|--|---|---|---|--|-----|-----------------------------|-----|----------------|-----|------------|------|------------|------|-------------------------------|----|----------------------|-----|--|
| | <table border="1"> <tr> <td>Pozzolanic Filler</td> <td>83</td> </tr> <tr> <td>Residual wood (hardwood u=80% moisture content dry basis)*</td> <td>5</td> </tr> <tr> <td>Residual wood (softwood u=140% moisture content dry basis)</td> <td>2</td> </tr> <tr> <td>Sawdust (chips u=70% moisture content dry basis)*</td> <td>2</td> </tr> <tr> <td>Wood chips (chips u=70% moisture content dry basis)*</td> <td>1.5</td> </tr> <tr> <td>PVA fibre (synthetic fibre)</td> <td>202</td> </tr> <tr> <td>Clay, expanded</td> <td>4.8</td> </tr> <tr> <td>Glass Foam</td> <td>25.2</td> </tr> <tr> <td>Fibreglass</td> <td>35.2</td> </tr> <tr> <td>Polyacrylonitrile (PAN) fibre</td> <td>82</td> </tr> <tr> <td>Other plastic fibres</td> <td>200</td> </tr> </table> <p>* 70% "moisture content dry basis" means 0.7 m³ water per 1 m³ dry wood. This is the same as a moisture content of 41 % "moisture content wet basis". In the case of a different moisture content in the wood raw material, a conversion must be made by using an energy figure for dry wood, which would be 2.5 MJ/kg dry substance wood (water content of 0 %) for wood chips. A similar conversion must be made for other wood raw materials.</p> | Pozzolanic Filler | 83 | Residual wood (hardwood u=80% moisture content dry basis)* | 5 | Residual wood (softwood u=140% moisture content dry basis) | 2 | Sawdust (chips u=70% moisture content dry basis)* | 2 | Wood chips (chips u=70% moisture content dry basis)* | 1.5 | PVA fibre (synthetic fibre) | 202 | Clay, expanded | 4.8 | Glass Foam | 25.2 | Fibreglass | 35.2 | Polyacrylonitrile (PAN) fibre | 82 | Other plastic fibres | 200 | |
| Pozzolanic Filler | 83 | | | | | | | | | | | | | | | | | | | | | | | |
| Residual wood (hardwood u=80% moisture content dry basis)* | 5 | | | | | | | | | | | | | | | | | | | | | | | |
| Residual wood (softwood u=140% moisture content dry basis) | 2 | | | | | | | | | | | | | | | | | | | | | | | |
| Sawdust (chips u=70% moisture content dry basis)* | 2 | | | | | | | | | | | | | | | | | | | | | | | |
| Wood chips (chips u=70% moisture content dry basis)* | 1.5 | | | | | | | | | | | | | | | | | | | | | | | |
| PVA fibre (synthetic fibre) | 202 | | | | | | | | | | | | | | | | | | | | | | | |
| Clay, expanded | 4.8 | | | | | | | | | | | | | | | | | | | | | | | |
| Glass Foam | 25.2 | | | | | | | | | | | | | | | | | | | | | | | |
| Fibreglass | 35.2 | | | | | | | | | | | | | | | | | | | | | | | |
| Polyacrylonitrile (PAN) fibre | 82 | | | | | | | | | | | | | | | | | | | | | | | |
| Other plastic fibres | 200 | | | | | | | | | | | | | | | | | | | | | | | |
| 6. CHEMICAL PRODUCTS | <p>6.1. General</p> <p>The requirements cover the chemical products included in the production of the panels. Either as additives to the panel or in surface treatments. The requirement relates to chemical products such as adhesive, additives and surface treatment.</p> | | | | | | | | | | | | | | | | | | | | | | | |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION | | | | | | | | | | | | | | | | |
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| | <p>Auxiliary chemicals such as lubricating oil for mechanical equipment are not covered by the requirement.</p> <p>Several of the requirements are aimed at the ingoing substances in the chemical product.</p> <p>6.2. Classification of the chemical product</p> <p>The chemical product used in the production of the panel must be classified in accordance with the current legislation (CLP Regulation 1272/2008 or the EU's Dangerous Preparations Directive 1999/45/EEC 2008, or later) and may not be classified in accordance with Table 4 below.</p> <p><i>Exemptions:</i></p> <p>Resins in HPL sheets with up to max. 10 % phenol are exempted from the prohibition of classification with H341 / R68 and H301, H331 / R23, R24, R25, R48.</p> <p>Adhesives with methylene diphenyl diisocyanate (MDI) are exempted from the prohibition of classification with H351/R40.</p> <p>From 04/01/2015 formaldehyde is up classified under CLP ATP 6 (EU no. 605/2014) then an exemption for formaldehyde with H350 (Carc.1B)/R45 and/or R49 and H341 (Muta.2)/R68 are given in this requirement.</p> <p>Methanol in concentrations up to 10% by weight in adhesives and resins are exempted from the prohibition of classification according to the requirement.</p> <p>Table 4 List of non-permitted classifications of chemical products in accordance with the CLP Regulation 1272/2008, or later</p> <table border="1"> <tr> <td colspan="2">CLP Regulation 1272/2008</td> <td colspan="2">EU Dangerous Substance Directive 67/548/EC</td> </tr> <tr> <td>Signal words</td> <td>Hazard statement</td> <td>Indication of danger</td> <td>Risk phrase</td> </tr> <tr> <td></td> <td></td> <td>Carcinogenic</td> <td></td> </tr> <tr> <td>Danger, Carc. 1A or 1B</td> <td>H350</td> <td>T</td> <td>R45 and/or</td> </tr> </table> | CLP Regulation 1272/2008 | | EU Dangerous Substance Directive 67/548/EC | | Signal words | Hazard statement | Indication of danger | Risk phrase | | | Carcinogenic | | Danger, Carc. 1A or 1B | H350 | T | R45 and/or | <p>Declaration from the producer of the chemical product used in the product that the requirement has been satisfied.</p> <p>A safety data sheet for the chemical product used in the product in accordance with Appendix II of Reach (Regulation 1907/2006/EC with subsequent amendments and additions).</p> |
| CLP Regulation 1272/2008 | | EU Dangerous Substance Directive 67/548/EC | | | | | | | | | | | | | | | | |
| Signal words | Hazard statement | Indication of danger | Risk phrase | | | | | | | | | | | | | | | |
| | | Carcinogenic | | | | | | | | | | | | | | | | |
| Danger, Carc. 1A or 1B | H350 | T | R45 and/or | | | | | | | | | | | | | | | |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | | | | VERIFICATION |
|------------------------|---------------------------|-------|------------|------------|--------------|
| | Danger, Carc. 1A or 1B | H350i | T | R49 | |
| | Warning, Carc. 2 | H351 | Xn | R40 | |
| | | | Mutagenic | | |
| | Danger, Muta. 1A or 1B | H340 | T | R46 | |
| | Warning, Muta. 2 | H341 | Xn | R68 | |
| | | | Reprotoxic | | |
| | Danger, Repr. 1A or 1B | H360 | T | R60 | |
| | Danger, Repr. 1A or 1B | H360 | T | R61 | |
| | Warning, Repr. 2 | H361 | Xn | R62 and/or | |
| | Warning, Repr. 2 | H361 | Xn | R63 | |
| | - | H362 | - | R33 | |
| | - | H362 | - | R64 | |
| | | | Very toxic | | |
| | Danger, Acute Tox. 1 or 2 | H330 | Tx | R26 | |
| | Danger, Acute Tox. 1 | H310 | Tx | R27 | |
| | Danger, Acute Tox. 2 | H300 | Tx | R28 and/or | |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | | | | VERIFICATION |
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| | Danger, STOT SE 1 | H370 | Tx | R39 | |
| | | | Toxic | | |
| | Danger, Acute Tox. 2 or 3 | H330 or H331 | T | R23 | |
| | Danger, Acute Tox. 3 | H331 | T | R24 | |
| | Danger, Acute Tox. 3 | H301 | T | R25 | |
| | Danger, STOT SE 1 | H370 | T | R39 and/or | |
| | Danger, STOT RE 1 | H372 | T | R48 | |
| | <p><i>The classification applies in accordance with the EU's Dangerous Substances Directive 67/548/EC with subsequent amendments and adjustments and/or CLP Regulation 1272/2008 with subsequent amendments. During the transition period, i.e. up to 1 June 2015, classification in accordance with the EU's Dangerous Substances Directive or the CLP Regulation may be used. After the transition period, only classification in accordance with the CLP Regulation is allowed.</i></p> | | | | |
| | <p>6.3. CMR classification of constituent substances</p> <p>The requirement covers all constituent substances in the chemical products used in panel production and for surface treatment.</p> <p>The constituent substances used in chemical products in construction panel production (e.g. additives, adhesives and surface treatment) must not have any classifications listed in Table 5 below.</p> <p><i>Exemptions:</i></p> <p>From 04/01/2015 formaldehyde is up classified under CLP ATP 6 (EU no. 605/2014) then an exemption for formaldehyde with H350 (Carc.1B)/R45 and/or R49 and H341 (Muta.2)/R68 are given in this requirement.</p> | | | | Declaration from the producer/supplier of the chemical product that the requirement has been satisfied. |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---------------------------|---|---|-------------|---|--|--------------|------------------|----------------------|-------------|--|--|--------------|--|------------------------|------|---|------------|------------------------|-------|---|-----|--|--|-----------|--|------------------------|------|---|-----|--|--|------------|--|------------------------|------|---|-----|------------------------|------|---|-----|--|
| | <p>Table 5 - List of non-permitted classifications of constituent substances in chemical products</p> <table border="1"> <thead> <tr> <th colspan="2">CLP Regulation 1272/2008:</th> <th colspan="2">EU Dangerous Substance Directive 67/548/EC:</th> </tr> <tr> <th>Signal words</th> <th>Hazard statement</th> <th>Indication of danger</th> <th>Risk phrase</th> </tr> </thead> <tbody> <tr> <td></td> <td></td> <td>Carcinogenic</td> <td></td> </tr> <tr> <td>Danger, Carc. 1A or 1B</td> <td>H350</td> <td>T</td> <td>R45 and/or</td> </tr> <tr> <td>Danger, Carc. 1A or 1B</td> <td>H350i</td> <td>T</td> <td>R49</td> </tr> <tr> <td></td> <td></td> <td>Mutagenic</td> <td></td> </tr> <tr> <td>Danger, Muta. 1A or 1B</td> <td>H340</td> <td>T</td> <td>R46</td> </tr> <tr> <td></td> <td></td> <td>Reprotoxic</td> <td></td> </tr> <tr> <td>Danger, Repr. 1A or 1B</td> <td>H360</td> <td>T</td> <td>R60</td> </tr> <tr> <td>Danger, Repr. 1A or 1B</td> <td>H360</td> <td>T</td> <td>R61</td> </tr> </tbody> </table> <p><i>The classification applies in accordance with the EU's Dangerous Substances Directive 67/548/EC with subsequent amendments and adjustments and/or CLP Regulation 1272/2008 with subsequent amendments. During the transition period, i.e. up to 1 June 2015, classification in accordance with the EU's Dangerous Substances Directive or the CLP Regulation may be used. After the transition period, only classification in accordance with the CLP Regulation is allowed.</i></p> | CLP Regulation 1272/2008: | | EU Dangerous Substance Directive 67/548/EC: | | Signal words | Hazard statement | Indication of danger | Risk phrase | | | Carcinogenic | | Danger, Carc. 1A or 1B | H350 | T | R45 and/or | Danger, Carc. 1A or 1B | H350i | T | R49 | | | Mutagenic | | Danger, Muta. 1A or 1B | H340 | T | R46 | | | Reprotoxic | | Danger, Repr. 1A or 1B | H360 | T | R60 | Danger, Repr. 1A or 1B | H360 | T | R61 | |
| CLP Regulation 1272/2008: | | EU Dangerous Substance Directive 67/548/EC: | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Signal words | Hazard statement | Indication of danger | Risk phrase | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Carcinogenic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Danger, Carc. 1A or 1B | H350 | T | R45 and/or | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Danger, Carc. 1A or 1B | H350i | T | R49 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Mutagenic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Danger, Muta. 1A or 1B | H340 | T | R46 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | | Reprotoxic | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Danger, Repr. 1A or 1B | H360 | T | R60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Danger, Repr. 1A or 1B | H360 | T | R61 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | <p>6.4. Specific excluded substances in chemical products</p> <p>The requirement covers all constituent substances in the chemical products used.</p> <p>The following substances must not be present in the chemical product:</p> | <p>Declaration from the raw materials producer or supplier showing that the requirement has been complied with.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION |
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| | <ul style="list-style-type: none"> Substances on the EU Candidate List; Persistent, bioaccumulative and toxic (PBT) organic substances; Very persistent and very bioaccumulative (vPvB) organic substances; Substances regarded as potentially endocrine-disrupting in category 1 or 2 on the EU Candidate List; Priority List of substances for further investigation for endocrine disrupting effects; Halogenated organic compounds, such as organic chloroparaffins, fluorine compounds and halogenated flame inhibitors; Bisphenol A; Alkylphenols, alkylphenol ethoxylates and other alkylphenol derivatives; Phthalates; Aziridine and polyaziridines; Pigments and additives based on lead, tin, cadmium, chromium VI and mercury, and their compounds. | |
| | <p>6.5. Biocides (preservatives and antibacterial treatment)Antibacterial treatment (all panel types)</p> <ul style="list-style-type: none"> No biocides or biocide products may be applied to the surface of the finished panel, or to parts of it, for the purpose of providing a disinfectant or antibacterial effect. <p>Preservatives in chemical products (all panel types)</p> <ul style="list-style-type: none"> The total content of Kathon mixture (CMIT/MIT) 5-chloro-2-methyl-2H-isothiazolin-3-one (CAS no.: 26172-55-4) and 2-methyl-2H-isothiazolin-3-one (CAS no.: 2682-20-4) (3:1) in the chemical mixture may not exceed 15 ppm (0.0015% by weight, 15 mg/kg). <p><u>All panel types excluding surface treatment of facade panels:</u></p> <ul style="list-style-type: none"> The total content of isothiazolinone compounds in the chemical product may not exceed 500 ppm (0.05% by weight, 500 mg/kg). | <p>Declaration from producer/supplier of all constituent chemical products, showing that the requirement has been met.</p> |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION |
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| | <ul style="list-style-type: none"> The total content of 2-Methyl-3(2H)-isothiazolon in the chemical product may not exceed 200 ppm. <p><u>Surface treatment of facade panels:</u></p> <ul style="list-style-type: none"> For chemical products for surface treatment of facade panels, the total content of isothiazolinone compounds in the chemical mixture may not exceed 1500 ppm (0.15% by weight, 1500 mg/kg). | |
| | <p>6.6. Nanoparticles</p> <p>The product may not contain nanoparticles (from nano-material*). Exemptions from the requirement are granted for the following:</p> <ul style="list-style-type: none"> Pigment; Synthetic amorphous silicate; Naturally occurring inorganic fillers; Polymer dispersions. | Declaration from producer/supplier of chemical product (except for polymer emulsion, pigment and synthetic amorphous silicate) that the product does not contain nanomaterial as defined by the requirement. |
| | <p>6.7. Environmentally harmful substances in the construction panel (not surface treatment)</p> <p>The total quantity of added chemical substances in the construction panel which are classified as environmentally harmful according to Table 6 has been restricted and must comply with a required level of maximum 2% by weight environmentally harmful substances by means of the following formula:</p> <p>$100 \cdot H410 + 10 \cdot H411 + H412 \leq 2\%$ by weight environmentally harmful substances</p> <p>or</p> <p>$100 \cdot (R50/53) + 10 \cdot (R51/53) + (R52/53) \leq 2\%$ by weight environmentally harmful substances</p> <p>where:</p> <p>H410 is the total concentration of substances classified as H410 (and the same for R50/53) as a percentage of the panel</p> <p>H411 is the total concentration of substances classified as H411 (and the same for R50/53) as a percentage of the panel</p> <p>H412 is the total concentration of substances classified</p> | Declaration from producer/supplier of chemical product showing the content of environmental hazard classified substances covered by the requirement, stated specifically for each indication of danger/R phrase. |
| | | Calculation from panel manufacturer showing the panel's content of environmentally hazardous substances in relation to the requirement. |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION | | | | | | | | | | | | |
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| | <p>as H412 (and the same for R50/53) as a percentage of the panel</p> <p>The requirement relates to the chemical products used in the panel (e.g. adhesives) with the chemical composition they have when mixed in the panel material. Ammonia in a concentration of over 24% is exempted and not counted here.</p> <p>Table 6 - Environmental hazard statements and risk phrases covered by the requirement</p> <table border="1"> <thead> <tr> <th>Hazard class</th> <th>Hazard code and hazard statement according to CLP Regulation 1272/2008</th> <th>Indication of danger and R-phrase according to EU Dangerous Substances Directive (67/548/EC)</th> </tr> </thead> <tbody> <tr> <td>Hazardous to aquatic life</td> <td>Chronic 1 with H410</td> <td>N; R50-53</td> </tr> <tr> <td></td> <td>Chronic 2 with H411</td> <td>N; R51-53</td> </tr> <tr> <td></td> <td>Chronic 3 with H412</td> <td>R52-53</td> </tr> </tbody> </table> | Hazard class | Hazard code and hazard statement according to CLP Regulation 1272/2008 | Indication of danger and R-phrase according to EU Dangerous Substances Directive (67/548/EC) | Hazardous to aquatic life | Chronic 1 with H410 | N; R50-53 | | Chronic 2 with H411 | N; R51-53 | | Chronic 3 with H412 | R52-53 | |
| Hazard class | Hazard code and hazard statement according to CLP Regulation 1272/2008 | Indication of danger and R-phrase according to EU Dangerous Substances Directive (67/548/EC) | | | | | | | | | | | | |
| Hazardous to aquatic life | Chronic 1 with H410 | N; R50-53 | | | | | | | | | | | | |
| | Chronic 2 with H411 | N; R51-53 | | | | | | | | | | | | |
| | Chronic 3 with H412 | R52-53 | | | | | | | | | | | | |
| | <p>6.8. Environmentally harmful substances in surface treatment of construction panel</p> <p>Chemical products used in the panel's surface treatment system (e.g. coating, oil, paint and lacquer) must satisfy one of the two following requirement alternatives.</p> <ul style="list-style-type: none"> No chemical product in the surface treatment may be classified as environmentally harmful according to Table 6 below. <p>or</p> <ul style="list-style-type: none"> The total amount of environmentally harmful substances applied (indicated in Table 7) in the surface treatment system must not amount to more than 40 g/m² calculated in wet condition. One of | <p>For alternative a), a declaration is required from the producer/supplier of each chemical product that the product is not classified as environmentally hazardous under the above table.</p> <p>For alternative b) Declaration from producer/supplier of chemical product showing the content of environmental hazard classified substances covered by the requirement. The concentration of substances must be stated specifically for each indication of danger/R</p> | | | | | | | | | | | | |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION | | | | | | | | | | | | | | | |
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| | <p>the following formulae must be used to calculate the weight percentage of constituent environmentally harmful substances in the surface treatment system (to be done as a total for all each chemical product in the surface treatment):</p> <p>$100 \cdot H410 + 10 \cdot H411 + H412 = \%$ by weight environmentally harmful substances</p> <p>or</p> <p>$100 \cdot (R50/53) + 10 \cdot (R51/53) + (R52/53) = \%$ by weight environmentally harmful substances</p> <p><i>H410 is the concentration of substances classified as H410 (and the same for R50/53) as a percentage H411 is the concentration of substances classified as H411 (and the same for R50/53) as a percentage H412 is the concentration of substances classified as H412 (and the same for R50/53) as a percentage</i></p> <p>All environmentally hazardous substances in unhardened chemical products must be included in the calculation.</p> <p>Table 7 - Environmental hazard statements and indications of danger covered by the requirement</p> <table border="1"> <thead> <tr> <th>Hazard class</th> <th>Hazard code and hazard statement according to CLP Regulation 1272/2008</th> <th>Indication of danger and R-phrase according to EU Dangerous Substances Directive (67/548/EC)</th> </tr> </thead> <tbody> <tr> <td>Hazardous for aquatic life</td> <td>Aquatic acute 1 with H400</td> <td>N; R50</td> </tr> <tr> <td></td> <td>Aquatic chronic 1 with H410</td> <td>N; R50-53</td> </tr> <tr> <td></td> <td>Aquatic chronic 2 with H411</td> <td>N; R51-53</td> </tr> <tr> <td></td> <td>Aquatic chronic with</td> <td>R52-53</td> </tr> </tbody> </table> | Hazard class | Hazard code and hazard statement according to CLP Regulation 1272/2008 | Indication of danger and R-phrase according to EU Dangerous Substances Directive (67/548/EC) | Hazardous for aquatic life | Aquatic acute 1 with H400 | N; R50 | | Aquatic chronic 1 with H410 | N; R50-53 | | Aquatic chronic 2 with H411 | N; R51-53 | | Aquatic chronic with | R52-53 | <p>phrase.</p> <p>The calculation from the manufacturer of the finished panel showing the number of coats of surface treatment, the application method and the applied amount per coat indicated as g/m² panel. And the weighted calculation of environmentally hazardous substances as shown by the requirement.</p> |
| Hazard class | Hazard code and hazard statement according to CLP Regulation 1272/2008 | Indication of danger and R-phrase according to EU Dangerous Substances Directive (67/548/EC) | | | | | | | | | | | | | | | |
| Hazardous for aquatic life | Aquatic acute 1 with H400 | N; R50 | | | | | | | | | | | | | | | |
| | Aquatic chronic 1 with H410 | N; R50-53 | | | | | | | | | | | | | | | |
| | Aquatic chronic 2 with H411 | N; R51-53 | | | | | | | | | | | | | | | |
| | Aquatic chronic with | R52-53 | | | | | | | | | | | | | | | |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION | | | |
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| | <table border="1"> <tr> <td></td> <td>H412</td> <td></td> </tr> </table> <p>The amount of applied environmentally hazardous substances (g/m²) is then calculated as:</p> <p><i>Applied amount (m²) x weighted % environmentally hazardous substances in total surface treatment</i></p> <p><i>For tone systems, a worst case calculation is made for the surface treatment with the most tone in the basic colour containing the most environmentally hazardous substance under the weighted formula for the classifications.</i></p> | | H412 | | |
| | H412 | | | | |
| | <p>6.9. Volatile organic compounds (VOC) in adhesives</p> <p>Volatile organic compounds* including volatile aromatic hydrocarbons (VAH), must not be present in the adhesive by more than 3% by weight.</p> <p>Of these, VAHs (volatile aromatic hydrocarbons) may not amount to more than 0.1% by weight of the adhesive.</p> <p>Resins/adhesives for HPL panel production are exempted from this requirement. Instead, the HPL panel shall fulfil emission requirements to formaldehyde and phenol and VOCs.</p> | <p>Declaration from the producer/supplier of the chemical compound that the requirement has been fulfilled.</p> | | | |
| | <p>6.10. VOC in surface treatment</p> <p>The content of volatile organic substances (VOC) in the chemical products in the surface treatment system must be either</p> <ul style="list-style-type: none"> below 5% by weight for each chemical product, or a maximum of 10 g/m² surface of panel for the total surface treatment system <p>The requirement relates to the chemical products used in surface treatment with the chemical composition they have in wet form. If the product is to be diluted, the calculation must be based on the content of the ready-diluted product.</p> | <p>Declaration from the producer/supplier of each chemical product in the surface treatment. The declaration must state the content of VOC in the product.</p> <p>When using alternative b), the applicant must submit a calculation showing the total amount of VOC in the surface treatment system in g/m² panel. The calculation must be based on the declared VOC content of each chemical product and the amount present in the surface treatment system.</p> | | | |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION |
|------------------------|--|--|
| | <p>6.11. Content of free formaldehyde in chemical products</p> <p>The requirement does not apply to resin used for impregnation in HPL and laminate production.</p> <p>HPL and laminate production must instead comply with Requirement for Emissions from HPL production as well as requirement for Emissions from the panel.</p> <p>The content of free formaldehyde in chemical products used for production of the panel may be up to 0.2% by weight (2000 ppm), except for adhesive products mixed with hardener. For adhesive products mixed with hardener, up to 0.2% by weight (2000 ppm) of free formaldehyde is permitted in the ready-to-use mixture.</p> <p>The content of free formaldehyde in chemical products used for stone wool may be no more than 0.5% by weight (5000 ppm).</p> | <p>Declaration from the producer of the chemical products used in the construction panel.</p> |
| 7. EMISSIONS | <p>7.1. Emissions to water in wet processes</p> <p>The requirement covers wet processes in panel production where organic material is included. For panels manufactured with wet processes, the COD emission to water may be no more than 20 g COD/kg product (unfiltered sample).</p> | <p>The sampling programme, including measurement method, measurement results for the last 12 months, and measurement frequency.</p> |
| | <p>7.2. Emissions from HPL production</p> <p>The requirement relates to panels in which the content of HPL (High Pressure Laminate) accounts for more than 10% by weight of the panel.</p> <p>The following limit values for emissions to air at the workplace may not be exceeded during production of HPL (High Pressure Laminate):</p> <p><i>The limit value is expressed in relation to a reference period of 8 hours' time-weighted average (TWA):</i></p> <p>Limit value for formaldehyde cas. no. 50-00-0: 0.5 ppm or 0.6 mg/m³ Limit value for phenol cas. no. 108-95-2: 2 ppm or 8 mg/m³.</p> <p><i>The limit value is expressed in relation to a short-term value of max. 15 min.:</i> Limit value for formaldehyde cas. no. 50-00-0: 1.0 ppm or 1.2 mg/m³ limit value for phenol cas. no. 108-95-2: 4 ppm or 16 mg/m³.</p> | <p>Air measurements for phenol and formaldehyde for the past 12 months, containing a description of the sampling programme, including measurement methods and measurement frequency.</p> <p>Description of mandatory national regulatory requirements, showing that the requirement automatically is followed.</p> |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION |
|------------------------|---|---|
| | <p>7.3. Dust emissions from panel production</p> <p>The following limit values for emissions to indoor air must not be exceeded during the manufacture of panels in relation to the working environment. The requirement relates to panels in which the content of mineral raw materials or wood raw materials individually accounts for more than 10% by weight of the panel:</p> <ul style="list-style-type: none"> Mineral dust, inert: 10 mg/m³ Mineral dust, inert, breathable: 5 mg/m³ Mineral wool: 1 fibre/cm³ Wood dust, breathable: 2 mg/m³ Organic dust, total: 5 mg/m³ | <p>Dust measurements according to the requirement for the past 12 months, containing a description of the sampling programme, including measurement methods and measurement frequency.</p> <p>Description of mandatory national regulatory requirements, showing that the requirement automatically is followed.</p> |
| | <p>7.4. Formaldehyde emissions from woodbased construction panels</p> <p>For panels, which contain formaldehyde-based additives or where the surface treatment includes formaldehyde, one of the two following requirements must be met:</p> <ol style="list-style-type: none"> The average content of free formaldehyde must not be more than 5 mg formaldehyde/100 g dry substance for MDF panels or 4 mg/100 g dry substance for all other panels as determined according to the current version of EN-120 or similar methods. <p>The requirement applies to panels in wood with a moisture level of H = 6.5%.</p> <p>If the panels have a different moisture level within the range 3- 10%, the analysed perforator value must be multiplied by a factor F, derived with the following formula:</p> <p>For chipboard: $F = -0.133 H + 1.86$ For MDF: $F = -0.121 H + 1.78$</p> <ol style="list-style-type: none"> The average emission of formaldehyde must not exceed 0.08 mg/m³ air for MDF panels or 0.07 mg/m³ air for all other panels as determined according to the current version of EN 717-1 or similar methods. <p>EN 717-1 shows correlation with test methods ASTM E 1333 and JIS A 1460. Alternative 2 of this requirement</p> | <p>Analysis report including measurement methods, measurement results and measurement frequency. It must be clearly stated which method has been used, who carried out the analyses and that the testing institution is an independent third party. Test methods other than those specified may be used if there is a correlation between test methods and this can be confirmed by an independent competent third party.</p> |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION | | | | | | | | | | | | | | | | | | | | |
|--|--|------------------|---|---|-------------|--|------|--|----------------|--------------|--|-----|------------------------|----------|------------------------|-------------|--------------|------------------------|----------|------------------------|-------------|--|
| | <p>may be alternatively documented with these in relation to emission values in table 9</p> <p>Table 9 - Correlation between EN 717-1 and other test methods</p> <table border="1"> <thead> <tr> <th>Test method:</th> <th>EN 717-1</th> <th>ASTM E 1333</th> <th>ASTM E 1333</th> <th>JIS A 1460</th> </tr> </thead> <tbody> <tr> <td></td> <td>{23 grC /45%RH}</td> <td>{25grC/ 50%RH}</td> <td>25grC/ 50%RH</td> <td></td> </tr> <tr> <td>MDF</td> <td>0,09 mg/m³</td> <td>0,06 ppm</td> <td>0,07 mg/m³</td> <td>0,66 mg L-1</td> </tr> <tr> <td>Other panels</td> <td>0,07 mg/m³</td> <td>0,08 ppm</td> <td>0,10 mg/m³</td> <td>0,53 mg L-1</td> </tr> </tbody> </table> | Test method: | EN 717-1 | ASTM E 1333 | ASTM E 1333 | JIS A 1460 | | {23 grC /45%RH} | {25grC/ 50%RH} | 25grC/ 50%RH | | MDF | 0,09 mg/m ³ | 0,06 ppm | 0,07 mg/m ³ | 0,66 mg L-1 | Other panels | 0,07 mg/m ³ | 0,08 ppm | 0,10 mg/m ³ | 0,53 mg L-1 | |
| Test method: | EN 717-1 | ASTM E 1333 | ASTM E 1333 | JIS A 1460 | | | | | | | | | | | | | | | | | | |
| | {23 grC /45%RH} | {25grC/ 50%RH} | 25grC/ 50%RH | | | | | | | | | | | | | | | | | | | |
| MDF | 0,09 mg/m ³ | 0,06 ppm | 0,07 mg/m ³ | 0,66 mg L-1 | | | | | | | | | | | | | | | | | | |
| Other panels | 0,07 mg/m ³ | 0,08 ppm | 0,10 mg/m ³ | 0,53 mg L-1 | | | | | | | | | | | | | | | | | | |
| | <p>7.5. Emission requirements for the construction panel</p> <p>The formaldehyde requirement in the table does not apply for wood-based panels, which instead must fulfil requirement "032 Formaldehyde emissions from wood based construction panels". Only wood based panels with surface treatment shall comply with the VOC requirements in the table 10 below.</p> <p>Facade panels and other panel types, that are in or outside the building envelope is not a subject to the requirement.</p> <p>All other types of panels must comply with the emission levels for both TVOC, SVOC and formaldehyde.</p> <p>Table 10 - Emission levels</p> <table border="1"> <thead> <tr> <th>Substance groups</th> <th>Limit value after 28 days in mg/m³h*</th> </tr> </thead> <tbody> <tr> <td>TVOC (C6-C16): other panels than wood based</td> <td>0,16</td> </tr> <tr> <td>TVOC (C6-C16): wood based with surface treatment</td> <td>0,30</td> </tr> </tbody> </table> | Substance groups | Limit value after 28 days in mg/m ³ h* | TVOC (C6-C16): other panels than wood based | 0,16 | TVOC (C6-C16): wood based with surface treatment | 0,30 | <p>The test report showing that the limit values in the table above have been satisfied.</p> | | | | | | | | | | | | | | |
| Substance groups | Limit value after 28 days in mg/m ³ h* | | | | | | | | | | | | | | | | | | | | | |
| TVOC (C6-C16): other panels than wood based | 0,16 | | | | | | | | | | | | | | | | | | | | | |
| TVOC (C6-C16): wood based with surface treatment | 0,30 | | | | | | | | | | | | | | | | | | | | | |

| ENVIRONMENTAL CRITERIA | REQUIREMENTS | VERIFICATION | | | | | | |
|---|--|--|------|---|------|--|-------|--|
| | <table border="1"> <tr> <td>SVOC (C16-C23): other panels than wood based</td> <td>0,03</td> </tr> <tr> <td>SVOC (C16-C23): wood based with surface treatment</td> <td>0,10</td> </tr> <tr> <td>Formaldehyde: other panels than wood based</td> <td>0,004</td> </tr> </table> <p><i>*Other analysis methods are acceptable if considered equivalent by an independent competent body.</i></p> | SVOC (C16-C23): other panels than wood based | 0,03 | SVOC (C16-C23): wood based with surface treatment | 0,10 | Formaldehyde: other panels than wood based | 0,004 | |
| SVOC (C16-C23): other panels than wood based | 0,03 | | | | | | | |
| SVOC (C16-C23): wood based with surface treatment | 0,10 | | | | | | | |
| Formaldehyde: other panels than wood based | 0,004 | | | | | | | |
| 8. USING AND PACKAGING | <p>8.1. Information on Packaging</p> <p>All products made of any materials of any nature to be used for the containment, protection, handling, delivery and presentation of goods, from raw materials to processed goods, from the producer to the user or the consumer. 'Non-returnable' items used for the same purposes shall also be considered to constitute packaging.</p> <p>8.2. Take-back system</p> <p>Relevant national regulations, legislation and/or agreements within the sector regarding the recycling systems for products and packaging shall be met in the Ukraine in which the Ecolabelled construction and facade panels are marketed.</p> | <p>The bidder must provide appropriate proof that this criterion is met.</p> <p>Declaration from the applicant regarding adherence to existing recycling/take-back agreements.</p> | | | | | | |
| 9. PRODUCTION | <p>9.1. Energy conservation and resources use – energy and resources saving measures and the rational use of primary/secondary resources may be implemented into production process.</p> <p>9.2. Environmental management system; sustainable production and consumption.</p> <p>9.3. Emissions/discharges of pollutants into the environment – Indicators of environment pollution and waste accumulation (including wastewater) should be at least – within the limits; desirable – at least above the limits.</p> | <p>Appropriate means of proofs: written declarations, certifications and labeling.</p> <p>An environmental management system (such as EMAS, or ISO 14001) if covering and attesting environmental management capacities as laid down in the selection criteria, shall be recognised as evidence of compliance, as will other evidence of equivalent environmental management measures.</p> | | | | | | |

Source: adapted from the COY OEM 08.002.016.048:2016

ANNEX II

CRITERIA FOR TECHNICAL SPECIFICATIONS FOR SUSTAINABLE PROCUREMENT

The specified criteria can be applied as technical specifications for suppliers of products and service providers (for example, cleaning) or performers of repair and construction works.

Specifying certain trademarks or product names of a certain manufacturer is a gross violation of the Law of Ukraine "On Public Procurement".

These criteria meet the requirements of the Law of Ukraine "On Public Procurement" and are additional to the general requirements of the technical specifications of bidding documents.

CLEANING PRODUCTS (in Washing and Cleaning Products) Code GC 021:2015 (39830000-9)

Purchased products (example):

| Name of product | Volume | Number |
|----------------------------------|---|--------|
| Synthetic detergent | Universal washing powder for washing machine packed in consumer packaging of ___ kg | 80 kg |
| Cleaning agent for hard surfaces | Cleaning agent packed in consumer packaging of ___ kg | 25 kg |
| Toilet cleaner | Liquid cleaning agent packed in consumer packaging of ___ l | 24 l |
| Dishwashing detergent | Dishwashing detergent packed in consumer packaging of ___ l | 5 l |

Products must meet the requirements:

| Regulatory or normative document | Confirmation document of compliance |
|---|--|
| Technical regulations for cleaning products approved by the Cabinet of Ministers of Ukraine from 20.08.2008 № 717 (hereinafter - the Technical Regulations) | <p>A set of technical documentation according to art. 20 of the Technical Regulations:</p> <ul style="list-style-type: none"> normative document, according to which cleaning product is produced; conclusion of the state sanitary-epidemiological examination for product; description and instructions for the use of cleaning product; information on the composition of the cleaning product, indicating the list of ingredients that are used in the manufacture of such a product, such as (anionic, cationic, amphoteric, nonionic, disinfectant, etc.), molecular weight and amount of surfactants; protocols for testing the biological decomposition of surfactants that are part of the cleaning product and the conformity certificate in the case of the F1 module (establishing conformity of products based on the results of the test); Declaration on the compliance of the cleaning product with the requirements of this Technical Regulation. |

| Regulatory or normative document | Confirmation document of compliance |
|--|--|
| DSTU, technical specifications for production | <ul style="list-style-type: none"> certificate of conformity or manufacturer's certificate of quality |
| Environmental criteria according to DSTU ISO 14024 (SOU OEM 08.002.12.065:2016 Washing and Cleaning Products: Environmental criteria for life cycle assessment or the equivalent of this standard) | <ul style="list-style-type: none"> ecological certificate or safety data sheet |

The product should be free from ethylenediaminetetraacetic acid, chlorine compounds and phosphorus (phosphates, phosphonates).

Synthetic detergent should have the following physicochemical parameters and functional properties:

1. concentration of hydrogen ions pH - 10,5-11,5;
2. washing ability in relation to the standard (the ability to restore the purity of a dirty surface) ≥ 85%;
3. chemical bleaching ability (in relation to the standard) ≥ 90%;
4. dust mass fraction ≤ 1%;
5. decrease in strength of fabric after washing ≤ 10%.

The product should be convenient and economical in use with respect to packaging, dosage or application to the surface.

Supplier must provide detailed instructions on the designation, dosage and application of the products.

The product must be delivered in a container (package), which corresponds to the conditions, nature and characteristics of the goods.

Packaging or consumable containers should be suitable for processing and not be processed in such a way that it may interfere with their processing.

Paint and varnish materials (water paints) Code GC 021:2015 (44812220-3)

| Name of product | Volume | Number |
|----------------------------------|--------|---------|
| Water-dispersion paint for walls | l/kg | 100/144 |

Purchased products (example):

General requirements:

- silky-matte, latex;
- environmentally friendly *);
- resistant to wet wiping;
- water-soluble;
- easily applied by a brush, roller or paint spray;
- possibility of bringing to light tones;
- composition: dispersion of acrylic copolymer, pigment, mineral fillers, water, functional additives.

*) which corresponds to the indicators of environmental criteria in accordance with the DSTU ISO 14024.

Technical Specifications:

| Name | Value of the characteristic required by a Customer | Value of the characteristics of a good offered by a Participant | Compliance with the requirements of the Customer (corresponds / does not correspond) |
|--|--|---|--|
| Outward appearance of the paint film | After drying, it creates a film with a flat mat surface without foreign impurities and additives | | |
| Mass fraction of non-volatile substances,% DSTU 17537 | 54 - 56 | | |
| Degree of grinding, mkm DSTU 6589 | 30 - 50 | | |
| Coverage of dried film, g/m ² DSTU 8784, method 1 | 110 - 130 | | |
| Content of VOCs capable of releasing, g / l, DSTU EN ISO 11890-1 | 15-30 | | |
| Total content of cadmium, lead, chromium VI, mercury, arsenic, barium (with the exception of barium sulfate), selenium, cobalt, antimony,% | 0,01 | | |
| Stability of the film to the static action of water at a temperature of 20 ± 2 ° C, h. DSTU 9.403, method A | Not less than 24 | | |

| Name | Value of the characteristic required by a Customer | Value of the characteristics of a good offered by a Participant | Compliance with the requirements of the Customer (corresponds / does not correspond) |
|---|--|---|--|
| pH paints | 8,5 – 8,7 | | |
| Drying time to grade 3 at a temperature of 20 ± 2 °C, h. DSTU 19007 | 0,30 | | |
| Material consumption per 1 layer, ml/m ² | About 150 | | |
| Air and surface temperature during application | Not below + 5 °C | | |
| Packaging | Polypropylene bucket | | |
| Package size | 1 l = 1,44 kg 2,5 l = 3,60 kg 5 l = 7,20 kg 10 l = 14,4 kg | | |
| Storage conditions | Store in a dry, protected from direct sunlight, at a temperature of +5 °C to + 40 °C | | |
| Guaranteed shelf life in original sealed packaging | 24 months from production date | | |

Products must meet the requirements:

| Regulatory or normative document | Confirmation document of compliance |
|--|---|
| Sanitary legislation of Ukraine | <ul style="list-style-type: none"> conclusion of the state sanitary and epidemiological examination on the product |
| DSTU, technical specifications for production | <ul style="list-style-type: none"> certificate of conformity or manufacturer's certificate of quality |
| Environmental criteria according to DSTU ISO 14024 (SOU 08.002.12.019:2014 Paint and varnish materials. Environmental criteria for life cycle assessment or the equivalent of this standard) | <ul style="list-style-type: none"> ecological certificate or safety data sheet |

The product should be convenient and economical in use with respect to packaging, dosage or application to the surface.

Supplier must provide detailed instructions on the designation, dosage and application of the products.

The product must be delivered in a container (package), which corresponds to the conditions, nature and characteristics of the goods.

Packaging or consumable containers should be suitable for processing and not be processed in such a way that it may interfere with their processing.

THERMAL INSULATING MATERIALS (BUILDING MATERIALS) CODE GC 021:2015 (44111000-1)

Products must meet the requirements:

| Regulatory or normative document | Confirmation document of compliance |
|--|---|
| Sanitary legislation of Ukraine | <ul style="list-style-type: none"> conclusion of the state sanitary and epidemiological examination on the product |
| a) DSTU B V.2.7-167 for mineral wool (stone and slag wool); b) for mineral wool: 1) DSTU B V.2.7-169 for lamellae; 2) DSTU B V.2.7-56 of glass staple fiber; 3) DSTU B V.2.7-168 of Phenophenoplast; 4) DSTU B EN 13163 of foamed polystyrene (ESP); 5) DSTU B EN 13164 of extruded polystyrene foam (XPS); c) DSTU B EN 312-1 for slabs of wood shavings; g) DSTU B EN 622-1 for wood-fiber boards or other normative documents that establish requirements for technical specifications. | <ul style="list-style-type: none"> certificate of conformity or manufacturer's certificate of quality |
| Environmental criteria according to DSTU ISO 14024 (SOU OEM 08.002.16.048:2016 Thermal insulating materials. Environmental criteria for life cycle assessment or the equivalent of this standard) | <ul style="list-style-type: none"> ecological certificate or safety data sheet |

Components and finished products must meet the following requirements:

1. Product should be free from the following substances as flame retardants (flame retardants):
 - polybromobiphenyl ether (PBDE)
 - polybrominated biphenyls (PBB);
 - brominated paraffin;
 - short-chain [C <13] chlorinated paraffins with unbranched structure, with a chlorine content (chloralkanes) of more than 50%;
 - antimony oxides.

2. The product should be free from constituents containing cadmium, lead, selenium, chlorine, arsenic, arsenic, thallium, mercury, tin (tributyltin (TBO), tributyltin oxide (TBOO)).

Confirming documents: protocols of research on standardized methods.

3. Resistance to heat transfer of heat insulation according to DBN B2.6-31.

To achieve this index of heat transfer resistance, no more than two layers of heat insulating material should be used.

Confirming documents: a copy of the protocol of laboratory tests in accordance with DSTU B.2.7-105.

4. The value of the ratio of density to thermal conductivity in accordance with Table L.1 of Annex L of DBN B.2.6-31.

Confirming documents: technical documentation.

5. The effective specific activity of natural radionuclides (226Ra, 232Th, 40K), should not be more than 250 Bq/kg.

Confirming documents: a copy of the laboratory research protocol according to the DGN 6.6.1.-6.5.061-2000 (NRBU-97/D-2000)

6. For flammability, flammability, flame propagation and smoke-forming ability and toxicity of combustion products, the products must correspond to low or moderate groups according to DBN B 1.1-7.

Confirming documents: a copy of the test report of the State Service of Ukraine for Emergencies on the bonfire, flammability, spread of flame, smoke-forming ability, toxicity of combustion products according to DBN B 1.1-7.

**OTHER BUILDING MATERIALS AND PRODUCTS
FOR FINISHING (BUILDING MATERIALS)
CODE DK 021:2015 (44111000-1)****SAFETY AND ENVIRONMENTAL CRITERIA**

The effective specific activity of natural radionuclides should not exceed 370 Bq/kg in all materials and products used for buildings or equipment of territories (physical culture and sports area and recreation area) that are built, reconstructed or repaired.

Building materials and products for finishing must comply with the requirements of DBN B.1.2-8-2008 "Basic requirements for buildings and structures. Safety of life and human health and protection of the environment", DSTU ISO 14024, DSTU ISO 14020, DSTU ISO 14021.

The floor in the premises must be of certified wear-resistant materials. For floors in toilets, swimming pools and bath-shower rooms, ceramic tiles with a non-slip surface should be used.

The floors in the gym and music room are allowed parquet, in the pool hall, showers and toilets - from ceramic tiles with a non-slip surface or mosaic concrete, in the rest - from a wear-resistant homogeneous linoleum that can be repaired and restored.

CRITERIA OF DURABILITY AND MAINTAINABILITY

The bearing structures of the house must retain their qualities in accordance with the requirements of DBN B 1.1-7, DBN B.1.2-2, DBN B.1.2-6, DBN B.1.2-8, DBN B.1.2-9, DBN B.1.2 - 14 during the specified service life (operation), which must be set in the design task.

As a bearing structure of the building, which are determined by its strength and stability indicators, as well as the service life of the building (structure) as a whole, should be stored within the permissible limits, taking into account the requirements of DBN B.1.2-14, DBN B.2.6-98, DBN B.2.6 -162, DBN B.2.6-163.

Elements, parts, equipment with service life is less than the intended lifetime (operation) of the building, must be replaced in accordance with the established between-repair period in the project and taking into account the requirements of the design task.

Structures and parts should be made of materials that are resistant to possible effects of moisture, low temperatures, corrosion environment, biological and other unfavorable factors according to DBN B.1.2-9, DSTU B V.2.6-145.

It shall be ensured that rain, thawed, groundwaters do not penetrate into the thickness of the bearing and enclosing structures of the building should be ensured, as well as the formation of an unacceptable amount of condensation moisture in the outer enclosing structures by sufficiently sealing the

structures or the ventilation device of enclosed spaces and air layers. Butt joints of prefabricated elements and layered structures should be designed for the perception of temperature-humidity deformations and forces arising from uneven sedimentation of bases and other operational impacts (actions). Homing and sealing materials used in joints must retain elastic and adhesive properties when exposed to minus (negative) temperatures and moisture, and also be resistant to ultraviolet rays. Sealing materials must be compatible with the materials of protective and protective-decorative coatings of structures in the places of their joints.

It should be possible to access the equipment, fixtures and devices of the building's engineering systems and their connections for inspection, maintenance, repair and replacement.

Equipment and pipelines should be fixed on the building structures of the building in such a way that their performance is not violated with possible displacements of structures.

TENDER PROPOSAL IS REJECTED BY A CUSTOMER IN THE EVENT THAT:

1) participant:

- does not meet the qualification criteria established by Article 16 of the Law;
- did not provide a tender offer if such a security was required by a customer.

2) winner:

- refused to sign a procurement contract in accordance with the requirements of the tender documentation or the conclusion of a procurement contract;
- did not provide documents confirming the absence of the grounds provided for in Article 17 of the Law;

3) there are grounds specified in Article 17 and Part 7 of Article 28 of the Law;

4) tender proposal does not comply with the terms of the tender documentation.

Information on the rejection of the tender proposal within one day from the date of the decision is made public in the electronic procurement system and automatically sent to the participant / winner whose tender proposal is rejected through the electronic procurement system.

1. [The Law of Ukraine "On Public Procurement", 2016](#)
2. [Resolution No. 529 of the Cabinet of Ministers of Ukraine "On Approval of Technical Regulation on Environmental Labeling" as of May 18, 2011](#)
3. [S. Williams, T. Chambers, S. Hills, F. Dowson, 2007. Forum for the Future, "Buying a better world: sustainable public procurement"](#)
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8. [United States Environmental Protection Agency](#)
9. [Li Ho "Pollution Issues: Household Pollutants"](#)
10. [EU GPP Criteria for Cleaning Products & Services](#)
11. [EU GPP Criteria for Paints and Varnishes](#)
12. [EU GPP Criteria for Heat Insulation Materials](#)
13. [Background Paper Procurement, The World Bank, 2015](#)
14. [A guide to environmental labels for procurement practitioners of the United Nations system, UNOPS, 2009](#)
15. [The Green Business Booklet, International Labour Office 2015 Manisha Mishra, Sohina Singh and Arpita Goyal](#)
16. [Katriina Alhola Environmental criteria in public procurement. Focus on tender documents / Monograph, 2012](#)
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18. [Ellen MacArthur Foundation](#)
19. [International Labour Organization Recommendations and Conventions](#)
20. [United Nations Guidelines for Consumer Protection. 2003](#)
21. [United Nations Guiding Principles on Business and Human Rights. 2011](#)
22. [United Nations. Transforming our world: The 2030 agenda for Sustainable Development](#)

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- ISO 2813:2014 Paints and varnishes — Determination of gloss value at 20 degrees, 60 degrees and 85 degrees
- ISO 3856 series— Paints and varnishes
- ISO 4628 series— Paints and varnishes
- ISO 6504/1 Paints and varnishes — determination of hiding power — Part 1: Kubelka-Munk method for white and light-coloured paints
- ISO 6504/3 Paints and varnishes — Part 3: determination of contrast ratio (opacity) of light-coloured paints at a fixed spreading rate
- ISO 7784-2:2016 Paints and varnishes – Determination of resistance to abrasion – Part 2: Method with abrasive rubber wheels and rotating test specimen
- ISO 9000:2015 Quality management systems — Fundamentals and vocabulary
- ISO 9227:2012 Corrosion tests in artificial atmospheres – Salt spray tests
- ISO 11507:2007 Paints and varnishes – Exposure of coatings to artificial weathering – Exposure to fluorescent UV lamps and water
- ISO 11469: 2000 (e). Plastics — Generic identification and marking of plastics products.
- ISO 11890-2:2013 Paints and varnishes — Determination of volatile organic compound (VOC) content — Part 2: Gas-chromatographic method
- ISO 12944-2:1998 Paints and varnishes – Corrosion protection of steel structures by protective paint systems – Part 2: Classification of environments
- ISO 12944-6:1998 Paints and varnishes – Corrosion protection of steel structures by protective paint systems – Part 6: Laboratory performance test methods
- ISO 14001, Environmental management systems — Requirements with guidance for use
- ISO 14020:2000, Environmental labels and declarations — General principles
- ISO 14021, Environmental labels and declarations — Self-declared environmental claims (Type II environmental labelling)
- ISO 14024, Environmental labels and declarations — Type I environmental labelling — Principles and procedures
- ISO 14025, Environmental labels and declarations — Type III environmental declarations — Principles and procedures

- ISO 14031:2013, Environmental management — Environmental performance evaluation — Guidelines
- ISO 14040, Environmental management — Life cycle assessment — Principles and framework
- ISO 14044:2006, Environmental management — Life cycle assessment — Requirements and guidelines
- ISO 14046:2014 Environmental management — Water footprint — Principles, requirements and guidelines
- ISO 14051:2011 Environmental management — Material flow cost accounting — General framework
- ISO/TS 14067:2013 Greenhouse gases – Carbon footprint of products – Requirements and guidelines for quantification and communication
- ISO/IEC 17020, Conformity assessment — Requirements for the operation of various types of bodies performing inspection
- ISO/IEC 17021-2, Conformity assessment — Requirements for bodies providing audit and certification of management systems — Part 2: Competence requirements for auditing and certification of environmental management systems
- ISO/IEC 17021-3, Conformity assessment — Requirements for bodies providing audit and certification of management systems — Part 3: Competence requirements for auditing and certification of quality management systems
- ISO/IEC 17024, Conformity assessment — General requirements for bodies operating certification of persons
- ISO/IEC 17025, General requirements for the competence of testing and calibration laboratories
- ISO/IEC 17065, Conformity assessment — Requirements for bodies certifying products, processes and services
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