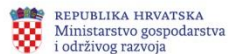




CIRCULAR ECONOMY  
APPROACHES IN  
SOLID WASTE  
MANAGEMENT



Project co-financed by the European Union from the Cohesion Fund

# REGIONAL WORKSHOPS ON CIRCULAR ECONOMY APPROACHES WITH FOCUS ON CONSTRUCTION SECTOR

GPP AS POLICY MEASURE FOR CDW IN A CIRCULAR ECONOMY

# GPP approaches for eliminating or reducing environmental impacts from construction works

## GPP – Objectives

- Installation of high environmental performance and renewable building materials
- Design and specification to reduce the embodied impacts and resource use associated with construction materials
- Design and construction to achieve high environmental performance and low associated CO2 emissions
- Design, specification and site management to minimize construction and demolition (C&D) waste and to use building products or materials with a high recycled or re-used content
- Installation of physical and electronic systems to support the ongoing minimization of energy use, water use and waste generated by facilities managers and occupiers

# EU GPP criteria

## GPP – main characteristics

- Aim - public authorities procure goods, services and works which will have a reduced environmental impact throughout their life cycle
- Criteria - based on a life-cycle approach and a scientific evidence base
- Unified throughout EU - to avoid distortion of the single market and competition
- Voluntary instrument – MS decide the degree of implementation

## GPP criteria developed or under development by the EC (construction related)

- Office buildings, Roads, Furniture, Heating systems, Paints and varnishes

## Outdated EU GPP criteria (due to innovation, market changes or new legal, technical or environmental requirements)

- Waste Water Infrastructure, windows, thermal insulation and wall panels

## Other instruments for verifying environmental claims used as GPP criteria

- EU Ecolabel, 'ISO 14024' labels (e.g., the Nordic Swan, The Blue Angel, NF Environment) and 'single-issue' labels (such as energy efficiency labels)



# Theoretical concept and terminology of EU GPP criteria

EU GPP criteria comprise:

- **Selection criteria** – used to assess the ability of an operator to perform a contract (e.g. competencies and experience of designer/ builder)
- **Technical specifications** – used to set minimum requirements that must be met by all tenders (e.g. – Building shall have an Energy Performance Certificate (EPC) class C)
- **Award criteria** – used to stimulate additional environmental performance, but are not mandatory (e.g. life cycle performance of the main building elements)
- **Contract performance clauses** – specify how a contract must be carried out (e.g. site waste management plan during progress of construction work on-site)

For each set of criteria there are two levels of ambition

- **Core** – focusing on the key area of environmental performance, allows easy application of GPP, keeps administrative costs to a minimum
- **Comprehensive** – aimed at higher levels of environmental performance



# Needs Assessment

Before starting complex GPP - to ensure that a true demand exists :

- **Needs Assessment** - instead of constructing new building assess options for repair, extend the life, sharing rooms with other organization, renting, determine right size of the building/ civil engineering project, etc.
- **Consulting users** prior to launching a procurement to determine user needs and preferences (e.g. through questionnaires, surveys, observation of use patterns, meetings, preliminary market consultations, comparison with alternatives)

User consultation and needs assessment allows :

- **Defining technical specification** - the specification to be defined based on performance-based or functional specifications (desired outcomes) instead of describing the inputs or standards.
- **Scope of the contract** - allows better estimation of the scope of the contract and/or the total quantity in order to maximize resources efficiency and reduce env. impact
- **Considerations for joint procurement** through applying approaches such as centralized purchasing body, framework contracts, procurement with one or more other authorities
- **Market Availability** - check for enough products that meet GPP criteria (certified, EPD)

# Procuring construction works during each key stage

## Options for intervention in each life-cycle stage :

- **Selection of the design team and contractors** – criteria to ensure that project manager, design team and contractor shall have relevant competencies and experience
- **Detailed design and performance requirements** such as Recycled content in concrete and masonry, Sourcing of legal timber
- **Demolition works** - Demolition waste audit and management plan
- **Construction of the building or renovation works** – site waste management plan to monitor and report, separation and minimization of waste, measurement of energy performance
- **Installation of energy systems** or the supply of energy services - Heating systems, including Combined Heat and Power
- **Completion and handover** - Audit to ensure environmental performance of building, Audit to ensure continuity of insulation and a high standard of air tightness
- **Facilities management** - Waste management system that allow occupiers and on-site catering services to segregate paper, cardboard, food and drink packaging, Specification of Performance Contracts, Control and management of energy consumption

# Knowledge for application of main GPP criteria

Available sources of technical parameters and their limit values, labels, certifications, legal procedures:

- Environmental Product Declarations (EPDs) of the main building elements
- Certification schemes and standards
- Sustainable construction materials and sourcing (Lifecycle performance of materials, use of recycled content, sourcing of legal timber)
- Recyclable waste storage and waste management system (separate waste collection during use)
- Demolition waste management (waste management plans during construction)
- Installation and commissioning of energy systems and low or zero carbon energy sources (evaluation and testing of the energy performances)
- Performance based contracts



# Verifying the compliance with the GPP criteria

Compliance with GPP criteria needs to be assessed during the contract execution phase and commissioning

Requesting documentation to prove compliance with an environmental requirement such as :

- Evidence in the form of information and references related to relevant contracts
- Third party auditing
- LCA/ Life cycle costing (LCC) analysis
- Monitoring data
- Management plan
- Design plan
- Modelling and test data
- Technical reports





Thank you!