

**CONDEREFF**  
Interreg Europe



European Union  
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Development Fund

**RRAPK**

REGIONÁLNÍ ROZVOJOVÁ AGENTURA  
PARDUBICKÉHO KRAJE



**POLICY BRIEF 7**



# THE CONDEREFF PROJECT

"CONDEREFF - Construction waste management and demolition policies to improve resource efficiency" is an INTERREG Europe project that aims to accelerate policy work on construction waste management and demolition (CDW), improving resource efficiency in partners' countries. Accordingly, the project aims to support the development of legislative frameworks and strengthen the capacities of public authorities in regulating C&D waste management, public procurement practices, landfill restrictions, recycling facilities, public perception, awareness and acceptance. To achieve these objectives, the project will exchange experiences and practices, as well as studies on C&D waste, on how project partner regions can move towards adoption and greater exploitation of best practices and measures applied in the field of waste management. The overall objective is to transfer lessons learned to regional policies and action plans.

## POLICY BRIEF OVERVIEW

The CONDEREFF project brings together 8 partners from 7 countries to exchange experiences and practices on how to move from existing procedures in the management of CDW to the adaptation and greater exploitation of best practices and measures applied in the field.

This policy brief reports the EU Construction & Waste management protocol and presents a set of guidelines for the waste audits before demolition and renovations works.



# PRE-DEMOLITION AUDIT

## Purpose of the pre-demolition audit

A pre-demolition audit (waste audit) takes place before the demolition of building and infrastructures and is considered a key task of the project planning. The pre-demolition audits aims to:

- Identify the type and amount of elements and materials that will be produced during deconstruction/demolition and to issue recommendation on their further handling
- Define the requirements (i.e. in terms of environmental permits) if waste is to be used on-site or the management any other waste that may be hazardous.

## Participants and role in the waste audit

- **The property owner:** Responsible for appointing an auditor to draw up a waste audit for the identification and classification of waste.
- **The authority:** Responsible for issuing demolition or renovation permit by establishing mechanisms to ascertain that the waste audits will be performed.
- **The auditor:** An expert directly responsible for the waste audit.
- **The contractor:** Responsible for the operations defined in the contract with the owner.
- **The waste manager:** Responsible for the traceability aspects of waste.
- **The products manufacturer:** Responsible for providing solutions and requirement for the reused/recycled materials and components.



# EXAMPLES OF BEST PRACTICES FOR PRE-DEMOLITION AUDITS

## **LEED Rating Systems**

The LEED (Leadership in Energy and Environmental Design) Rating Systems is a voluntary programme meant to measure objectively the level of sustainability of a building by taking into account several key areas such as a) environmental impact on site and location b) water efficiency c) energy efficiency d) material selection e) indoor environmental quality.

For more information: <http://www.usgbc.org/leed>

## **BREEAM Assessment Method**

BREEAM (Building Research Establishment Environmental Assessment Method) is a sustainability assessment method for master-planning projects, infrastructure and buildings. It addresses a number of lifecycle stages such as new construction procedures, refurbishment of existing buildings and re-use of materials.

For more information: <http://www.breeam.com/>

## **HQE Certification Scheme**

HQE™ (Haute Qualité Environnementale / High Environmental Quality) is a French certification awarded both nationally and internationally to building constructions and urban planning projects. HQE™ promotes best practices, sustainability and quality assessment in building projects and offers expert guidance throughout the lifetime of the project.

For more information: <https://www.behqe.com/>

# RECOMMENDATIONS ON PRE-DEMOLITION AUDITS

- The waste audit should specify the areas of the building potentially affected by contamination and the best way to deal with them before beginning the other activities of the project.
- The waste audit should include a reference to the national legislation regulating the way to handle specific waste material (i.e. material containing asbestos).
- It is recommended to implement risk mitigation measures by preparing an environmental health and safety control plan that describes the operations that should be followed to avoid unnecessary and unwanted contaminations and risks to staff workers. Any other possible risk for workers should be specifically considered and reported in a health and safety plan.
- Separation of the source of waste should be in accordance with the different levels/floors of the building.
- Separation of waste on site should always be a priority when feasible.
- Inclusion of photographs to make reporting easier and more reader-friendly.
- Summary of the waste produced should be by type of outlet and should also include management of each waste stream.
- Assessment of the reachable recovery targets and disposal rates should be reported using templates.
- A list of local waste management facilities (if possible) specifying their services should also be available prior to the demolition phase.
- Safe removal of hazardous waste should follow recommendations by experts.
- Different alternatives should be provided for each materials group or waste streams to be used as a contingency option.
- The information about constructive and non-constructive elements (such as pillars, beams, walls, slabs, etc. and also furniture, lightning, electronics, paper, etc.) and corresponding materials should be organized as to show not only the total amount of waste produced but also the total amount of different materials produced.

# EU CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT PROTOCOL - AIMS - STRUCTURE AND TARGET GROUPS

## Aims of the protocol

- To increase confidence in the use of C&D waste material.
- To stimulate an increase in the demand for C&D recyclates.
- To attract new business activities and players in the waste infrastructure sector.
- To increase cooperation and synergies between sectors of the C&D waste value chain.
- To attain C&D waste targets as these are defined by the 2020 European Strategies.
- To assist in the generation of reliable C&D waste data and statistics across the EU.
- To contribute in the reduction of environmental impact of C&D waste.

## Processes of the protocol

The Protocol presents 5 processes, all of which contribute to the overall aim.

- Waste identification, source separation and collection
- Waste logistics
- Waste processing
- Quality management
- Policy and framework conditions

## Target Group of the protocol

The Protocol has the following target groups of stakeholders:

- Construction sector (including renovation companies and demolition contractors)
- Construction product manufacturers
- Waste treatment, transport and recycling companies
- Public authorities at local, regional, national and EU levels.
- Quality certification bodies.
- Clients of C&D recycled materials.



# EU CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT PROTOCOL- COMPONENTS

## **Waste identification, source separation and collection**

### Definition

*Processes that promote proper waste identification, waste separation and collection.*

## **Waste logistics**

### Definition

*Processes that cover all economic aspects during a demolition/ renovations of buildings.*

## **Waste processing and treatment**

### Definition

*Processes that cover aspects of waste processing and treatment in relevant facilities.*

## **Quality management and assurance**

### Definition

*Processes that secure the quality of waste management and increase the confidence in C&D waste management processes and the products produced.*

## **Policy and framework conditions**

### Definition

*Processes that promote the dialogue between public and private sectors and aim to breach the gap between institutional level of policy and on-site waste management.*



# CHALLENGES IDENTIFIED

## Challenges Identified

- Inconsistency in terms of the procedures followed during demolition/ renovations of buildings.
- Lack of trust in recycled materials produced by C&D waste (mainly due to lower quality of recyclates).
- Lack of coherent and complete databases on C&D waste (both regionally and nationally).
- Lack of common legal frameworks that prescribe the procedures to be followed in each demolition/renovation.
- Incomplete or inadequate record keeping, traceability mechanisms and treatment options for C&D waste.
- Lack of coordination (due to limited communication) between different authorities and sectors.
- Lack of enforceability of waste management legislation and impartiality of those involved in the process (politicians, civil servants and police force).
- Lack of awareness and involvement from citizen-driven initiatives to increase recycling rates in densely populated areas.



# RECOMMENDATIONS FOR FUTURE USE 1/2

## **Waste identification, source separation and collection**

- Implement a pre-demolition audit before the renovation or demolition project to identify any materials to be re-used or recycled and the hazardous waste produced.
- Prepare a waste management plan defining the different steps that should be followed including information regarding the type of materials produced, the key actor performing the demolition etc.
- Supervise the demolition process with a local authority or an external third party to ensure that processes are properly followed.
- Separate different materials produced during demolition in view of the different treatment options available.

## **Waste logistics (tracking, transport, traceability)**

- Establish electronic registries (especially for Hazardous C&D waste) and strengthening of record keeping and traceability mechanisms in EU member states.
- Register C&D waste expected to be produced during demolition.
- Use European List of Waste as a common framework to register C&D waste to ensure compatibility of data across different European countries.
- Optimize transport with use of appropriate information technology that provides driving direction with minimum fuel consumption.
- Ensure proximity between sites and sorting/recycling plants to maximize waste management of bulky materials (e.g. asphalt, concrete).
- Use waste transfer stations or pick-up points for bridging the gap between local C&D waste collection point and final destination (waste disposal facility).

## **Waste processing and treatment**

- Sort and process non-inert materials and products according to their economic value.
- Promote recycling of C&D waste especially in densely populated areas.
- Focus on the production of substitute fuel through waste processing and treatment.
- Implement available technologies developed for the processing of C&D waste (RDF sorting).

# RECOMMENDATIONS FOR FUTURE USE 2/2

## Quality management and assurance

- Introduce quality management checks and tools at all stages of the recycling process (i.e. demolition sites, waste transportation and transfer, process and treatment).
- Deploy existing quality management schemes (e.g. ISO 9000, ISO 14001, EMAS) to cultivate familiarity with the processes.
- (For the contractor) Verify before transfer if the waste produced is hazardous to make the necessary arrangements in terms of appropriate transport containers.
- Use common methodology (in terms of sampling and testing of waste) to establish a framework for all European countries.
- Establish systematic and sequenced working methods to reduce the environmental risk.
- Implement guidelines to ensure that employees are adequately skilled and trained in the proper use of protective equipment.

## Policy and framework conditions

- Ensure that proper regulations of C&D waste management are in place by establishing a) that the ownership of waste is clear, b) in line with national legal frameworks.
- Establish a permit that charges local authorities with issuing demolition and renovation permits or licences.
- Establish a post-demolition follow-up evaluation of the process.
- Establish integrated waste management strategies in conjunction with local, regional or national governments to promote C&D waste management.
- Establish landfill restrictions (through landfill bans and high landfill taxes) to stimulate the market for C&D recycled materials.
- Establish a standardization scheme for recycled aggregates.
- Establish regular communication across all authorities-from municipalities, cities and regions to Member States and European Union.
- Consult with key stakeholders and other important agents at the beginning of each demolition process.
- Engage the broader public by inviting them to report and provide pictures of illegal dumping activities (through software applications) and alert the local authorities in charge of enforcement.

# Get involved

<https://www.facebook.com/Condereff/>

<https://twitter.com/CONDEREFF>

<https://www.linkedin.com/in/condereff-project/>



## About us

The CONDEREFF project brings together 8 partners from 7 countries to exchange experiences and practices on how to promote green growth and circular economy through sustainable constructions & demolitions (C&D) waste management.

CONDEREFF is an INTERREG Europe project and is co-funded by the European Regional Development Fund (ERDF)

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