

CONDEREFF NEWSLETTER



CONSTRUCTION & DEMOLITION WASTE MANAGEMENT
POLICIES FOR IMPROVED RESOURCE EFFICIENCY

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Dear reader,

Welcome to the fifth edition of Newsletter series of the CONDEREFF project!

CONDEREFF is a European project funded by the INTERREG Europe Program that aims to share and disseminate best practices of waste management, reduction and recycling to stimulate and support their implementation in partners' territories.

In the following pages, you will find interesting materials describing the overall context and objectives of the project as well as information on the latest developments and events, and the upcoming ones.

Do not hesitate to subscribe on our newsletter channel at: <https://www.interregeurope.eu/condereff/>

We shall keep you informed about our progress and key outcomes through the project website, thematic events, and newsletters.

The CONDEREFF project team

CONDEREFF in brief

C&D waste streams represent **20-30% of all wastes generated in Europe**, reaching up to the two-third of the total wastes generated in some countries. Reuse rates vary across EU countries (10-90%). The Waste Framework Directive (2008) and the Construction 2020 strategy set a **70% recycling and reuse rate of CDW by 2020** and the Circular Economy Package also prioritizes CDW.



CONDEREFF aims to **strengthen regional capacities for increasing recycling and reusability rates of C&D waste** in the regions participating in the project.



The project brings together 8 partners from 5 EU countries which work together during the 5 years of the program to analyze the CDW context in the regions, understand the stakes and get a clear view about brakes and levers on which to play with to ease the implementation of solutions.

To cope with the objectives, it is needed to rethink the way products, materials and resources are designed, produced, used and disposed. Challenges are many: organizational, technical, logistical, cultural and economical, and call for investment in R&D, new techniques and support of the overall value chain development.

From a planning perspective, the project is split into **two major phases**. The first, which has started in June 2018, focuses on studies & analysis, including policy learning, market potential for CDW, network mapping, tools and resources for monitoring, tracking management of CDW. The second, starting at the latest in June 2021, is about implementation of action plans and testing of solutions in territories.

State of progress in Auvergne-Rhône-Alpes

The fifth semester is focused on three main activities for AURA-EE:

- Organizing a virtual event on preventive conception and the reuse of building materials in public procurement in France, aiming at public stakeholders involved in the construction and demolition sector.
- Presenting of the CONDEREFF project and its goals at the regional day of shared energy advisors organized online on September 24th.
- Developing training courses on the recovery of construction and public works waste in public procurement contracts of Auvergne-Rhône-Alpes region



**Auvergne
Rhône-Alpes**
Énergie Environnement

Event on preventive conception and the reuse of building materials in public procurement in France

On October 5th, AURA-EE organized an online event focusing on the reuse of building materials and the solutions to prescribe it in public procurement contracts. The event targeted public stakeholders which are involved in prevention; renovation and building waste management, as well as those involved in construction, rehabilitation and deconstruction.

Around 60 individuals have joined the event. After an introduction by an elected representative of the Auvergne-Rhône-Alpes Regional Council, the first session was devoted to a presentation of the issues involved in developing reuse in projects: context and regulatory framework, skills and technical levers, insurance barriers.

During the afternoon assembly, several feedback sessions provided the participants with concrete examples on how to include the matter in public procurement. Speakers were able to present their actions and answer questions from participants.



Informing the Auvergne-Rhône-Alpes regional shared energy advisors on C&D waste

AURA-EE presented the CONDEREFF project, its goals and objectives at the regional day of shared energy advisors organized online on September 24th with 30 participants. The shared energy advisors provided useful advice to local authorities as regards energy renovation works.

The "RE 2020", namely the regulation that will govern the environmental performance of new buildings from the summer of 2021, requires taking into account the carbon impact of the entire life cycle of a new building, including the production of waste from its design to its deconstruction. Advice can therefore prove significantly useful and constructive to elected officials in order to more adequately plan and encourage the management of construction waste.

According to a survey conducted during the meeting, the topic of waste reduction and management in building construction and deconstruction projects was completely new, according to the 92% of the participants, while 82%

of event participants desire to become more competent on the subject.

Developing training courses on the recovery of construction and public works waste in public procurement contracts of Auvergne-Rhône-Alpes region

Enhanced collaboration has been recently observed among AURA-EE, authorities from the Greater Lyon area and the Auvergne-Rhône-Alpes Region in order to co-deliver training sessions for their buyers on the issue of waste recovery and reuse of materials.

The main objective is to provide solutions to facilitate the integration of these issues into the procurement process and to monitor the proper implementation during these processes. The first round of training sessions will take place in early 2021 and could be extended to other territories in the region.

Legislative progress in Lazio Region

News in the Italian legislation



This semester has brought the Lazio region into a new era, as the Lazio Regional Council, with Resolution no. 4 of 5 August 2020 has approved the regional new Waste Plan.

The Lazio Region has equipped itself with a fundamental planning tool, aiming at securing the entire waste cycle of the region, ensuring greater effectiveness and productivity, in the name of legality, environmental sustainability and European regulatory provisions.

The cornerstones of this reform and initiative comprise the reduction of waste production, the provision for separate collection, the plant balance and the progressive development of the circular economy.

The new regional planning is structured upon two pillars:

1. The self-sufficiency of Lazio and a fair territorial distribution of the plant weight that would considerably help to maintain the waste cycle within its borders;
2. The circular economy with investments and concrete interventions to encourage separate collection, recycling



and reuse of materials, supporting the creation of an eco-sustainable industrial chain.

The Region has already launched policies and investments - foreseen in the Plan - to favor the reduction of waste production and the development of the circular economy, giving particular attention to materials deriving from construction and demolition activities.

Finally, a pivotal priority and objective of this plan is to increase the percentage of materials treated for recycling and reuse, in order to increase the related business.

Events and projects in the Czech Republic

OECD helps the Czech Republic with new strategy for circular economy

The Czech Republic's Ministry of the Environment has launched a cooperation project with the Organization for Economic Co-operation and Development (OECD) on the preparation of the national strategic framework for the circular economy of the Czech Republic 2040 (Circular Czech Republic 2040). The project is funded by the EU and is being developed in cooperation with the European Commission.

The Czech Republic has not yet set forth an explicit circular economy strategy for the circular economy. The strategic framework concerning circular economy of the Czech Republic 2040 reflects the necessity to enforce the circular economy principles and ensuring that the latter constitutes a top priority for the future. The preparation of the strategic framework has been underway since the end of 2018.

This OECD project sets out the implementation steps towards the formulation of a long-term strategy that will enforce its resilience mechanisms to future environmental threats, including climate change and biodiversity loss, and gradually develop an overall sustainable social circular economy system.

News in the Czech Republic legislation

In parallel with this strategy and in accordance with the principles of circular economy, an amendment to the Waste Act has been approved in the Czech Republic.

In particular, landfilling is currently a very popular topic in the Czech Republic and one of the main reasons why the approval of the new law is still shifting.

Supporting the reduction of waste disposal in landfills results in a sharply increasing landfill fee, which would rise from the current CZK 500 (50 EURO) in 2021 to CZK 800 (32 EURO) and by 2030 could climb to the amount of CZK 185 (74 EURO).

A key component that will allow the transformation of the circular economy from theory to practice will undoubtedly be the increase in capacity and the emergence of new regulations for collection and various types of waste.



PRVOK - the first three-dimensionally printed house in the Czech Republic

What's new in Czech construction? The first three-dimensionally printed house in the Czech Republic.

It was designed by sculptor Michal Trpák in collaboration with Kateřina Nováková and Jiří Vel. The house passed the pressure tests at the Czech Technical University in Prague. 3D printing technology originated in the 80's, however, the first houses made via 3D printing began to emerge only in the last decade. In Dubai, for example, the first office building was built in 2016. The 250-square-meter house was printed in 17 days and built in 48 hours. PRVOK is the first Czech house purely printed using 3D printing.





Technical points of interest

- The building is located on a pontoon, so it can be moved on water.
- The three-dimensionally printed skeleton is double-skinned. Holes were prepared in the upper layers allowing the use of a roof settlement, which is a clean wooden building.
- The house can be controlled using a smart system via the application, the lower is connected to, for example, air conditioning, underfloor heating, lights, etc.
- Thanks to the layering and fine coloring, the walls reminiscent the structure of wrinkled rock formations, which are covered with greenery. The element has a green roof, merging into a vertical garden in both sides, which enhances the natural impression even more.
- The whole building is insulated, the authors use foam approaching its polyurethane composition.
- The recirculation shower is equipped with a system that allows up to 90% water recycling. It is equipped with a set of sensors that checks the purity of the outflowing water 20 times per second. The one that is clean is returned to the circulation, first cleaned once more and reheated.
- Some wooden elements, such as the bathroom countertop carrying the washbasin, are made of subfossil oak, which is dated to the beginning of the end of the Ice Age.
- In Prvok, it is possible to notice an audio system, whose snail-shaped speakers are also printed in various directions, this time often from sand.



RRA PK – participation on conference “ODPAD ZDROJEM 2020”

The RRA PK participated on the conference “Odpad zdrojem 2020” (Conference Waste is a Source), organized by the NGO INCIEN. The conference focused on circular economy, including topics such as waste management, water reuse, energy reuse and circular construction.



The conference program responded to current challenges comprising: drought and water management, meeting the objectives of the circular economy package, waste prevention, efficient sorting and recycling of waste with the use of secondary raw materials, implementation of smart technologies into the practice of cities and municipalities and work with them, searching for real efficiency in the management of resources and energy.



The workshop was divided into two days; the first day included presentations on circular public procurement, waste, water and energy, while the second focused on thematic workshops.

Green public procurement (GPP)

According to the Circularity Gap’s study, only 9% of the materials they use are currently being put back into circulation. In the conference, they also appealed to the closure of material flows and to the change of the linear model of the economy to a circular one. In the Czech Republic, around 600 billion crowns are invested annually in public contracts. Circular economy applications can have a significant ecological potential for the area. GPP is one of the priorities of the Green Agreement for Europe, and will play a major role in the future. In connection with

this topic, a brochure entitled "How on Circular Public Procurement", prepared by the Kroupahelán law firm, was christened here.



The conclusion and outcome of the whole conference was in the spirit of the slogan "it is necessary to learn", it is necessary to educate, let us learn from each other and share good but also bad practice with the circular economy topic.



C&D waste developments in the Region of Styria

New C&D waste guide presented

Since 2012, the Region of Styria has published guidelines for the handling of construction and demolition waste for the target groups involved in the value chain. In 2016 there were comprehensive changes with the Recycling Construction Materials Ordinance, which were also incorporated into these guidelines.

As part of the CONDEREFF project, the regional stakeholder group recommended that the individual guidelines be combined into one guide for the handling of construction and demolition waste, and the topic of the reuse of construction elements has now also been included.

The new guide, which is also available online, provides all necessary information for all types of stakeholders. The target groups include building owners, property developers, public authorities, planners/architects,



construction companies as well as re-use and recycling companies.

The new design of the guide will be more lucid and legible facilitating comprehension by all users. The guide focuses on the topics of waste reduction, reuse, and recycling of building materials, while at the same time explaining the rights and obligations of participants at each step along the way. Further information and relevant legislation are linked throughout the guide.

In close cooperation with the regional stakeholder group of the CONDEREFF project, other interest groups and the authorities at national and regional level, the guide update clarifies ambiguities and provides comprehensive guidelines for the reuse of building materials and building components aiming at benefiting from the market potential of reusable objects in the construction industry.

The new guidelines will be presented at the upcoming interregional workshop in Styria, which will take place at the end of November 2020, and will be available in both German and English.



C&D waste management progress in Spain

Creation of new guidelines to estimate ratios of waste generated in construction and demolition works in Spain.

A webinar was held on 25 June 2020 to present a guide to the calculation of the national generation of construction and demolition ratios from the Superior Council of the College of Architects and the General Council of the Technical Architecture of Spain.



Why such a guide is needed?

The guide has been prepared to respond to the problems detected in C&D waste management, such as lack of data available concerning construction and demolition waste ratios within the various constructive and building works in the national level.

The estimation of national ratios of waste generation can be helpful for stakeholders in the construction sector and, in particular to guide planners, so to develop a Study of Construction and Demolition Waste Management in the project of execution of the construction work. The latter would also include an estimate of the amount, expressed in tons and in cubic meters, of construction and demolition waste that is generated in the work, coded according to the European waste list published by Order MAM/304/2002.

The authors of this document insist that adequate waste management begins with a good study of quantities of generated waste.

Contribution of the CONDAREFF project

The guide has been based (among others) on the results of the CONDAREFF project. Mr. Laureano Matas, one of the main authors of the guide, and member of the Superior Council of the College of Architects in Spain, is member of CONDAREFF regional stakeholders groups in Spain having participated to several project activities.

It is a very positive fact that such resources are being developed in more and more countries/regions, fostering the sustainable generation and management of waste and serving as an aid for relevant stakeholders and on-site

professionals whilst making a decisive contribution to improving relevant regulations.



RATIOS NACIONALES.

GENERACIÓN DE RESIDUOS DE CONSTRUCCIÓN Y DEMOLICIÓN

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Best practices, legislative updates and C&D waste management events in Italy

DECORUM: a platform for the unified management in public works

The construction and public work sectors faced a series of challenges that will need to be addressed in order towards an effective circular economy model. The complexity of procedures required for public works comprising too many steps and involving a large number of subjects further hinders a GPP application, the reuse of recycled components and the verification of compliance with product standards and environmental criteria.

To overcome these difficulties and make the procedure in public works simpler and more effective, ENEA in partnership with Softlab S.p.A. and Contento Trade has

developed the DECORUM platform in the framework of the homonym project, co-financed under the European Regional Development Fund – ROP Lazio ERDF 2014-2020.

The platform constitutes a valuable tool for the unified management of all phases of public works, from set up of the public tender, moving through the design, construction, maintenance, and decommissioning phases.

Using a series of tools, the users, being involved in various public works capacities (contracting authority, designer, contracting company, producers of building materials, recycling plants), will be able to manage complex procedures; ensure compliance with regulatory and environmental requirements during their activities, such as the minimum environmental criteria; and find certified recycled materials in the surroundings.

On September 23rd 2020, the DECORUM Platform has been presented in a Webinar, edited by ENEA within the Remtech - INERTIA 2020 event. The Webinar has seen the participation of representatives of ENEA, DECORUM partners and organizations operating in sustainability in constructor sector.



Antonella Luciano, scientific manager of DECORUM project presented contents and tools to the technicians of the construction sector and public administrations.



The platform has been selected as Best Practice in ICESP (Italian Circular Economy stakeholder Platform) and details have been published in the following scientific paper: Luciano, A., Cutaia, L., Cioffi, F. Sinibaldi C.

(2020). Demolition and construction recycling unified management: the DECORUM platform for improvement of resource efficiency in the construction sector. Environ Sci Pollut Res (2020). <https://doi.org/10.1007/s11356-020-09513-6>

Publication of UNI/PdR 75:2020 on selective demolition

The new UNI/PdR 75:2020 (reference pre-standard) "Selective deconstruction - Methodology for selective deconstruction and waste recovery in a circular economy perspective" has been published on February 3rd 2020.

The UNI/PdR constitutes a technical document, adopted at national level, which collects prescriptions relating to practices shared by the "UNI Selective Deconstruction" Working Group. The UNI/PdR represents a guideline towards the application of the principles of circular economy on construction sites. In particular, it offers a useful reference framework for the digitization of information on materials in selective deconstruction processes, aimed at the sustainable management of C&D waste.

Indeed, the PdR defines a macro-process (which includes pre-demolition audits and the creation of a materials database) aimed at promoting the recovery - through reuse and / or recycling - of C&D waste and the digital management of the process and information. This could allow the overcoming of the limitations of the current waste tracking and management system, which in Italy appears as an obstacle to the diffusion of circular processes within construction sites.

On the 21st September 2020, the UNI/PdR has been presented in a Webinar, edited by ENEA and sponsored by UNI, within the Remtech - INERTIA 2020 event, aiming to illustrate its objectives and contents to construction sector's technicians.

The webinar gathered a broad participation including UNI representatives (Dr. Elena Mocchio), some members of the UNI Working Group and of two of the main stakeholders (Category Associations ANPAR and NADECO) and ENEA (Paola Altamura).



The discussion on the End of Waste and by-products: barriers and solutions for a sustainable and effective circular economy



The “end of waste” and the by-product qualification constitute two of the main obstacles towards moving to a circular economy model. Italy still lacks clear End-of-Waste Criteria legislation that would help establishing a market for a wide range of secondary raw materials.

The country also lacks assured uniform application of national by-product regulations, which would encourage symbiotic industrial practices, better management and waste reduction. These turn out to be major impediments to truly encouraging the circular economy in Italy. For years, Italian companies have been waiting for sectorial End-of-Waste criteria, as well as for construction and demolition wastes, and are meanwhile using ad hoc standards.

The new Italian Law no. 128/2019 provides that, in the absence of specific criteria adopted through the usual ministerial regulations, local authorities have the power to authorize procedure on a case by case basis.

However, there are still many critical issues highlighted and represented by companies in the construction sector and are also welcomed by policy makers, concerning in particular the control methods (moved to an ex-post and sample phase) and the excessive bureaucratic process.

In order to further discuss and provide solutions to these perilous issues, ENEA organized, within the international fair ECOMED 2020 which took place in Catania from 16th

to 18th of July 2020, a thematic workshop inviting the main institutions involved in these procedures, such the Ministry of Environment and the Italian Institute for the Environmental Protection (ISPRA), research institutions, the Universities of Catania and Messina, lawyers and companies.



The CONDEREFF Partnership



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