New Circular Economy Business Model for More Sustainable Urban Construction

CINDERELA

Newsletter 2

May 2020

www.cinderela.eu | info@cinderela.eu | @CinderH2020 | CINDERELA Project

Editorial

Dear Reader,

Welcome to CINDERELA's project second Newsletter!

For now the project has been running for almost 2 years. We have achieved some great results we would like to share them with you. In particular with this newsletter we would like to focus on four developments: application of Geodesign Decision Support Environment (GDSE tool) for assessing appropriate waste to resource opportunities for construction industry, results of a multiple value chain analysis in European countries as a step towards building circular value chains for turning urban waste into construction materials, launch of the first CINDERELA demo on phosphorus extraction and development of the framework for assessing the sustainability of the CINDERELA business model.

Read more...

Contents:

News from demo-sites and pilots

★ Circular business models for construction may start in the toilet! - The phosporus extraction DEMO

Toilets may become an important step in delivering secondary raw materials for use in the construction sector through a cascading recycling system. Why? Because they may allow recovering valuable nutrients such as phosphorus and nitrogen before they end up in sewage sludge to be used as an additive to construction materials. Early upstream extraction of phosphorus, nitrogen and other valuable nutrients directly from urine will allow to demonstrate a cascade waste to resource approach: nutrient recovery from wastewater for use where there is demand - as fertilizer, followed by the use of sewage sludge as secondary raw material for application as construction materials component where nutrients would not add a value being irreversibly wasted.

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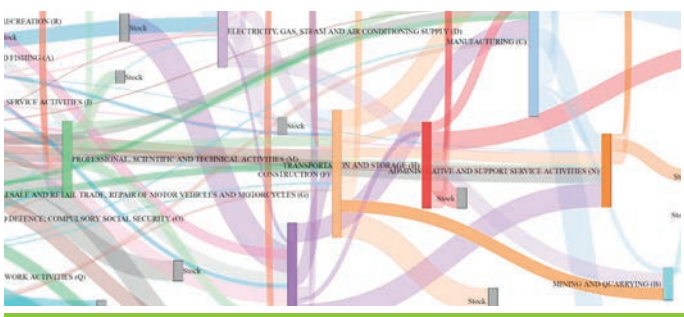
News on CinderOSS and CinderCEBM development

★ Material flow analysis and the use of GDSE tool in assessing the waste to resource opportunities



Material Flow Analysis (MFA) is an analytical method to quantify flows and stocks of materials or substances in a well-defined system. In the framework H2020 REPAIR project, TUDelft has developed a Geodesign Decision Support Environment (GDSE) - an open-source, GIS supported tool and online web-application that efficiently supports classical MFA in tracking waste to resource opportunities. This tool has been applied in the CINDERELA project with an aim to facilitate the development of circular business models where secondary raw materials for the use in construction sector are recovered from different waste streams available in urban and peri-urban areas, while at the same time develop this GDSE tool to a next level, including, among other, a Life Cycle Assessment.

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★ Circular value chains for turning urban waste into construction materials: results of a multiple value chain analysis in European countries

The circular business model build under the CINDERELA project requires establishing new value chains and getting a comprehensive knowledge on who are the actors, how do they interact which technical, economic and legal environments are needed for their successful operation. All these aspects were subject of a comprehensive analysis carried out in CINDERELA. The analysis covered potential new value chains as well as existing value chains for urban waste that connect multiple sectors within urban and peri-urban areas. The conclusions of the analysis could function as a starting point towards further development of the circular built environment as they seem to closely relate to the goals of the European Union. This is because the main findings of the analysis indicate that a focus needs to be put on enhanced certification, providing of subsidies and taxation on virgin materials and landfilling.

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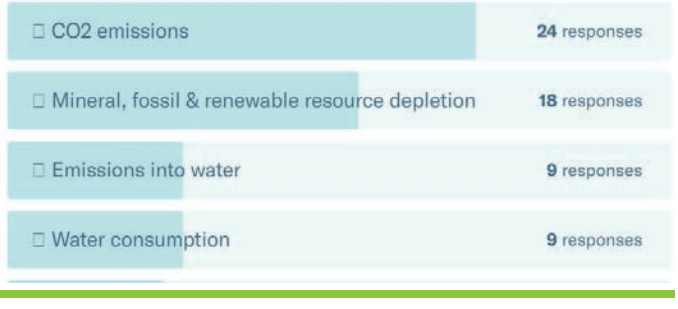
Other developments

★ Life Cycle Assesment use in CINDERELA

Life cycle assessment (LCA) is a methodology to assess the overall environmental burden associated to the whole life cycle of a product or service. Being quantitative, standardised and scientific, this methodology allows the production of reliable information about the environmental performance of a product and it overcomes some issues that might arise while focusing on a single life cycle phase, typically the production one. It is generally considered the most reliable tool to properly assess the sustainability of a product.



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Project events

★ Building relations with stakeholders

Stakeholder focused activities are at the core of CINDERELA project actions as they ensure that our circular economy business model and the one stop shop service match their needs. During the last two years CINDERELA was presented to international, regional and local audiences as 29 conferences, 8 workshops and 7 other external events including international environmental fairs.

Read more...

Join us

14 July 2020
09:30 am – 11:30 am CET

UPCOMMING H2020 CINDERELA PROJECT ON-LINE USER EXPECTATIONS BUILDER WORKSHOP

Digital services for circular economy in construction sector

www.cinderela.eu

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Project partners

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