NWE-REGENERATIS Workshop – INTERSOIL 2022

Title: Valorization of soils and polluted materials from metallurgical sites: current challenges and new tools developed in the framework of the **NWE-REGENERATIS** project

Address: Site de Tour & Taxis, Havenlaan 86C/3000, 1000 Bruxelles (Bruxelles Environnement)

Duration of presentations: 15h30 – 18h00
Cocktail: 18h00-19h30

Agenda

No.	Hours	Presentations	Speakers	Function	Contact details
1.	15h30 – 15h45	Presentation of the NWE-REGENERATIS project	Dr. eng. Claudia NECULAU - SPAQuE	Head of R&D and Innovation Department	c.neculau@spaque.be +32 471 90 44 68
2.	15h45 – 16h05	Resource recovery from construction waste: Barriers and solutions in the Walloon context	Eng. David LAMY - TRADECOWALL	General Manager	dl@tradecowall.be +32 470 18 85 52
3.	16h05 – 16h25	Evaluation of the use of historical pocket slag deposits in road construction as an alternative to LD and EAF slag	Eng. Stéphane NEIRYNCK - CTP	General Manager	stephane.neirynck@ctp.be +32 496 70 55 83
4.	16h25 – 16h35	New economic model for the development of the projects on the former metallurgical sites	Eng. Iqra AZIZ - SPAQuE	Project Manager NWE-REGENERATIS	i.aziz@spaque.be +32 477 98 84 57
	16h35 – 16h50	Coffee-break			
5.	16h50 – 17h05	Synthesis of bio-sourced catalysts from ryegrass produced on the metallurgical sites for the synthesis of therapeutic molecules: a possible option? Feedback from	Dr. Adeline JANUS - IXSANE	Researcher - Polluted Sites and Soils Department	adeline.janus@ixsane.com +33 3 20 59 89 77
			Pr. Christophe WATERLOT - JUNIA	Environment Team Leader - Health & Environment Department	christophe.waterlot@junia.com +33 3 28 38 48 01

		the NWE-REGENERATIS project	Pr. Alina GHINET - JUNIA	Sustainable Chemistry Team Leader - Health & Environment Department	alina.ghinet@junia.com +33 3 61 76 23 95
6.	17h05 -17h15	The NWE-REGENERATIS project: an open access platform to boost the rehabilitation of metallurgical wastelands	Eng. Sébastien Moreaux – ATRASOL	Project Manager	sebastien.moreaux@atrasol.eu +32 468 094 012
7.	17h15 – 18h00	Debate/Discussion: Identification of the barriers and solutions to prepare recommendations for the implementation of the projects focused on resource recovery			
	18h00 – 19h30	Cocktail and networking			

Workshop description

The recovery of materials is one of the major axes in the framework of the climate transition and the economic reconversion of polluted sites. This workshop is organized in the framework of the NWE-REGENERATIS project which aims to provide a solution, based on data collected on demonstration sites, to recover aggregate materials (ferrous, metals, white and black slag, other streams, ...) by urban mining techniques.

This workshop will be an excellent opportunity to see urban mining from different aspects and will allow the identification of the main barriers and solutions for the implementation of future projects focused on resource recovery.

Presentations

1. Presentation of the NWE-REGENERATIS project – SPAQuE – Project Coordinator

NWE-REGENERATIS (REGENERATIon and Rehabilitation of past-metallurgical sites through resource recovery) project is developed within the framework of the European Interreg North-West Europe program. In collaboration with Belgian, German, French and British public and private partners, NWE - REGENERATIS aims to recover the materials and metals on the Past Metallurgical Sites and Deposits (PMSD) through project methodology called REMICRRAM, favoring the reduction of their rehabilitation costs. Its final goal is the reintegration of raw materials and land into the regional economy.

2. Resource recovery from construction waste: Barriers and solutions in the Walloon context – TRADECOWALL

After understanding the contextual aspects of waste management in the construction sector, the evolution of the regulatory framework and its application in the field, concrete cases of 'waste/resource' valorization will be presented.

Do construction projects fit into a circular economy and sustainability dynamic?

Based on the current findings, what are the future evolutions? With what constraints and opportunities?

3. Evaluation of the use of historical pocket slag deposits in road construction as an alternative to LD and EAF slag – CTP

CTP's participation in the NWE-REGENERATIS project consists of evaluating the potential for recovery and valorization of materials present on the Duferco site in La Louvière through mineral processing techniques.

The valorization of a historical deposit of ladle slag in the field of civil engineering was notably taken into account within the framework of the project because it contributes to the economy of natural resources while avoiding the dumping of these materials.

Although EAF (Electric Arc Furnace) and BOF (Basic Oxygen Furnace) slags can be used for soil stabilization and are included for this purpose in "Qualiroutes" (regional regulation for the quality of materials for roads construction), there is no application today for the case of ladle slag. In this context, the research carried out by the CTP aims at demonstrating the potential of this ladle slags as a treatment agent for the improvement of soils quality before their use as backfill, and even as sub-base, and should ultimately lead to the realization of an experimental plot on the DUFERCO site.

4. New economic model for the development of the projects on the former metallurgical sites – SPAQuE – Project Coordinator

The NWE-REGENERATIS project partners have developed a transparent, evidence-based economic model framework that will help decision-makers, stakeholders, brownfield owners/managers, municipalities, the public/private sector or any other relevant authority to analyze the economic, technical and social viability of an urban mining project before its launch. It is a realistic analysis of costs and benefits, with a detailed study of associated risks and influencing factors. It is a record of the return on investment from a financial perspective and summarizes all the benefits delivered directly and indirectly to the beneficiaries.

5. Synthesis of bio-sourced catalysts from ryegrass produced on the metallurgical sites for the synthesis of therapeutic molecules: a possible option? Feedback from the NWE-REGENERATIS project – IXSANE/JUNIA

IXSANE & JUNIA conducted a series of laboratory and brownfield tests to evaluate the possibility of using metal-rich brownfield soils for the cultivation of ryegrass, which will then be transformed into bio-sourced catalysts.

The work carried out within the framework of this project enabled the JUNIA/IXSANE team to produce numerous data and to develop specific expertise opening up new avenues for the

potential future use of brownfield soils. The main results obtained up to this point in the project will be presented.

6. The NWE-REGENERATIS project: an open access platform to boost the rehabilitation of metallurgical wastelands – ATRASOL

In order to boost the market, and as a complement to the SMARTIX process simulation expert system (a tool under development within the framework of the project), a digital platform is being developed by the project partners. Its purpose is to allow owners to inform their sites after a "quick scan" evaluation, civil engineering companies active in the sector to make themselves known and metallurgists to indicate their interest in the recovery of certain metals. This platform will allow the actors to meet to develop projects whose economic and environmental interest is well established.