

**INTERSESSIONAL PANEL OF THE UNITED NATIONS COMMISSION  
ON SCIENCE AND TECHNOLOGY FOR DEVELOPMENT (CSTD)**

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**Contribution by Belgium**

**to the CSTD 2022-2023 priority theme on “Technology and innovation for cleaner  
and more productive and competitive production”**

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## **BELGIUM – Contribution to the CSTD session 2022-2023**

**PRIORITY THEME 1:** Technology and innovation for cleaner and more productive and competitive production

- 1. What are some specific examples (from the public and private sectors) of green technology and innovation for cleaner and more productive and competitive production in your country? Please include contact, website, link to reports and any other relevant information concerning these projects and initiatives.**

As part of the Recovery Plan post-covid, the Walloon Government in Belgium has launched a call for projects aimed at developing low-carbon industry and deploying the circular economy in Wallonia. This call also contributes to the implementation of the Circular Wallonia strategy, and of two of its priority value chains (metallurgy and construction). 18 projects have been selected.

The objectives of the call were as follows:

For the low-carbon industry: to develop the technologies needed by industrial companies to achieve the targets set for reducing CO2 emissions.

For the circular economy: the emergence of projects/portfolios of projects focusing on research and development in the 2 priority value chains of metallurgy and building materials. Projects should focus on the circularity (reuse, upscaling and recycling) of metals, batteries and minerals, including batteries for electric and hybrid vehicles and materials from dismantled aircraft.

The criteria used for the selection are the following:

Innovative character of the project ;

Quality, feasibility, relevance and risk of the project;

Value of the innovation from an economic and employment point of view;

Contribution to sustainable development.

More specific criteria were also taken into account, such as the contribution to scientific and technical progress in terms of the acquisition of new knowledge, the advantages of the innovation in terms of costs, functionalities, risks, processes, production, use, environment, technical capacities to carry out the research, the impact for Wallonia and Europe, the evaluation of the turnover and potential benefits, environmental preservation, etc.

Here is the list of the 18 selected projects:

- Low carbon industry:

BUTTERFLY: development of a lime kiln of the 'PFR' type to capture and concentrate CO2 directly in the lime manufacturing process in order to make it compatible with the requirements of sequestration or use applications.

CLEANGRID: investigating the new characteristics and potential of an innovative high power converter structure that can preserve the advantages of conventional solutions while eliminating their weaknesses.

ELECTRIFICATION: electrification of industrial processes at high temperatures.

ELECTROLYSE: generation of decarbonised hydrogen by electrolysis.

NKL: synthesis of carbon neutral paraffin (EKerosene) from renewable electricity and fatal carbon dioxide.

PLASMALYSEHYBRIDE: hydrogen production by hybrid plasmalysis of local methane and structured carbon deposits without CO2 emissions.

SATURN: development of a post-combustion CO2 capture and concentration solution.

- Aircraft dismantling:

PLANUM: industrial management of the integrated end-of-life of aircraft supported by digitalisation and advanced circularity of the aircraft's constituent parts

- Circular economy:

CARBOC: CO2 capture and storage by carbonation of bottom ash and concrete with reduced cement content

CGROUT: pre-treatment of waste and by-products of mineral origin with a view to their integration into architectural material formulations and for use in offshore wind farms

CIBER: circularity of prefabricated concrete

CISTEEMIC: expanding three industrial sectors supported by the growth of the electric mobility and energy transition sectors (Li-ion batteries, copper and rare earths)

ECWALI: facilitate the sorting of aluminium alloys and stainless steels

IRMA: manufacture of refractory and non-combustible materials by recovering inert industrial waste, deconstruction waste (including mineral insulation) and other recycled resources

PYROTECNIC: development of an industrial pyrometallurgy sector and intelligent packaging techniques for the circular economy

REMADE: to enhance the value of recycled metals in very high value-added products by developing different production/use channels for metal powders

WASTES2CEM: development of an alternative circular binder based on slag and fly ash

WASTES2MAT: development of an alternative circular binder based on ettringite

The total budget for the 18 projects is €113,750,720 million.

<https://borsus.wallonie.be/home/communiqués-de-presse/communiqués-de-presse/presses/presse-4.html>

**2. What are the national strategies, policies, and laws concerning green technology and innovation for cleaner and more productive and competitive production in your country?**

In Belgium, regions are responsible for the **economy**, employment, agriculture, water policy, housing, public works, **energy**, transport (with the exception of the national train company), the **environment**, town and country planning, nature conservation, credit, foreign trade and supervision of the provinces, and municipalities.

Created in 2011, GreenWin is a regional competitiveness cluster of Wallonia. It is a non-profit, whose objectives have been decided with the Walloon government.

It is dedicated to the industrial and environmental transition of the following sectors: chemicals, innovative construction and renovation processes and materials, environmental technologies (Green Techs). It is therefore the Walloon Cleantech cluster par excellence.

It is a reference point for the circular economy, industry 5.0 (which keeps people and their well-being at the centre of its objectives), carbon neutrality, the fight against global warming and adaptations to climate risks.

GreenWin facilitates and accelerates technological and non-technological innovation projects capable of meeting these challenges, by organising unlikely encounters between companies of all sizes, the academic and scientific communities and key partners in the Walloon, interregional and international ecosystems.

GreenWin also assists its Members in the ideation of new projects and in the valorisation of their portfolio of products, processes and services, including internationally.

The ultimate goal is to stimulate the creation of complete value chains in Wallonia, to generate new sustainable, eco-responsible and non-relocatable industrial sectors and to contribute to creating and maintaining sustainable Walloon jobs.

To this end, each project supported by GreenWin is subject to a life cycle analysis..

<https://www.greenwin.be/en/>

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**3. What are the key industries that are pioneering green innovation in the country? List the key actors in the national ecosystem of innovation related to green innovation in your country (firms, universities, financial institutions, regulators)? What are the key networks of the ecosystem in your country (including online networks, innovation hubs, forums, etc.)?**

The Walloon Government supports the development of the H2 (hydrogen) sector. Indeed, the 2019 regional policy statement states that: "The Government will take initiatives to lay the foundations for the hydrogen and synthetic fuels economy".

At the regional level, more than 160 million euros will be dedicated to the development of this new sector as part of the recovery plan. Indeed, research on using “green” hydrogen has been included in the "Low Carbon Industry" projects selected in the recovery plan (mentioned above).

Resource person: Catherine Delahaye, Project Management Cluster H2O, [cdelahaye@clusterh2o.be](mailto:cdelahaye@clusterh2o.be) .

- 4. Could you suggest some contact persons of the nodal agency responsible for projects/policies and international collaboration in this context as well as any experts (from academia, private sector, civil society or government) dealing with projects in this area? We might contact them directly for further input or invite some of them as speakers for the CSTD inter-sessional panel and annual session.**

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On hydrogen energy : Catherine Delahaye, Project Management Cluster H2O, [cdelahaye@clusterh2o.be](mailto:cdelahaye@clusterh2o.be) .