



CETWA

CER[ACL]E & Heat2[Net]
wallonia
innovation HUB



TOWARDS A WALLONIA, LAND OF ENERGY COMMUNITIES

A no-brainer for the Strategic Innovation Initiative (SII) focused on renewable energy communities: it needs you!
Joining it means accessing the added value of a consortium connected to research, facilitating innovation and open the door to financial aid.
CETWA? It's you!



Why an initiative on energy and technology communities?

In a world requiring an urgent **energy transition**, academic research has already made significant advances in energy communities, sometimes reaching high **technology readiness levels** and real opportunities for the economic deployment of innovations. However, the adoption of this research by companies remains difficult, often for financial reasons.

By moving away from the **mono-technology** format, energy communities can also meet the needs of global energy and decarbonization advice. Indeed, they can meet the challenge and lead to innovative solutions integrating the **coupling** of technologies. Upstream, it is therefore important to **boost** Walloon industry to bring conversion and storage technologies to the market and thus cover the entire value chain.

This is the objective pursued by the SII CETWA (Walloon Technologies and Energy Communities): to develop renewable energy communities in Wallonia to accelerate the energy transition and serve as a lever for economic development in the service of the well-being of the population.



The main areas of work

- > Creation of a **partnership framework** (community of actors covering the value chain and collaborating on innovative projects) with the sharing of testing infrastructures and living labs.
- > Establishment of an **integrated and strategic management** of the exploitation of the projects results to strengthen their impact on the Walloon economy.
- > **Promoting** renewable energy communities, SII partners expertise and highlighting exemplary achievements.
- > **Improvement** of the stakeholders' presence in European projects.



CETWA in concrete terms

CETWA covers **energy conversion, storage and distribution** technologies, integrated energy systems and their management, CO2 capture and utilization techniques, as well as regulatory and economic aspects and tools to support the development of energy communities. The SII also encompasses spatial planning and aspects related to societal acceptance of the energy transition.

Due to the complexity of the field, both in terms of the number and type of actors involved, bringing all the stakeholders around the table is a real challenge that takes time.

Supporting existing players to increase their innovation power and helping smaller ones to emerge are therefore essential prerequisites for building an ecosystem where everyone can work together and **create synergies** between projects.



#S3WALLONNE



HABITAT
ET ÉNERGIE



SOME FLAGSHIP PROJECTS

> **ILES (Integrated Local Energy Systems)**: portfolio of research projects focused on technological solutions for **energy communities**. It develops innovative technologies for **energy conversion, storage and distribution**, and explores technological couplings in an emulated environment. This work is supported by the **development of digital tools** for the design and management of energy systems.

> **Decarbowal** is a portfolio of 14 projects divided in 3 axes:

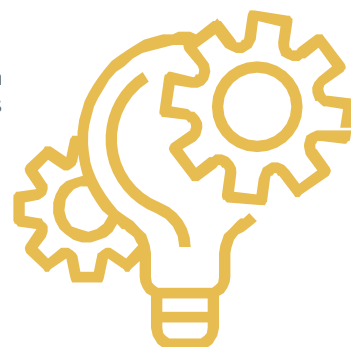
- SynFonHy aims to produce by plasmacatalysis of NH_3 and its conversion into H_2 and N_2
- WalBioPower aims the valorization of biological waste in energy and H_2
- Crucial aims to the direct capture of CO_2 (DAC) and its conversion in e-fuels, but also the e-fuels and H_2 combustion

> **EFES (Enhanced Flexibility in Energy Systems)**: portfolio organized into 13 doctoral theses, aims to work on the different **R&D** axes that will cover the challenges of the electrification of mobility and heat needs.

The **13 sub-themes** are grouped into 2 clusters of projects:

- energy storage and conversion systems for increased system flexibility,
- energy communities and energy planning.

> **BatFactory**: is a portfolio of projects which aims the development of the entire value chain of batteries from materials to the complete elaboration and characterization of batteries, with also a focus on the eco-conception strategy based on LCA.



THE MAIN ACTORS OF THE SII CETWA:

- > **Leader**: University of Mons
- > Companies, research centers, universities and colleges, public authorities and associations, active in the field of energy communities. See **next pages for complete list of the actors!**



Learn more



[linkedin.com/company/iis-cetwa-communaut-s-d-nergie-et-technologie-wallonnes](https://www.linkedin.com/company/iis-cetwa-communaut-s-d-nergie-et-technologie-wallonnes)



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SCANNEZ-MOI
[S3.wallonie.be](https://s3.wallonie.be)



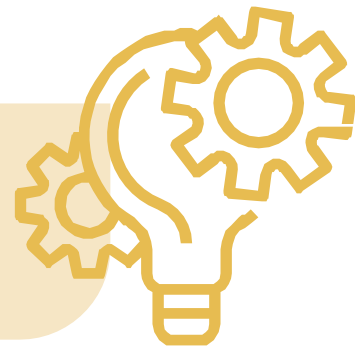
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Stratégie de Spécialisation
Intelligente



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CETWA

ACTION PLAN 2025: What are we focusing on?



The main objectives of CETWA for 2025 is to facilitate the development of collaborative projects within its members to increase the potential of technologies such as:

- Storage: batteries, heat storage (sensible, latent, thermochemical), or storage with e-fuels
- CCUS: technologies of capture and conversion of CO₂, storage or utilization of CO₂
- Complex energy systems and energy communities (flexibility and energy management).

The ambitions of CETWA are to develop technologies that participate in solving challenges in the fields of **electrical flexibility, heat storage, waste heat, decarbonation of industries and to promote the deployment of energy communities.**

Some actual R&D projects within the CETWA members already deal with these areas of activities. Depending on the Technology Readiness Level (TRL) of these projects, the actions of CETWA will be quite different to help the valorization of the projects results and the development of these technologies.

Indeed, for projects with TRL < 4, the objectives will be to help the project partners to identify the key results, and to contact companies potentially interested in them in order to collaborate in a new R&D project at higher TRL for preparing a future commercialization of the technology.

For projects with TRL > 4, the objectives of CETWA will be to identify the key results which can be economically valuable and help in the development of a demonstration project if needed, or directly support a market launch.





CETWA

LIST OF THE ACTORS OF THIS INITIATIVE

Name	Main category	Website
A6K	Economy/territory	http://www.a6k.be/
Aero-Thermo-Mechanics Department - ULB	Research	http://atm.ulb.ac.be/
AGC Glass Europe	Private	http://www.agc-glass.eu/
ALTEO Group	Private	
ANTwork	Private	ANTwork - Innovate like a start-up
Aperam Stainless Belgium SA	Private	https://www.aperam.com/
Armstrong International	Private	https://armstronginternational.eu/fr/
ATM-PRO	Private	http://www.atmpro.be/
Be-Sol	Private	https://www.be-sol.eu/
BEAMS - Biomechatronics Research Unit - ULB	Research	https://beams.polytech.ulb.be/en/micro-bio-mechanics
BeBlue	Private	https://www.beblue-cryotech.eu/
BESIX Group	Private	https://www.besix.com/
Bio and soft Matter - UCLouvain	Research	https://uclouvain.be/en/research-institutes/imcn/bsma
Biogaz du Haut Geer	Private	http://flameco.be/
Bridgestone Aircraft Europe	Private	https://www.bridgestone.com/
Building Energy Monitoring and Simulation - ULiège	Research	http://www.bems.uliege.be/
Buildwise	Research	https://www.buildwise.be
Bureau Greisch	Private	http://www.greisch.com/
Calyos	Private	http://www.calyos-tm.com/
Canopea	Economy/territory	https://www.canopea.be/
Centre d'Excellence en Technologie de l'Information et de la Communication	Research	https://www.cetic.be/
Centre de recherche en aéronautique	Research	https://www.cenaero.be/
Centre de Recherches de l'Industrie Belge de la Céramique	Research	https://www.bcrc.be/
Centre Terre et Pierre	Research	http://www.ctp.be/
Centre Wallon de Recherches AgroNameiques	Economy/territory	http://www.cra.wallonie.be/
Chimie des Interactions Plasma-Surface - UMons	Research	https://web.umons.ac.be/cips/
Circuitfoil Luxembourg	Private	Circuit Foil - Copper Foil Manufacturer
Climact	Private	http://www.climact.com/
Cluster TWEED	Economy/territory	https://clusters.wallonie.be/tweed/fr
Commission wallonne pour l'Énergie	Economy/territory	https://www.cwape.be/?dir=0&lg=1
Condorcet Mons - Haute Ecole provinciale de Hainaut	Education	https://www.condorcet.be/animation-3d-et-effets-speciaux/animation-3d-et-effets-speciaux.html

Control Engineering and System Analysis - ULB	Research	http://saas.ulb.ac.be/
Coopérative pour les Energies du Futur	Private	https://clef.be/
CRM Group - Centre de Recherches Métallurgiques	Research	http://www.crmgroup.be/
De Smet Engineers & Contractors	Private	http://www.dsengineers.com/
Decube Consult	Private	http://www.decube-consult.com/
Destore	Private	
Diarotech	Private	https://www.diarotech.com/
Electrical Power Engineering - UMon	Research	https://web.umons.ac.be/gele
Enersol	Private	http://www.enersol.be/
Engie Laborelec	Private	https://www.laborelec.com/
EQUANS	Private	https://www.equans.be/
Faculté d'Architecture et d'Urbanisme - UMon	Education	https://web.umons.ac.be/fau/fr/
Fairwind	Private	http://www.fairwind.be/
Gate2	Private	
Gazonor	Private	https://www.gazonor.fr/
GDTech engineering	Private	http://www.gdtech.eu/
Gemelio	Private	https://www.gemel.io/
Geochemistry & Geophysics : Tephra, Isotopes, Minerals, Earthquakes - ULB	Research	https://gtime.ulb.be/
Géographie Appliquée et Géomarketing - ULB	Research	http://www.ulb.ac.be/igeat/
GIM Wallonie	Private	https://www.gim.be/
GreenWin	Economy/territory	http://www.greenwin.be/
Groupe de Recherche en Energie et Environnement à partir des Matériaux - ULiège	Research	https://www.greenmat.uliege.be/
Haulogy	Private	http://www.haulogy.net/
Haute Ecole Provinciale de Hainaut - Condorcet	Education	http://www.condorcet.be/
Heidelberg Materials Benelux	Private	https://www.heidelbergmaterials-benelux.com/fr
IDETA	Economy/territory	http://www.ideta.be/
iMMC Thermodynamics and Fluid Mechanics - UCLouvain	Research	https://uclouvain.be/en/research-institutes/immc/thermodynamics-and-fluid-mechanics.html
INEOS Inovyn	Private	https://www.inovyn.com/
Innovative Coating Solutions	Private	https://www.incosol4u.com/
Institut de Recherche en Energie - UMon	Research	https://web.umons.ac.be/energie/en
Institut Energie - UMon	Research	https://web.umons.ac.be/energie/fr/
Institut interuniversitaire des Silicates, Sols et Matériaux	Research	https://www.inisma.be/
Institut Landscape Architecture and built environment - UCLouvain	Research	https://uclouvain.be/en/research-institutes/lab/about.html
Institute of Condensed Matter and Nanosciences - UCLouvain	Research	https://uclouvain.be/en/research-institutes/imcn
Integrated and Sustainable Energy System - ULiège	Research	https://www.ises.uliege.be/cms/c_6812775/en/ises
IDEA	Economy/territory	http://www.idea.be/
IPALLE	Private	https://www.ipalle.be/
Ion Beam Applications	Private	http://www.iba-worldwide.com/
Ionics	Private	http://www.ionics.be/
Jema	Private	https://www.jema-power.com/
John Cockerill	Private	https://johncockerill.com/

Klinkenberg	Private	https://klinkenberg.be/
Laboratoire d'analyse par réaction nucléaire - UNamur	Research	https://www.unamur.be/fr/sciences/physique/recherche
Laboratoire de Chimie des Matériaux Inorganiques - UNamur	Research	https://www.unamur.be/fr/sciences/chimie/recherche/ucnano/cmi
Laboratory of GeoMechanics - ULB	Research	https://www.ulb.ac.be/rech/inventaire/unites/ULB353.html
Local Environment Management and Analysis - ULiège	Research	https://www.uee.uliege.be/cms/c_4518224/fr/lema
Materia Nova	Research	http://www.materianova.be/
Materials and Process Engineering Division - UCLouvain	Research	https://uclouvain.be/en/research-institutes/immc/imap
MatriCiel	Private	https://www.matriciel.be/
Memoco	Private	https://memoco.eu/
MITIS	Private	http://www.mitis.be/
Molecular Chemistry, Materials and Catalysis - UCLouvain	Research	https://uclouvain.be/en/research-institutes/imcn/most
Nanomaterials, Catalysis, Electrochemistry - Uliège	Research	https://www.chemeng.uliege.be/cms/c_3623589/fr/chemeng-naNameaterials-catalysis-electrochemistry-nce
Objectif Zéro	Private	https://www.objectifzero.be/
Orbix	Private	Orbix En osmose avec l'économie circulaire.
Pathon SRL	Private	https://pathon.be/
Pôle MecaTech	Economy/territory	https://www.polemecatech.be/
Products, Environment, and Processes - ULiège	Research	https://www.chemeng.uliege.be/cms/c_3623596/en/chemeng-products-environment-and-processes-peps
Resolia	Private	http://resolia.energy/
RUTTEN - NEW ENERGY SYSTEM	Private	Rutten NES Des solutions énergétiques innovantes et durables
Service d'Architecture et Société - UMONS	Education	https://web.umons.ac.be/as/
Service d'Economie et de gestion environnementale et de la production - UMONS	Research	https://web.umons.ac.be/fweg/fr/activites-de-recherche/
Service de Chimie des Matériaux Nouveaux - UMONS	Research	https://web.umons.ac.be/scmn/
Service de Génie des Procédés chimiques et biochimiques - UMONS	Education	https://web.umons.ac.be/gpro/
Service de Génie Electrique - UMONS	Research	https://web.umons.ac.be/gele/
Service de Géologie fondamentale et appliquée - UMONS	Research	https://web.umons.ac.be/geol/
Service de Physique des Nano matériaux et Energie - UMONS	Research	https://web.umons.ac.be/lpne/
Service de Physique générale - UMONS	Research	https://web.umons.ac.be/phys/
Service de Protéomie et Microbiologie - UMONS	Education	https://web.umons.ac.be/prmi/
Service de Sciences des Matériaux - UMONS	Research	https://web.umons.ac.be/sdma/
Service de Synthèse et Spectrométrie de Masses Organiques - UMONS	Research	https://web.umons.ac.be/smos/
Service de Thermique et Combustion - UMONS	Research	https://web.umons.ac.be/trmi/
Service de Thermodynamique - UMONS	Research	https://web.umons.ac.be/trmo/
Service des Matériaux Polymères et Composites - UMONS	Research	https://web.umons.ac.be/smpc/
Service Fluides Machines - UMONS	Research	https://web.umons.ac.be/flma/
SPI	Economy/territory	http://www.spi.be/
Systèmes, Estimation, Commande et Optimisation - UMONS	Research	https://web.umons.ac.be/seco/
Thomas et Piron Batiment	Private	https://www.thomas-piron.eu/
Université de Liège	Enseignement	https://www.uliege.be/

Université de Mons	Education	https://web.umons.ac.be/fr/
Université de Namur	Education	https://www.unamur.be/
Urban and Environmental Engineering - ULiège	Research	https://www.uee.uliege.be/
Valbiom	Private	http://www.valbiom.be/
Veolia	Private	http://www.veolia.be/fr
Ville de La Louvière	Economy/ territory	http://www.lalouviere.be/
VINCI Energies	Private	https://www.vinci-energies.be/
WeSmart	Private	https://www.wesmart.com/