

Creating the Circular Carbon Economy

Carbon Management Course

and

Regional Implementation

Programme



Interreg



Co-funded by
the European Union

North-West Europe

CASCADE

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1. Rationale



For around 15 years, the THREE C network (<https://threec.eu>) has been working on methods for utilising residual biomass in the context of a circular carbon economy.

The CASCADE project (<https://cascade.threec.eu/>) has been the first to develop a strategy for rural and urban areas in Europe that aims to identify, convert and utilise these biomass streams and manage them as part of regional carbon management.

To implement this strategy in practice, we need experts from the fields of science and technology, agriculture, forestry, horticulture and construction, as well as committed citizens who want to actively contribute to the introduction of the circular carbon economy in their regions.

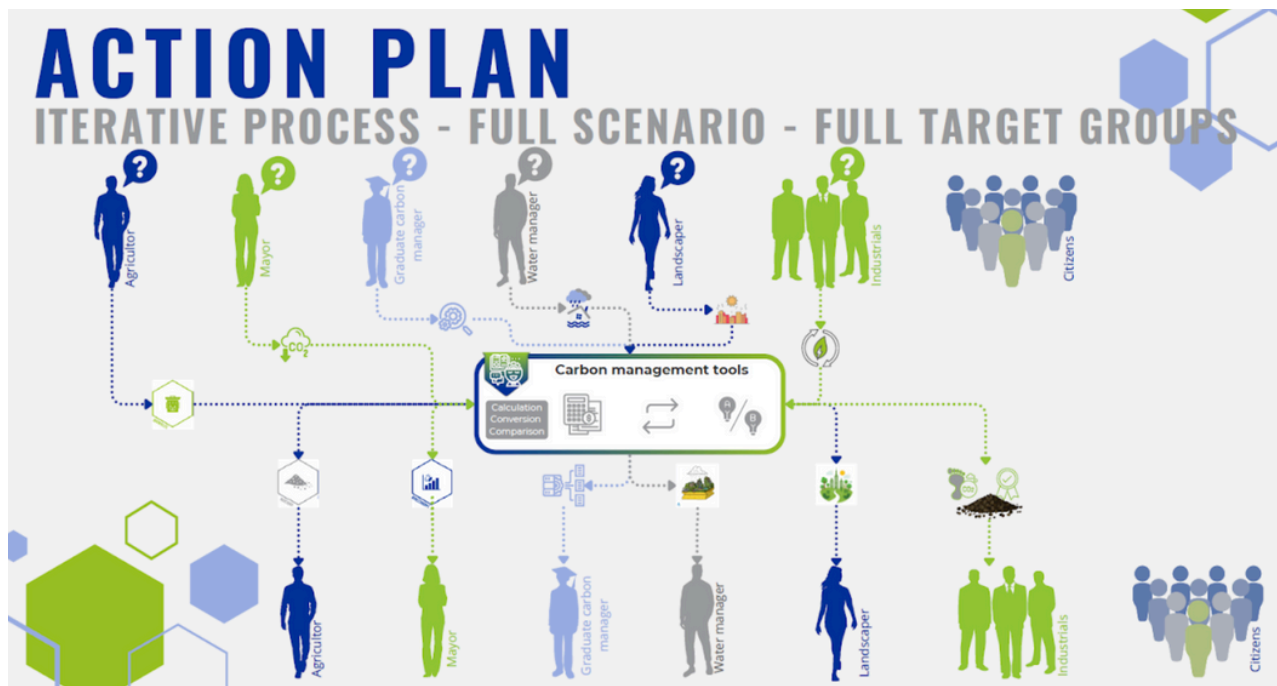
CASCADE offers participants from interested European regions the following services:

1. European Carbon Management course and support and advice on introducing a local carbon management system as part of a practical and participatory bioeconomy
2. Implementation and use of the Circular Carbon Management System (CCMS)
3. Support from our European network and subsidised participation in European seminars, workshops and conferences in 2026 (Registration form attached)



2. The Carbon Management Course

The Carbon Manager Course is an innovative European blended learning course consisting of five online sessions and a European event (a conference and workshops in the week of 13–17 April in Nienburg near Hanover). Participation in the course (travel and accommodation costs) can be funded by European project funds. The number of participants is limited.



Objectives

The CM course is an interdisciplinary, practical training programme that deals with the topics of CCE and biochar and includes expert knowledge as well as practical project development.

The CM training programme aims to

- Impart specialist knowledge about CCE and biochar based on our more than 15 years of cooperation
- Develop approx. 5 model projects in transnational cooperation to enable concrete European networking (regions from DE, UK, LU, SE, BE, IE and NL)
- Initiate local development projects in which residual biomass is converted into carbon products
- Create local added value while contributing to CO₂ reduction
- Initiate a circular carbon management system by participants in their regions and identify, optimise and manage carbon flows in the regions.

The training thus goes beyond the mere transfer of knowledge and initiates practical CCE projects that enable the participating regions to actively contribute to climate protection and gradually involve local actors.

3. Carbon Management Course Programme



Date	Programme Theory 10-12:30 CET, online	Design Thinking Joint Product Development (Afternoons)	Local workgroups: Tasks for the participants to develop CCE projects (with support instruments)
13.02.2026	Start session <ul style="list-style-type: none"> • Presentation of the CASCADE Procedure • Intro on Biochar and the circular carbon economy • Inputs on: • Parent materials recovery and processing • Conversion and product development 	Team Building of 4 transnational workgroups and exchange on regional challenges <ul style="list-style-type: none"> • Defining one joint challenge as example case 	Stocktaking tasks and instruments: #1 „upstream“ <ul style="list-style-type: none"> • Biomass sources potential analysis • Local Stakeholder analysis 1 • (biomass recovery and convergers)
13.03.2026	The Carbon Management approach <ul style="list-style-type: none"> • Inputs, Processing, Pre-treatment • Biochar quality and applications • Presentation of the Circular Carbon Management Tool 	Scenario Modelling for the joint cases <ul style="list-style-type: none"> • Defining and exploring potential biomass sources • Defining upstream and downstream of the model case 	Stocktaking tasks and instruments #2 „downstream“ <ul style="list-style-type: none"> • Local biochar scenarios • agri-, horticulture, construction sector) • Local Stakeholder analysis 2: (biomass producers and users)
13.- 17.04.2026	4 day collaboration week Programme points <ul style="list-style-type: none"> • European conference on biochar aided sponge city and climate resilience approaches • Joint European F2F course 2days) 	1,5 days conference can be booked alone, incl. <u>European conference & Joint workshops on:</u> <ul style="list-style-type: none"> • Water resilient cities and regions • Joint workshops on Designing and running regional pilot project • Application of the CCMS system 	

Date	Programme Theory 10-12:30 CET, online	Design Thinking Joint Product Development (Afternoons)	Local workgroups: Tasks for the participants to develop CCE projects (with support instruments)
22.05.2026	Inputs on Regional Scenarios <ul style="list-style-type: none"> • Municipal and Rural scenarios • Social economy • Regional development plans 	Ideation session on products and services	Inserting regional upstream and downstream data
12.06.2026	Application cases/ examples & Support	Regional Carbon Balances & first Carbon Management approach	Regional Carbon Balances & first Carbon Management approach.
10.07.2026	Evaluation session & Network accession	Reporting and feedback	Continuous improvement and development Certification

4. The CASCADE Circular Carbon Management Approach

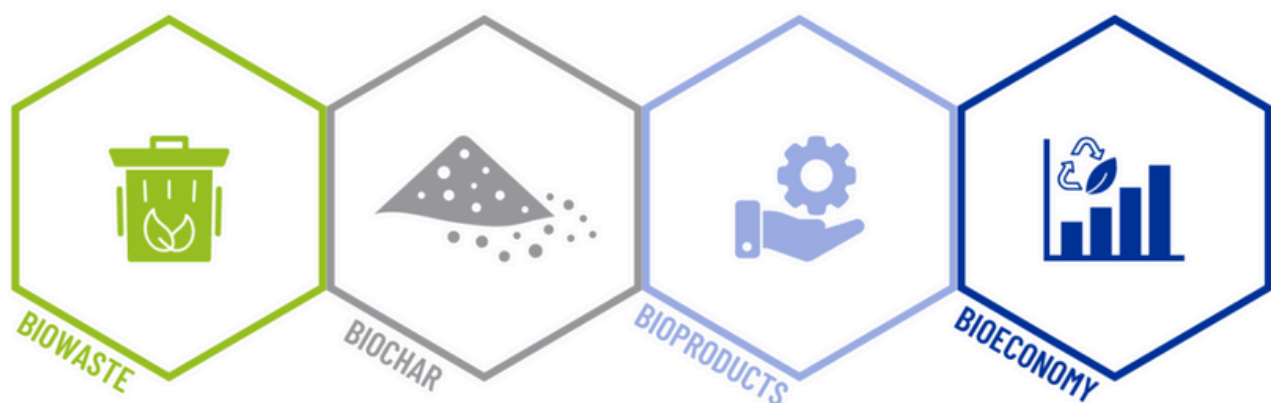


How can European communities become more climate-friendly and meet their CO₂ targets? How can they contribute to achieving CO₂ reduction of 55% by 2030?

One promising pathway is the **Circular Carbon Economy**: It provides practical and immediate solutions for reducing emissions by creating local systems in which citizens, enterprises, public administrations, policymakers and NGOs work together to lower the carbon footprint of their communities.

The **CASCADE** project (coordinated by the European THREE C network) promotes this transition through a **participatory, region-based approach** that enables stakeholders to jointly explore, test and implement circular carbon practices. We support regions across Europe in developing their own roadmaps and innovations for carbon reduction.

The central starting point is the better use of **residual biomass**, which is currently a source of CO₂ emissions. In CASCADE, we aim to convert part of this biomass into **biochar** and apply it in long-lasting products and processes—for example in construction materials, gardening and landscaping, agriculture or technical filtration systems. By doing so, communities can not only **reduce their local carbon footprint** and create a carbon sink, but also **strengthen regional economic and social development**, including through the creation of new jobs and skills.



The business concept of the regional value chains consists of the following steps:

- 1. RECOVERY of BIOWASTE:** Describing and quantifying the available (residual) Biomass, and the connected services and identifying the stakeholders involved (RECOVERERS)
- 2. CONVERSION into BIOCHAR:** Describing and quantifying the potential Biochar types and identifying the existing or proposed Conversion plants and their operators (CONVERGERS), including pre-and post treatment
- 3. PRODUCTION of BIOCHAR-PRODUCTS:** Describing and quantifying the Biochar based products and services and the related SME/Start-ups (PRODUCERS and CONSUMERS)
- 4. ANAGEMENT of circular BIOECONOMY scenarios:** Connecting and coordinating potential customers and citizens in regional Circular Bio-Economy Scenarios (MANAGERS) and controlling and monitoring according to CCE criteria.

Have a look at our video here:

https://www.youtube.com/watch?v=BaOL_AU14LY&pp=2AYM

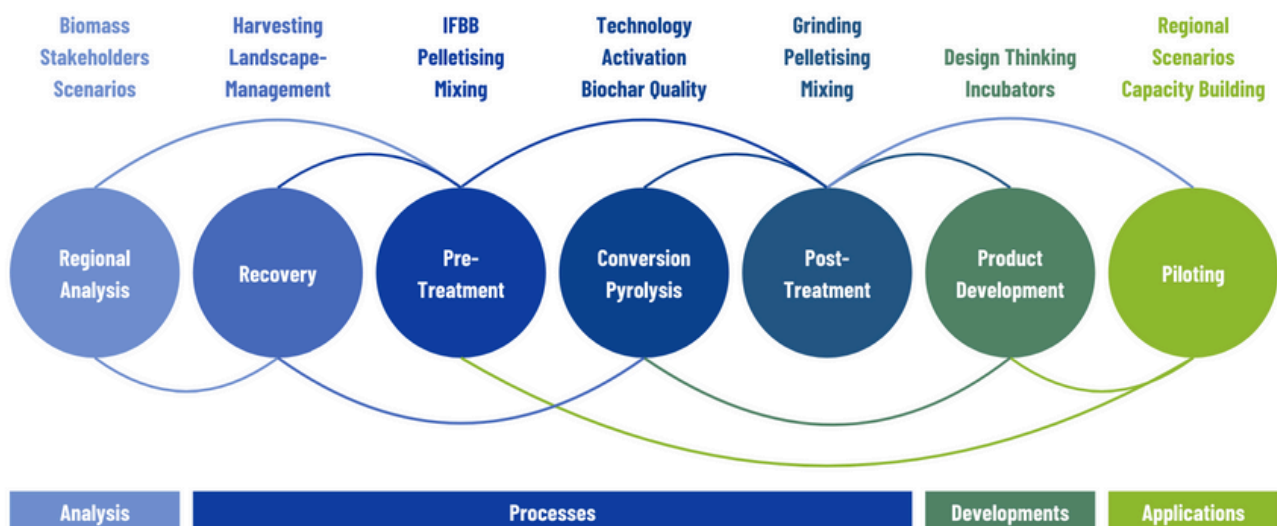
CASCADE introduces an innovative Carbon Management System that enables local stakeholders to calculate the CO₂ savings achieved along the CASCADE biochar value chains. To support this, we invite interested regions to join the CASCADE movement and take part in workshops where they can learn more about the project, explore opportunities and assess their own potential contributions.

5. The Carbon Management System



The **Circular Carbon Management System (CCMS)** shifts the focus from a narrow “carbon footprint” logic towards a **carbon handprint approach**. Instead of treating carbon only as an emission to be reduced, the system understands carbon as a **measurable and manageable unit of value**, expressed in CO₂ equivalents (CO₂e).

The CCMS makes carbon flows visible along **circular value chains**, from residual biomass recovery and conversion to biochar, through product development and long-term applications. By tracking how long carbon is retained in use and where it creates ecological, economic and social value, the system supports better-informed decisions at local and regional level.



Biochar plays a key role as a **stable, solid carbon carrier**, allowing biogenic carbon to be stored and reused in durable applications such as construction, agriculture, landscaping or filtration. This enables carbon to remain functional instead of being released as CO₂.

As a participatory and easy-to-use tool, the CCMS helps municipalities, enterprises and civil society to **compare scenarios, identify improvement potentials and design region-specific Circular Carbon Economy strategies**, turning climate action into a visible, actionable and collaborative process.

It offers a multi-entry pathway into the calculation of the regional CO₂ sequestration potential via an open query interface to calculate:

- **UPSTREAM** (from biomass recovery to conversion to biochar) and/or
- **DOWNSTREAM** (from biochar to products and regional applications)



The Carbon Management System enables local stakeholders to calculate CO₂ savings along the CASCADE biochar-based value chains. The system support the use of residual biomass for carbon products and applications by providing transparent, standardised and user-friendly tools to quantify climate impacts. This will help stakeholders understand the carbon performance of their processes, document emission reductions and strengthen regional decision-making towards more sustainable, circular carbon practices.

6. Registration



To register for the Carbon Management Course & Regional Implementation Programme, please fill out the registration form by scanning the QR code on the left or clicking the link below:

<https://forms.gle/uPBe8BuyVGE53hro9>