

CO2NSTRUCT NEWS #3

FROM LINEAR TO CIRCULAR CONSTRUCTION – ADVANCING CLIMATE
MITIGATION MODELS

UPDATES FROM THE PROJECT COORDINATOR



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Project coordinator

The CO2NSTRUCT consortium has been working hard to collect data and improve the models to provide the ultimate answer to the question “how do we achieve carbon neutrality by 2050 in the construction sector using circular economy?” It is a big task, and we start to feel the pressure now as the project approaches the end.

This past year saw a lot of internal alignment between partners, with the need to develop new taskforces to respond to the increasing needs of data we are facing. After some negotiations and compromises we are at a stage where the models are ready to run. This is what the coming year will have: curated circular scenarios and lots of model runs. We are excited for the next few steps!

WEBINAR ON CIRCULAR ECONOMY STRATEGIES FOR CLIMATE CHANGE MITIGATION IN THE BUILT ENVIRONMENT

CO2NSTRUCT, together with EU sister projects CIRCOMOD and circEULAR, hosted a webinar for the EU Green Week 2025 on June 18th. Centered around the built environment, the webinar included speakers from all three projects. From Co2nstruct, Sofia Simoes (LNEG) gave a presentation on “A value chain approach to a low carbon circular economy for flat glass”.

The shared conceptual framework: Narrow (use less), Slow (use longer) and Close (use again) – was also presented. It was an engaging session on how circular practices can support a more sustainable future in construction, with 64 participants from an international audience.



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Read more at: www.co2nstruct.eu
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CO₂NSTRUCT

WHAT IS CO2NSTRUCT:

CO2NSTRUCT is an EU-funded research and innovation project that aims to identify, test, and quantify circular impacts for climate mitigation modelling for six key carbon-intensive materials: Cement, steel, brick, glass, wood, and insulation materials.

Project starting date: 1 June 2022

Project end date: 31 May 2026

NEW PUBLICATIONS

Since last newsletter, the list of publications from the CO2NSTRUCT consortium keeps steadily growing. From 2024-2025 we have published:

[Methods to estimate the circular economy rebound effect: A review](#), Journal of Cleaner Production, March 2024.

[Climate mitigation potential of biobased insulation materials: A comprehensive review and categorization](#), Journal of Cleaner Production, Volume 470, September 2024.

[Mapping circular economy practices for steel, cement, glass, brick, insulation, and wood – A review for climate mitigation modeling](#), Renewable and Sustainable Energy Reviews, Volume 202, September 2024.

[Planning for a future free from rebound effects](#), Futures, Volume 164, December 2024.

[Mapping supply systems in circular settings: A proposal for a new methodology](#), Computers & Industrial Engineering, Elsevier, March 2025

[Towards radical circular economy futures: Addressing social relations of production](#), Technological Forecasting and Social Change, April 2025

[Synergies and Antagonisms Between EU Circular Economy and Climate Mitigation Policies: Focusing on Construction Sector](#), Circular Economy and Sustainability, July 2025

[Macroeconomic models for assessing the transition towards a circular economy: A systematic review](#), Ecological Economics, October 2025



USER BOARD MEETINGS

An important part of the project is engaging with our end users to gain insight and validate our findings. Since the last newsletter, we have had our second and third annual user board meetings. This year, on May 8th, we hosted a workshop on the circular economy in buildings, specifically inviting our industrial stakeholders to explore how our insights, gathered from scientific and grey literature, align with industry perspectives.

In June 2024, we hosted both a hybrid and in-person meeting in Brussels during our second annual meeting, to engage with our end users on several central topics, including the key issues of the risks of rebound effects, the main findings and conclusions of the Citizen behavior survey, and the Annual energy, materials, and GHG emissions flows along the construction value chain in each EU country.

We look forward to sharing our results with our end users during the final year of the project.

**The picture on the right is from the 2nd Annual meeting in Brussels, Belgium. 26 – 28th of June 2024*



NEW TASK FORCES

To tackle all the data needs and work jointly across work packages, we decided to start task forces focused on key topics. The following task forces were implemented: Buildings, EOL (End-of-Life), Infoexchange file, Insulation, LCA, Offshore, Transport, and Wood. Half of these are already concluded, and the data gathered is used for the remaining tasks and task forces of the project.

The building and offshore task force looked into all the CE practices of the sectors. The **buildings** task force worked to summarize all CE practices in buildings and concluded with a workshop for end users to validate the data, as well as a paper on circular economy and climate mitigation scenarios. The **offshore** task force has been working on summarizing all circular economy practices found for offshore, per life cycle stage, and quantifying as needed for the TIMES model.

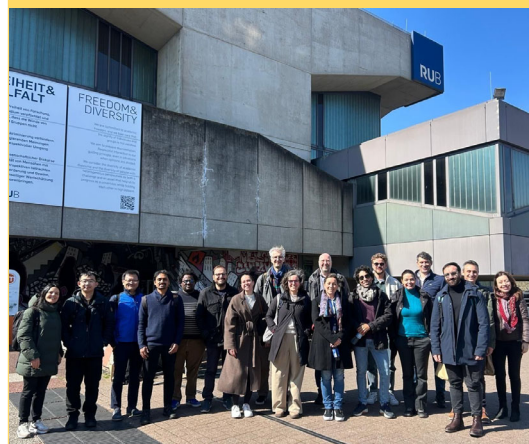
The **LCA** task force has worked to augment LCA modelling tools and is nearing its conclusion. This will align perfectly with the task force information-exchange file, as this task force handles all the data that needs to be included in all the CO2NSTRUCT tools.

A key task force is the **EOL** (End-of-life) task force, which looks into conventional and selective demolition and how it is operated in each country.

The **wood** and **insulation** task forces are focused on specific materials. The wood task force is almost complete and works to enhance data collection, for example, on recycled timber. The insulation task force has collected and verified data on production at the country level and energy consumption for manufacturing the five market-leading insulation materials.

Finally, the **transport** task force has been working to assess the impact of circular economy options on transport routes of construction materials supply chains, and subsequently on transport-related GHG emissions.

**The picture on the right is from the 3rd in-person Workshop in Bochum, Germany. 31 March – 4 April 2025*



UPCOMING EVENTS WITH CO2NSTRUCT

In addition to participating in conferences, we have several in-person events scheduled for the remaining period of the project.

National Workshops

Going forward, each of our seven partners will host national workshops. We look forward to sharing more of the results from the project. The dates have not been set yet, but will be announced on LinkedIn as well as on our website, so remember to follow the project there.

Madrid Workshop

The last in-person workshop for the consortium will take place in Madrid at our partner CIEMAT in March 2026.

Final conference in Brussels

CO2NSTRUCT is planning a final conference, together with Sister projects CIRCOMOD and CircEular, in Brussels in May 2026. Stay tuned for the date and more details on our website and LinkedIn.

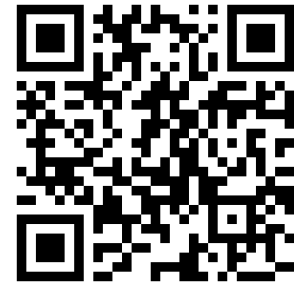


PAST EVENTS WITH CO2NSTRUCT

- ❑ 5th Symposium on Circular Economy and Sustainability in Chania, Greece. 17-19th of June 2024.
- ❑ Participation in the podcast "Circular construction: building a sustainable future", 18th of June 2024.
- ❑ 2nd Annual meeting in Brussels, Belgium. 26 – 28th of June 2024.
- ❑ IGC 2024: 35th International Geographical Congress in Ireland 2024, the 24-30th of August 2024.
- ❑ RGS-IGB Annual International Conference 2024 in London, 27-30 August 2024.
- ❑ Mission to Brussels, Belgium. 26-27th September 2024.
- ❑ Workshop together our sister projects CIRCOMOD and circEular with the European Environment Agency in Brussels, Belgium. 27th September 2024.
- ❑ ECEMP 2024 – Energy Transition Scenarios for a Climate Neutral Europe in Brussels, Belgium. 16-17th of October.
- ❑ ICBBM 2024: 18. International Conference on Biobased Building Materials, the 17-18th of October, United Kingdom.
- ❑ 2024 International Conference on Resource Sustainability in Bangkok, Thailand. 5- 8th of November 2024.
- ❑ 2nd OPEN-AIR CITIES Conference “Local and Regional Sustainable Development and Urban Reconstruction in Athens, Greece. 14-16th of February 2025.
- ❑ 7th International “Verde-tec/Environmental Technologies exhibition and “Verde-tec Forum” in Paiania, Greece. 21-23 February 2025.
- ❑ 3rd in person Workshop in Bochum, Germany. 31 March – 4 April 2025.
- ❑ 1st International Workshop on Applied Economics and Sustainability in Athens, Greece. 11-12th of April 2025.
- ❑ EU GreenWeek Webinar with sister projects CIRCOMOD and CircEular 18th of June 2025.
- ❑ 3rd Annual Meeting in Sheffield, 15-19th of September 2025.
- ❑ ETAGRO 2025, 18th International Conference of the Hellenic Association of Agricultural Economists, Greece, 10-11th of October.
- ❑ 5th ACF Symposium: Advancing Sustainable solutions from Concept to Concrete, Singapore, 14-16th of November 2025
- ❑ EEA Eionet - Circular Economy in a changing policy landscape, 25-26th of November, 2025.



Don't hesitate to contact us at:
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CO2NSTRUCT CONSORTIUM:

- Technical University of Denmark (DTU)
- Centre for Renewable Energy Sources and Saving (CRES)
- Ruhr-University Bochum (RUB)
- Laboratorio Nacional de Energia e Geologia I.P. (LNEG)
- Centro De Investigaciones Energeticas, Medioambientales Y Technologicas (CIEMAT)
- University of Pisa (UNIFI)
- The University of Sheffield (USFD)