

IETS Task XXI

Net-zero industrial processes in a circular economy framework

Simon Moser

Energieinstitut an der Johannes Kepler Universität Linz

2026-10-07

IETS Task XXI

International Partner structure (Phase 3)

- Austria (Task management, Subtask management)
- Sweden – RISE (Subtask management)
- Australia – circularecosystems.io
- Denmark – SDU, DTU
- Germany – FFE
- Italy – ENEA, PoliMi, PoliTo
- Canada – UQTR
- Netherlands – TU Delft
- Norway – SINTEF
- Portugal – University Lisbon, Bondalti

Partner structure in Austria (Phase 3)

- Energieinstitut an der JKU
- AEE INTEC
- AIT Austrian Institute of Technology
- BOKU University of Natural Resources & Life Sciences
- BioBASE
- Montanuniversität Leoben - VtiU

IETS Task XXI – Phase 3

Subtask 4: Carbon Dioxide Capture in Industry

Activity A. Comparison of national perspectives on CCUS

- CO₂ management strategies
- National legal provisions

Activity B. CCU Value Chains and Stakeholder Database

Activity C. Integration of carbon dioxide capture in industry

- CC trade-offs (purity, quality, energy)
- Real-life challenges of CC in industry

Activity D. Networking

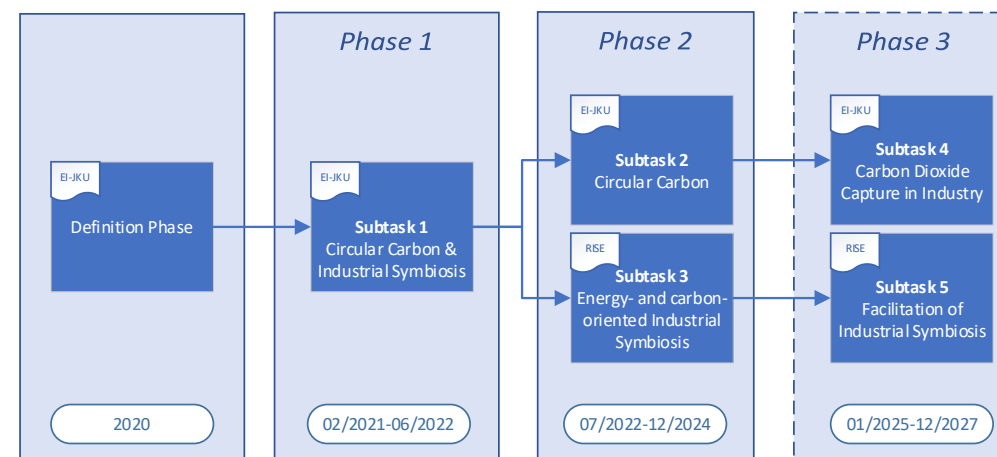
Subtask 5: Facilitation of Industrial Symbiosis

Activity A. Portfolio of Industrial Symbiosis Facilitation tools

Activity B. Broadening the perspectives on Implementing technologies for IS

Activity C. Networking

IETS Task XXI: Net-zero industrial processes in a circular economy framework



IETS Task XXI – Phase 2

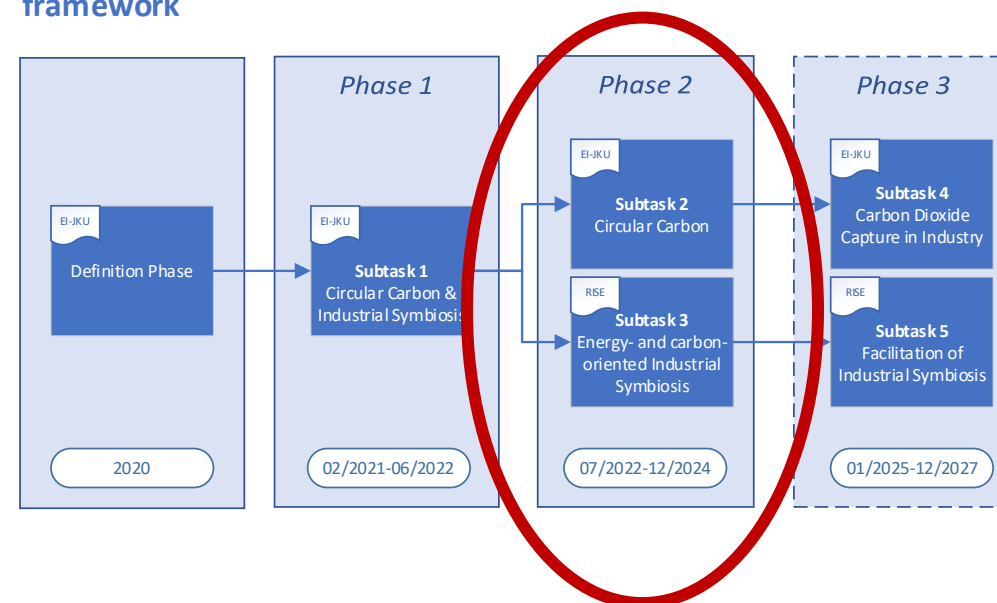
Main findings:

- Moser et al. (2022) Editorial: Circular carbon systems and processes. <https://doi.org/10.3389/frsus.2022.1060723>
- Zeilerbauer et al. (2024) Circular, avoided, or captured carbon (dioxide)? - A taxonomy approach for life cycle assessment and CO2 accounting. <https://doi.org/10.1080/17583004.2024.2408285>
- Ferrario et al. (2024) Cost and environmentally efficient design of an absorption-based post-combustion carbon capture unit for industry applications. <https://doi.org/10.1016/j.cej.2024.152900>

Final report of Subtask 2 “Circular Carbon”:

<https://iea-industry.org/app/uploads/IETS-21-Subtask-2-Final-report.pdf>

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IETS Task XXI – Phase 3

Subtask 4: Carbon Dioxide Capture in Industry

Activity A. Comparison of national perspectives on CCUS

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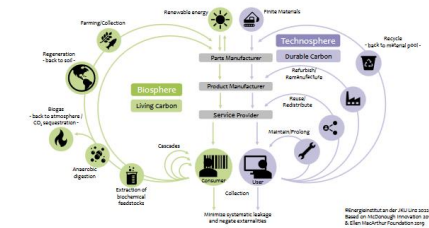
Activity B. CCU Value Chains and Stakeholder Database

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IETS Task XXI / Phase 3 / Subtask #4

Activity A: Comparison of national perspectives on CCUS

June 2026

Text-contributing organizations:

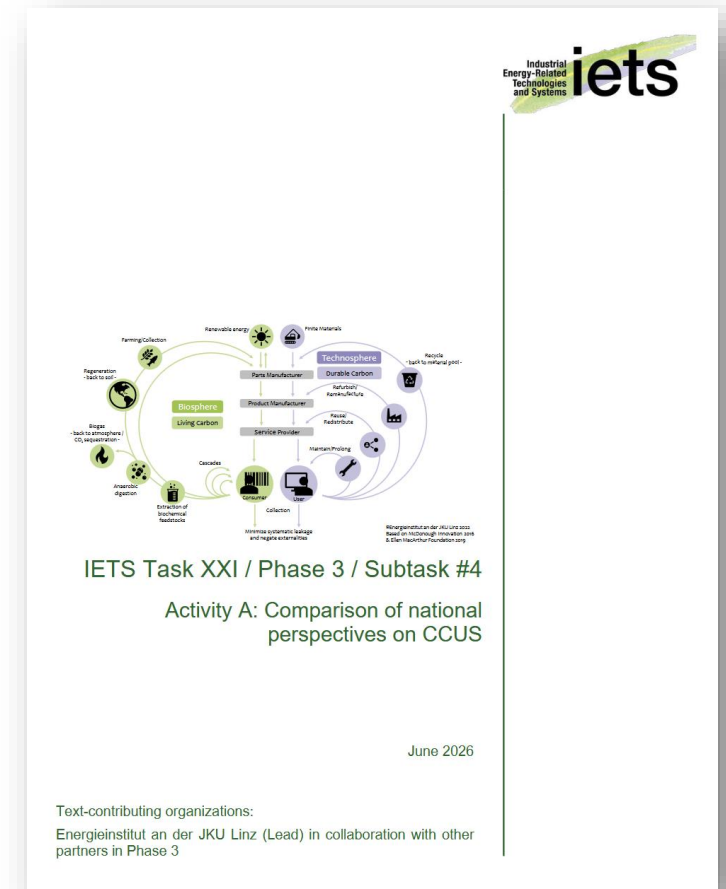
Energieinstitut an der JKU Linz (Lead) in collaboration with other partners in Phase 3

Activity A. Comparison of national perspectives on CCUS

Main findings:

- CCUS is a **complementary tool** for decarbonization supporting primary measures
- CCUS is **missing a uniform definition**
- CCUS is mainly applied to **hard-to-abate** sectors
- **Strategic** direction of CCUS is largely aligned
- Countries differ significantly in their **level** of policy development and implementation
- Although most countries have **some form** of CCUS-related legislation or policy ...
- dedicated and **explicit carbon management** strategies exist only in a few cases.

<https://energieinstitut-linz.at/wp-content/uploads/2026/06/IEA-IETS-Task-XXI-Phase-3-Subtask-4-Activity-A-National-Perspectives-on-CCUS-June-2026-REPORT-incl-ANNEX.pdf>



Workshop „Integration of Carbon Capture in Industry“

Subtask 4: Carbon Dioxide Capture in Industry

Activity A. Comparison of national perspectives on CCUS

- CO₂ management strategies

- National legal provisions

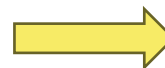
Activity B. CCU Value Chains and Stakeholder Database

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IETS Task 21 Activity C Workshop

„Carbon Capture in Industry“

*In cooperation with **IEAGHG***

Thursday, November 12, 2026, 09:00 CET

Via TEAMS

Workshop „Integration of Carbon Capture in Industry“

The webinar will focus on real-world applications of carbon capture technologies in industry, with experts presenting current projects, practical experiences and the technical challenges encountered during implementation.

Registration:
<https://energieinstitut-linz.typeform.com/to/RcTQwpIL>

IEA IETS Task 21

Circular Carbon & Industrial Symbiosis

International Webinar on
Integration of carbon capture technologies in industry

Online (Webex), November 12th, 2026, 09:00-11:30 CET

Registration: <https://energieinstitut-linz.typeform.com/to/RcTQwpIL>

Agenda (Times in CET)

15 min presentations followed by 5 min for Q&A

09:00 – Welcome & overview on IETS Task 21

Philipp Wolf-Zöllner, Montanuniversität Leoben

09:05 – Introduction to IEAGHG

Jasmin Kemper, IEAGHG

09:15 – Finding the Right Fit: Matching carbon capture technologies to different process emissions

John Carroll, Principal Engineer, Southern Company

09:35 – First full-scale CCS in cement industry, now in operation

Tor Gautestad, CCS Manager, HM-Cement plant Brevik

09:55 – Pilot tests of MOF-based carbon capture at a Swedish pulp mill

Stefan Heyne, Specialist, Södra Innovation and Strategi

10:15 – Title tba

Michael Derntl, Business Development - CO₂ Expert, Scheuch

10:35 – Pilot Deployment of Hybrid Membrane and PSA CO₂ Capture in Lime Industry

Mikel Peñeñori Aguirre, Energy Division, Lointek

10:55 – Pilot-Scale Investigation of Membrane Technologies for CO₂ Capture in Integrated Steelworks

C. Derflinger, B. Krismayer, N. Kieberger, voestalpine Stahl GmbH

J. Wintersperger, A. Makaruk, Axiom (joint presentation)

11:15 – Group discussion, summary of key facts and main statements

Moderation: Philipp Wolf-Zöllner

THANK YOU!

Task management: Simon Moser

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