



**TECHNO-ECONOMIC ANALYSIS OF  
CARBON MITIGATION TECHNOLOGIES**  
CA21127

## **Call for Virtual Mobility (VMs)**

### **Call for VM Applications**

**Third Grant Period, 1 November 2024 –  
31 October 2025**



**DELIVERING HARMONISED  
CCUS ASSESSMENT**

PROCESS MODELING  
TECHNO-ECONOMICS  
LIFE CYCLE ASSESSMENT

## TECHNO-ECONOMIC ANALYSIS OF CARBON MITIGATION TECHNOLOGIES CA21127

### Scope of TrANsMIT COST Action

TrANsMIT proposes a COST Action on the techno-economic analysis (TEA) of the overall, integrated CO<sub>2</sub> Capture, Utilisation, and Storage (CCUS) value chain. It aims to bring together academia, research institutes and industry into a cutting-edge, pan-European knowledge network. The Action advances the research frontier of CCUS TEA from partially unharmonized and disciplinary research to harmonized, holistic pan-European, coordinated research on the full CCUS system, facilitating development of the most technologically, economically and commercially feasible CCUS technologies and systems. It will be achieved by harmonizing and coordinating the methods and tools used for CCUS TEA in Europe, leveraging the knowledge created by our partners in national or international research projects. The project focuses most on holistic assessment of the CCUS chain, and on those areas where most development is needed (e.g. CO<sub>2</sub> capture from air, CO<sub>2</sub> utilization). TrANsMIT has a strong focus on knowledge sharing and career development, tackling existing disparities in knowledge distribution and career opportunities.

For further details and specific objectives, please read the Memorandum of Understanding (MoU) of the TrANsMIT COST Action available at: <https://www.cost.eu/actions/CA21127/>

### Description

Virtual Mobility (VM) grant consists of a collaboration in an online setting among researchers or innovators within the COST Action, to exchange knowledge, learn new techniques, etc. Virtual Mobility grant benefits to:

- COST Action: uses a flexible tool to implement online activities inside the network, achieve the MoU objectives and significantly increase their impact and reach. Contributes to European leadership in knowledge creation and increasing its innovation potential;
- VM grantee: develop(s) capacity in online collaboration and networking in a pan-European framework.

Proposed VMs need to align with one or more scientific objectives of TrANsMIT COST Action, which emphasizes the techno-economic analysis (TEA) and life-cycle assessment (LCA) of the comprehensive CO<sub>2</sub> Capture, Utilisation, and Storage (CCUS) value chain (including carbon dioxide removal options). Information on these objectives can be found on the TrANsMIT website. **In particular, this grant period's VMs need to contribute to development of the TrANsMIT database (next section).**

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### Purpose of the VM

During this Grant Period we would like to highlight the importance of developing an **open-access database to support the CCUS** (Carbon Capture, Utilization, and Storage) community. It is the most important deliverable of the TrANsMIT Action. We're inviting interested members to contribute by reviewing the literature and collecting key data from published studies on CCUS technologies.

The database will focus on key parameters across three categories:

- **Process Modelling:** Data for model calibration and validation, details on modelling objectives, techniques, software used, key parameters (e.g., flow rates, concentrations), assumptions, and validation status.
- **Techno-Economic Analysis:** Data on capital and operating costs, payback periods, revenue streams, market size, and cost-benefit analyses.
- **Lifecycle Assessment (LCA):** Information on system boundaries, environmental impact categories (e.g., GHG emissions), energy/material use, and regulatory compliance.

As VMs are focusing on the development of the CCUS database during this Grant Period, the following can be listed as the expected roles and responsibilities:

- **Attend online community meetings:** Engage in regular virtual sessions to collaborate with fellow project members, discuss progress, and share insights into the CCUS database development.
- **Identify and facilitate data sources:** Search for diverse data repositories and guide fellow participants in locating and gathering accurate information.
- **Literature-Based data collection:** Gather relevant data from academic papers, technical reports, and other reputable sources to populate the database.
- **Data validation and review:** Verify the data submitted by other contributors, ensuring its quality and reliability before inclusion in the CCUS database.

VM participants will also have priority for the TrANsMIT working group meetings to be held in Zagreb in May 2025 and in Dublin in September 2025.

### VMs criteria

The following criteria will be used to assess the eligibility of each VM:

- Each VM must have clear outputs that are aligned with the objectives and deliverables of TrANsMIT. These will be evaluated considering:
  - Scientific excellence
  - Feasible plan of the application
  - Active participation in the Action
  - Contribution of the proposed VM to the Action outcomes

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- All provisioned work must be carried out within a single grant period during the action lifetime.
- Following the completion of the VM, the recipient will be required to write and upload the VM report to e-COST platform not later than 30 days after the end date of the VM.

### Grant funding

The total budget for VM in this call is €12 000 and the number of VM grants are anticipated to be around nine (9). Section A2-3 of the Annotated Rules for COST Actions defines a maximum limit €1500 of financial support for each VM, which should not be disregarded in any circumstance.

An VM Grant is a fixed financial contribution which takes into consideration the budget request of the applicant and the outcome of the evaluation of the VM application. The grant amount is determined by evaluating the VM application.

Grant funding will be released after the completion of the mission and upon approval of all necessary reports and documentation.

### Period of VM and application deadlines

The period of VM should be completely framed inside the Grant Period and yet reserve some margin for presenting the scientific report for approval and final payment. Therefore, **the VM should be finished the latest by 30 September 2025**. The following cut-off date for the submission and notification of results of VM proposals will apply:

Cut-off	Application deadline	Notification of results
1 <sup>st</sup>	14 <sup>th</sup> March 2025	21 <sup>st</sup> March 2025

### VMs Application Procedure

The application procedure is legally bound to the Annotated Rules for COST Actions. Eligible VM applicants must submit their applications online at the following web address: [https://www.cost.eu/VM\\_GrantApplication](https://www.cost.eu/VM_GrantApplication). Please **specify in your application your area of interest** (Process Modelling, Techno-Economic Analysis, Lifecycle Assessment) when developing an input to **CCUS database** and provide a reason for your choice. Moreover, VM applicants should be also registered at the Action e-cost system.

The following information is needed for the on-line application form:

- Action number (CA21127);
- Title of the planned VM;

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- Start and end dates of the VM;
- Applicant's details, including academic profile and workplan;
- Applicant's bank details;
- Requested budget.

### Selection committee

A scientific committee – VM Committee – composed of the Grant Awarding Coordinator, the Action Chair and/or Vice-Chair, the Database Coordinator and the Working Group leaders will evaluate all the VM proposals and define a seriation for the attribution of the grants. In case of conflict of interest, the member that is constrained in his duties should designate a substitute.

The evaluation will return a value between 0 and a maximum of 10 points. The criteria for evaluation will include: scientific quality, alignment with Action objectives, expected impact, budget, etc.: up to 5 points; ITC participant: 0.5 point, Early Stage Researcher (up to 40 years old): 0.5 point; Academia-industry VM: 2 points; Contribution to CCUS database development: 2 points.

### VM reporting and Payment

The VM Grantee has 30 calendar days from the end date of the mission to submit a scientific report to the VM Coordinator. Please note that failure to submit the scientific report within 30 days will effectively cancel the grant. The template of the scientific report can be downloaded at [https://www.cost.eu/VM\\_Report](https://www.cost.eu/VM_Report); it includes:

- Purpose of the VM and framing in the TrANsMIT Action;
- Description of the activities carried out during the mission;
- Summary of relevant results;
- Future collaborations, including forthcoming publications resulting from the developed work and/or joint project proposals agreed during the stay.

The payment of the Grant is subject to the approval of the VM scientific report by the VM Committee, on behalf of the Action's MC, and the final decision is uploaded in e-COST by the VM Coordinator. Based on this, the Grant Holder will execute the payment of the grant directly to the grantee as requested in the application.

### Contacts

Grant Awarding Coordinator	Action Chair	Action Vice-Chair	Database Coordinator
Dr Daria Katla daria.katla@polsl.pl	Prof. Anna Skorek-Osikowska anna.skorek@polsl.pl	Dr Mijndert van der Spek m.van_der_spek@hw.ac.uk	Dr Mohammad Reza Ghaani mohammad.ghaani@tcd.ie