

**BIOCO<sub>2</sub> - CCS-CCU Technology for carbon footprint reduction using bio-adsorbents.  
Task 4: Utilization of CO<sub>2</sub> - concrete production (PPI/APM/2019/1/00042/U/00001, 2019-2021)**



Partners: Coordinator: Czestochowa University of Technology (CUT), Poland; Consejo Superior de Investigaciones Científicas (CSIC)-Instituto de Ciencia Y Technological Del Carbono (INCAR), Spain; Intituto di Tecnologie Avanzate per l'Energia /Nicola Giordano" (ITAE), Italy; Campus Bio-Medico University of Rome (UCBM), Italy and **CERIS**, Portugal.

CERIS Principal Investigator (Task 4 coordinator): R. Nogueira

CERIS Research Team: J.A. Bogas; A. Silva; I. **Flores-Colen** (10%)

Funding: NAWA - Polis National Agency for Academic Exchange Total budget: 300.000€ CERIS: 49.000€

<https://bioco2.is.pcz.pl/en/>

Period: **01/09/2019** (24 months)

[https://www.dropbox.com/s/njrep2uy8lmoalj/BIOCO2\\_4.mp4?dl=0](https://www.dropbox.com/s/njrep2uy8lmoalj/BIOCO2_4.mp4?dl=0)

**Summary description:** within the scope of CCS-CCU technologies for carbon footprint reduction using bio-adsorbents – aims to propose sustainable solutions to be implemented in the close future aimed to reduce the CO<sub>2</sub> emissions and to achieve the targets imposed by the European Commission (-21% by 2020 and -40% by 2030 in respect to 1990 levels). To this end, the project will demonstrate a reduction of the carbon footprint achieved through the utilization of CO<sub>2</sub> and of waste biomass, to produce useful carbon-based products. The production process of these products will ideally comprise renewable energy sources.

**CERIS participation:** The project activities have been divided into six tasks, the leader of each is the partner specializes in the field. CERIS/Técnico is the leader of the task 4 “Concrete production” and is involved in tasks 1, 5, and 6, “subtract acquisition”, “CO<sub>2</sub> and energy flow analysis” and “project coordination and dissemination”, respectively. The aim of task 4 is to reduce the overall amount of CO<sub>2</sub> emissions from the concrete production, without prejudice to its performance and applicability conditions.

**Output:** the target groups of the BIOCO<sub>2</sub> project are companies concerned with CO<sub>2</sub> emission, biomass, renewable energy, biocarbon, adsorbents, alternative fuels and concrete products.

**Indicators:** 1 paper in peer-reviewed international journals and 1 book chapter (both to be submitted until June 2021) and 1 paper in international conference proceedings already submitted and accepted. 1 PhD thesis (ongoing - A. Silva) and 3 MSc dissertations are assigned to the task.