



Postdoctoral Fellowship in Environmental and Energy Economics

Technico-economic Analysis of a Bioenergy Carbon Capture and Use Storage project

The Laboratory of Economics of Orléans (LEO) jointly with the french Bureau de Recherche Géologique et Minière (BRGM, French Geological Survey) is proposing a twelve-month Postdoctoral Fellowship in Environmental Economics in order to realize the Technico-economic analysis (TEA) of a project combining a Carbon Capture and Storage process on bioenergy with its use in agricultural Greenhouses (BCCUS), the CO₂SERRE project, funded by the French Région Centre-Val de Loire.

The CO₂SERRE Project focuses on a CCUS process in the Region Centre Val de Loire, which will be implemented on local CO₂ emissions coming from Biomass, mainly from a co-generation Biomass power plant, with its use in local agricultural greenhouses. Depending on the volume of capture and stored CO₂, and also on its time profile of emission and use, this process will require either a definitive storage of the excess CO₂ in deep geological layers, or a buffers storage between the capture and use steps.

In cooperation with another post doctoral fellow in charge of the Life Cycle Analysis of the project, the candidate shall:

- Review the literature on the technico-economic valuation of CCUS projects
- Use the LCA results in order to calibrate the TEA of the project,
- Realize the TEA of the project, and assess its economic viability through an avoided carbon price in a baseline configuration
- Test the sensibility of this TEA under different versions of the project, depending on the CO₂ bioenergy sources, and of the temporary carbon storage facilities.
- Compare these results with that of competing alternative projects studied in the literature review.
- Assess the overall economic potential of this technology locally, and on a larger scale.

The candidate, doctor in environment or energy economics, will work, in a multidisciplinary team (geologists, engineers, economists) located on the BRGM and University of Orléans sites. A good knowledge of CCS technologies, geothermal energy and geology would be highly appreciated.

More information:

- The postdoctoral contract will be jointly supervised by Mr Xavier Galiègue (LEO, University of Orléans) and Mrs Faustine Laurent , (BRGM).
- The net wage will be about 2050 € net a month.
- Contract beginning: from September 2020, for 12 months.
- Applications will have to be sent to the following addresses: before April 3rd 2020
- Candidate will send a detailed curriculum vitae, a cover letter, and a copy of Ph.D. diploma or the defense date confirmed by a letter from the thesis supervisor.