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 Geological Survey (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.