

Stage proposé pour l'été 2019

Présentation de LABORELEC

ENGIE Lab Laborelec est le centre de recherche et d'expertise dédié aux technologies de l'électricité du Groupe ENGIE. Implanté à Linkebeek près de Bruxelles et avec des activités dans plus de 60 pays, il compte 240 ingénieurs et techniciens hautement spécialisés.

Nos activités couvrent toutes les filières de production d'électricité : fossile, nucléaire, renouvelable, centralisée ou décentralisée.

ENGIE Lab Laborelec structure son activité de R&D autour de trois axes :

- la réduction de l'incidence environnementale ;
- l'amélioration de l'approvisionnement et de la maintenance ;
- les systèmes énergétiques du futur.

Pour plus d'information : www.laborelec.be/ENG/

Training description

ENGIE is positioning as a key player in energy transition and as a partner to Industry for reducing the CO₂ emissions. Since early years 2000, ENGIE has built expertise on CO₂ capture technologies (as well as transport and storage) thanks to its participation to several R&D projects focused on Carbon Capture & Storage (CCS) for coal-fired power plants. However, over the last years, ENGIE's strategy has been to divest from fossil power assets and to develop renewables as a way to decarbonise power. Today, thermal assets that are looked at in terms of CO₂ emissions reduction are the natural gas and biomass combustion assets.

Biogas plants produce a mixture of mainly CH₄ and CO₂ by biological conversion of different types of raw materials (i.e. agricultural waste, manure, municipal waste, plant material, sewage, green waste or food waste). Today, the CO₂ is separated from the CH₄ but is not valorised which represents only a cost (~10 – 15%) and a leak in the closed carbon cycle. However, more and more projects are currently under development to valorise the CO₂ being produced into valuable added products (e.g. fuels).

The trainee will be included in the "CO₂ Lab team", and will specifically work on the project: **"Increase the circularity of biogas plant"**.

Her/his main tasks will be:

- To collect technical and economic data on biogas / green gas projects that integrate capture and valorisation of CO₂,
- To assess the advantages and disadvantages of advanced CO₂ separation/purification technologies,
- To participate in onsite measurements to characterize the CO₂ purity coming from biogas plants of the ENGIE group,
- To participate in the daily tasks of the CO₂ team,

- To draft a training report, preferentially in English, in order to make all the collected data readily available for further developments.

Biogas plant visits and/or measurements of CO₂ quality will probably be organised during the training in France and in the Netherlands. If this is the case, the trainee will be invited to join the team of LABORELEC. Therefore, the trainee has to be able to communicate in French, and at least for the basics in Dutch or in English.

If you are interested, please send you CV and a few words about your motivations to:

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