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**Code:**  
**Project: CO2 Capture (SUPORT line)**  
**Area: Advanced Materials for Energy**  
**Area leader: Prof. Joan Ramon Morante**  
**Group: Energy Storage, Harvesting and Catalysis**  
**Group leader: Prof. Joan Ramon Morante**

## **Project Engineer Researcher on Sustainable Fuels**

The **Energy Storage, Harvesting and Catalysis Group** is seeking for a Project Engineer Researcher for the development of sustainable fuels. The candidate will work on the design, construction and operation of a chemical reactor for the conversion of green hydrogen and syngas to liquid fuels. The aim of the project is to provide an innovative marine gas oil fuel route to decarbonize the heavy maritime transport, in collaboration with important companies in the sector.

We offer a two years contract (with extension possibilities). Joining a team of highly qualified and motivated researchers working in the frontiers of knowledge in science and technology, and industrial collaboration with leading industries in the energy field.

### **Tasks**

The main tasks will be:

- Design, construct and operation of a Fischer-Tropsch reactor prototype
- Implementation of an advanced catalyst developed in the laboratory
- Define the optimal conditions of the reactor for the marine fuel oil production
- Integration of green hydrogen from dark fermentation and syngas from solid oxide electrolyzer units
- Experimentation of the reactor prototype
- Result analysis, writing and oral communication activities.

### **Selection criteria**

We are looking for a highly motivated engineer in the development of sustainable fuels that fulfil the following eligibility criteria:

Essential:

- Academic background appropriate to the position (Chemical, Environmental, Mechanical, Industrial, Material engineer, Chemistry, Physics or related)
- Motivation for working in a R&D center for the energy sector
- Knowledge of CAD for mechanical engineering design

- Knowledge of Process Flow Design and basic equipment auxiliaries (compressor, mass flows, piping, filter)
- Experience in experimental or engineering works related to the topic
- Fluent in English

Advantageous:

- MSc in Energy, Catalysis, Chemical or Environmental fields. Candidates who are in the final phase of the official master's degree will be considered
- Experience in chemical reactor and catalysis
- Prior participation in research projects related to the subject
- Aimed at solving a problem related to energy transition and economy decarbonization
- Catalan and/or Spanish are advantageous

Skills:

- Team worker
- Flexibility
- Results-oriented
- Analytical capabilities
- Writing and communication skills.

**What we offer:**

A 2-3 year contract, a salary corresponding to the R1.4 category as stated in the professional career plan of IREC. Possibility of complementing the work with a doctoral thesis.

**Application**

Applicants should send a detailed Curriculum Vitae and a motivation letter to [irecjobs@irec.cat](mailto:irecjobs@irec.cat) (with copy to Dr. Jordi Guilera, [jguilera@irec.cat](mailto:jguilera@irec.cat)) indicating "SUPORT". Applications will be continuously evaluated until the right candidate is found.

**Incorporation**

Immediate incorporation or agreed with the candidate from March to June 2023.

**Project**

SUPORT (PLEC2022-009250) is a strategic lines project entitled "CO<sub>2</sub> Capture and valorization for the development of a Sustainable route to produce synthetic green fuels for maritime transport". The consortium is formed by IREC (leader), CIMNE-CENIT, CETAQUA, Aigües de Barcelona and Autoritat Portuària de Barcelona.

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