

**JOB OFFER**

# PhD RESEARCHER

**Position:** PhD researcher in CO<sub>2</sub>  
**Offer date:** CIIAE web  
**Project:** CIIAE – Ref. PD-CO<sub>2</sub> (HIDRÓGENO Y POWER-TO-X)  
**Department:** Hydrogen and Power-to-X  
**Estimated starting date:** 2023

<b>Workplace:</b>	University of Extremadura. Cáceres campus	
<b>Tasks to be developed:</b>	<p>The emission of CO<sub>2</sub> and other global warming gases causes anthropogenic climate change. However, CO<sub>2</sub> is also a versatile industrial gas, with important applications. In the context of the energy transition, the production of synthetic fuels is an important circular economy concept, with CO<sub>2</sub> capture being an enabler.</p> <p>The selected candidate is expected to perform the following tasks:</p> <ul style="list-style-type: none"> <li>– Developing one research project in the field of carbon capture, utilisation and storage.</li> <li>– Writing publications in high-ranked journals</li> <li>– Collaborations with experimental researchers from CIIAE and beyond</li> <li>– Becoming gradually more independent, in order to conduct, manage and lead independent studies</li> </ul> <p>Challenges: Increasing the efficiency, reducing the cost, improving the lifetime and reducing the environmental impacts of CO<sub>2</sub> capture.</p>	
<b>Duration of the contract and salary:</b>	Temporary Contract Initial duration: September 2025, with the possibility of extension	Gross Salary + S.S. Fees Set by law
<b>Academic background required:</b>	A Master in chemical engineering, industrial engineering, energy engineering, chemistry or related discipline	
<b>Other education:</b>		
<b>Professional experience:</b>		
<b>Job requirements (have to be fulfilled):</b>	<b>Specific techniques (analytical, software, calculations, prototyping, etc.)</b>	<ul style="list-style-type: none"> <li>– Previous working or learning experience with synthesis of materials for CO<sub>2</sub> capture</li> <li>– Some lab skills</li> <li>– Knowledge of energy technologies including renewables, storage, hydrogen and power-to-X</li> <li>– Excellent analytical skills</li> <li>– Knowledge of energy technologies including renewables, storage, hydrogen and power-to-X</li> </ul>
	<b>Participation and/or collaboration in R&amp;D&amp;I/business projects</b>	

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	<b>Languages</b>	Excellent oral and written skills in English
	<b>Cross-cutting competences</b>	<ul style="list-style-type: none"> <li>– Commitment to full transparency in terms of research methods, data and publications</li> <li>– Ability to work in a diverse and flexible academic environment in a team-oriented, but independent way</li> <li>– Commitment to PhD program</li> </ul>
	<b>Willingness to travel and stay abroad</b>	The candidate is expected to travel, both nationally and internationally, in the context of projects and conferences
	<b>Publications: scientific articles (in journals indexed in Web of Science and/or Scopus), theses (PhD and/or Master's), presentations at conferences, reports, technical reports, technical guides, etc.</b>	A successfully completed master thesis on a relevant topic (completed or as-advanced-as-possible thesis to be included in the job application. The final, successful thesis will be required for starting with the position)
<b>To be evaluated (adds points to the final evaluation):</b> <ul style="list-style-type: none"> <li>– Experience with some characterization techniques for structural and microstructural characterization such as X-ray diffraction (XRD), scanning electron microscopy (SEM), transmission electron microscopy (TEM).</li> <li>– Experience with analytical techniques related to CO<sub>2</sub> capture: thermogravimetry analysis (TGA), volumetric analysis, fixed or fluidized beds, N<sub>2</sub> and Ar physisorption.</li> <li>– Publication in Scopus indexed journals.</li> <li>– Knowledge of molecular simulation software for adsorption and some programming skills.</li> <li>– Participation on at least 1 R&amp;D projects.</li> <li>– Knowledge of Spanish and/or Portuguese.</li> <li>– Experience is scaling up from lab-findings to prototypes.</li> <li>– Experience with industrial collaborations and/or previous experience working on industry.</li> <li>– Grades in master's and bachelor's degrees (documents to be included in the job application).</li> <li>– Motivation letter (maximum 1 page) included in the application.</li> <li>– Evaluation provided by 2 referees via telephone conversation. The contact details of the referees (e-mail and telephone) are provided by the candidates in their application.</li> </ul>		
<b>Selection process details:</b>  <b>Technical test:</b> NO  <b>Language (English):</b> yes (will be evaluated during the interview)  <b>Job interview:</b> yes		

### Interested candidates:

Please, send all the documents requested by the terms and conditions of the call for the proposal, with the deadline being 15 calendar days from the day following the publication in the CIIAE web indicating the following reference: **Ref. PD-CO2 (HIDRÓGENO Y POWER-TO-X)**

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