

# PHD RESEARCHER

**Position: PhD researcher in LCA and techno-economic analysis**  
**Offer date: Web publication**  
**Project: CIIAE – REF. PD-LCA (ELÉCTRICO E HIDRÓGENO Y POWER-TO-X)**  
**Department: Hydrogen and Power-to-X**  
**Estimated starting date: 1st Quarter 2024**

<b>Workplace:</b>	University of Extremadura. Cáceres campus	
<b>Tasks to be developed:</b>	<p>Providing decision support is key to speed up the transition to net zero energy systems. In LCA and techno-economic analysis, the environmental and economic impacts, respectively, of products and services are assessed, throughout the life cycle: resource extraction, manufacturing, technology use, and waste management. The created models should be open, when possible, in order to improve the quality of science, on the basis of more transparency, reproducibility and traceability.</p> <p>The successful candidate is expected to perform the following tasks:</p> <ul style="list-style-type: none"> <li>– Creating of open source LCA models of energy storage and hydrogen technologies, linked to renewable energies</li> <li>– Integration of the LCA with energy system modelling</li> <li>– Using monitored data in pilot plants for sustainability indicators</li> <li>– Providing recommendations to decision makers based on modelling results</li> <li>– Collaborations with experimental researchers from CIIAE and other research centers</li> <li>– Writing a first-author publication per year in a high-ranking journal</li> <li>– Project management and administration</li> </ul> <p>Challenges: There is a large number of available technologies, actors, e.g., households and industry, as well as intrinsic uncertainty which makes LCA and techno-economic models complex. Plenty of data are also generated, making the assessment of the important results to provide policy recommendations challenging</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’s degree in chemical engineering, chemistry, energy engineering or equivalent, physics, natural sciences, industrial Ecology, sustainability, or similar	
<b>Other education:</b>	<p>We would consider the applications from candidates currently studying for a Master's degree on a relevant topic. In such situations, the current draft of their Master's Final Project must be included along with the application. You must provide the TFM title.</p> <p><b>NOTE:</b> A successful Master’s Final Project defence will be required to start with the position.</p>	

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<b>Professional experience:</b>	N/A	
<b>Job requirements (have to be fulfilled):</b>	<b>Specific techniques (analytical, software, calculations, prototyping, etc.)</b>	<ul style="list-style-type: none"> <li>– First analytical skills and experience in LCA (OpenLCA, Brightway 2, SimaPro, Ecoinvent, etc.). But the work will be mostly on open source Brightway.</li> <li>– Knowledge in techno-economic analysis (e.g. LCOE) and circular economy</li> <li>– Statistical skills, e.g. statistical tests and regression</li> <li>– Experience and/or knowledge in general purpose language programming (any language, but the work will be mainly in Python and Matlab)</li> </ul>
	<b>Participation and/or collaboration in R&amp;D&amp;I/business projects</b>	N/A
	<b>Languages</b>	Excellent oral and written skills in English
	<b>Cross-cutting competences</b>	<ul style="list-style-type: none"> <li>– Teamwork</li> <li>– Communication skills</li> <li>– Commitment to open science in research methods, data and publications</li> <li>– Ability to work in a diverse and flexible academic environment in a team-oriented, yet independent manner</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 master's thesis in a related topic
<b>To be evaluated (adds points to the final evaluation):</b>		
<ul style="list-style-type: none"> <li>– Some experience with laboratory or R&amp;D work, beyond undergraduate and master studies.</li> <li>– Training courses in neural networks, LCA</li> <li>– Training courses in electrochemistry</li> <li>– Stays abroad</li> <li>– Knowledge of Spanish and/or Portuguese</li> <li>– Experience in industrial collaborations and/or previous experience working in the industry</li> <li>– Average grade in master's and bachelor's degree studies</li> <li>– Letter of motivation (maximum 1 page) included in the application.</li> </ul>		

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- Evaluation provided by 2 references through telephone conversation. The contact details of the references (email and telephone) are provided by the candidates in their application.

### Selection process details:

**Technical test:** NO

**Language (English):** yes (**will be evaluated during the interview**)

**Job interview:** yes

### Interested candidates:

Send all the necessary documentation included in THE RULES OF THE CALL and THE JOB OFFER, as well as THE APPLICATION FOR ADMISSION. Deadline 15 calendar days from the day after the publication on the WEB, indicating **REF. PD-LCA (ELÉCTRICO E HIDRÓGENO Y POWER-TO-X)**

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