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# JUNIOR RESEARCHER

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**Position: Junior researcher in energy system analysis**  
**Offer date: Web publication**  
**Project: CIAIE – REF. IJ-SISTEMAS (HIDRÓGENO Y POWER-TO-X)**  
**Department: Hydrogen and Power-to-X**  
**Estimated starting date: 1<sup>st</sup> Quartile 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 energy system analysis, simulation models are created to find the best pathway to decarbonise our society, considering important constraints, from a interdisciplinary point of view. Energy system analysis should also be open, in order to the quality of science, on the basis of more transparency, reproducibility and traceability</p> <p>The selected candidate is expected to perform the following tasks:</p> <ul style="list-style-type: none"> <li>– Creating open-source energy system models at various spatial and temporal scales, e.g., Iberian Peninsula and energy communities.</li> <li>– Creating an open-source energy system model of the Iberian Peninsula with interconnections to France, North of Africa, and overseas</li> <li>– Providing recommendations to decision makers based on modelling results</li> <li>– Collaborations with experimental researchers from CIAIE and beyond</li> <li>– Successful Collaboration with universities, research institutes and companies at national and international level.</li> <li>– Writing publication as first author and co-author (e.g., 1.5 paper p.a. in high-ranked journals)</li> <li>– Project management and project administration (internal and external), also towards the department and CIAIE</li> <li>– Writing research proposals and contributing towards acquisition of competitive funding, both private and/or public</li> <li>– Becoming gradually more independent, in order to conduct, manage and lead an independent project</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 energy system 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 Gross Salary Range: 35 000 € - 38 000 €
<b>Academic background required:</b>	A PhD in engineering, computer science, mathematics, physics, economics or related numerate disciplines	

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<b>Other education:</b>	<p>Applications from candidates who are completing their PhD with an agreed thesis reading date will also be considered. In this case the thesis document must be included in the application.</p> <p><b>Note:</b> a document stating the successful reading of the thesis will be required for the formalisation of the contract.</p>	
<b>Professional experience:</b>	<p>N/A</p>	
<b>Job requirements (have to be fulfilled):</b>	<b>Specific techniques (analytical, software, calculations, prototyping, etc.)</b>	<ul style="list-style-type: none"> <li>- Excellent analytical skills and experience in theoretical and applied modelling</li> <li>- Experience in energy system modelling and optimisation</li> <li>- Knowledge of energy system engineering and techno-economic assessment</li> <li>- Statistical skills, for example statistical tests and regression</li> <li>- Programming experience (any language, but work may be mostly be in Python and Matlab).</li> <li>- Knowledge of energy technologies including renewables, energy storage, hydrogen, flexibility technologies and power-to-X</li> <li>- Thermodynamics knowledge</li> </ul>
	<b>Participation and/or collaboration in R&amp;D&amp;I/business projects</b>	<p>Proven participation on at least 1 R&amp;D projects</p>
	<b>Languages</b>	<p>Excellent oral and written skills in English</p>
	<b>Cross-cutting competences</b>	<ul style="list-style-type: none"> <li>- Commitment to open science 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>- Experience on collaborating with other colleagues from the same department and beyond</li> </ul>
	<b>Willingness to travel and stay abroad</b>	<p>The candidate is expected to travel, both nationally and internationally, in the context of projects and conferences</p>

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	<p><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></p>	<p>Strong track-record of publications as first author and co-author as the candidate is expected to publish in top journals in the field. At least 3 publications in Scopus indexed journals. Alternatively, a monograph thesis may also be considered, as well as conference publications</p>
<p><b>To be evaluated (adds points to the final evaluation):</b></p> <ul style="list-style-type: none"> <li>– Proven experience with agent-based modelling (ABM)</li> <li>– Knowledge of power flow analysis</li> <li>– Machine learning</li> <li>– GIS modelling</li> <li>– Experience with statistical learning models and machine learning</li> <li>– Knowledge of Spanish and/or Portuguese</li> <li>– Experience with industrial collaborations and/or previous experience working on industry</li> <li>– Motivation letter (maximum 2 pages) included in the application.</li> <li>– Evaluation provided by 2 references via telephone conversation. The contact details of the references (e-mail and telephone) are provided by the candidates in their application.</li> </ul>		
<p><b>Selection process details:</b></p> <p><b>Technical test:</b> NO</p> <p><b>Language (English):</b> yes (<b>will be evaluated during the interview</b>)</p> <p><b>Job interview:</b> yes</p>		

### 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. IJ-SISTEMAS (HIDRÓGENO Y POWER-TO-X)**

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