JOB OFFER

PhD RESEARCHER

Position: PhD researcher in energy system analysis (2 positions)
Offer date: CIIAE web
Project: CIIAE – Ref. PD-SISTEMAS (HIDRÓGENO Y POWER-TO-X)
Department: Hydrogen and Power-to-X
Estimated starting date: 2023

Workplace:	University of Extremadura. Cáceres campus	
Tasks to be develped:	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 The selected candidate is expected to perform the following tasks: – Creating open-source energy system models at various spatial and temporal scales, e.g., Iberian Peninsula and energy communities. – Creating an open-source energy system model of the Iberian Peninsula with interconnections to France, North of Africa, and overseas – Provide recommendations to decision makers based on modelling results – Collaborations with experimental researchers from CIIAE and beyond – Writing publications as first author (e.g., 1 paper p.a. in high-ranked journals) – Project management and project administration (internal and external), also towards the department and CIIAE 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	
Duration of the contract and salary:	Temporary Contract Initial duration: September 2025, with the possibility of extension	Gross Salary + S.S. Fees Set by law
Academic background required:	A Master's degree in engineering, computer science, mathematics, physics, economics or related numerate disciplines	
Other education:		
Professional experience:		

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Job requirements (have to be fulfilled):	**Specific techniques (analytical, software, calculations, prototyping, etc.)**	– Excellent analytical skills and experience in theoretical and applied modelling – Some first experience in energy system modelling and optimisation – Knowledge of energy system engineering and techno-economic assessment – Statistical skills, for example statistical tests and regression – Some programming experience (any language, but work may mostly be in Python and Matlab). – Knowledge of energy technologies including renewables, energy storage, hydrogen, flexibility technologies and power-to-X –
	Participation and/or collaboration in R&D&I/business projects	
	Languages	Excellent oral and written skills in English
	Cross-cutting competences	– Commitment to open science in terms of research methods, data and publications – Ability to work in a diverse and flexible academic environment in a team-oriented, but independent way
	Willingness to travel and stay abroad	The candidate is expected to travel, both nationally and internationally, in the context of projects and conferences
	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.	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)

To be evaluated (adds points to the final evaluation):

- Proven experience with agent-based modelling (ABM)
- Knowledge of power flow analysis
- GIS modelling
- Experience with statistical learning models and machine learning
- Knowledge of Spanish and/or Portuguese
- Experience with industrial collaborations and/or previous experience working on industry
- Grades in master's and bachelor's degrees (documents to be included in the application)
- Motivation letter (maximum 1 page) included in the application.
- 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.

Selection process details:

Technical test: NO

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

Job interview: yes

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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-SISTEMAS (HIDRÓGENO Y POWER-TO-X)**

FUNDECYT-PCTEX (Edificio Parque Científico Tecnológico), Avda. de la Investigación, s/n, Edificio PCTEX, Campus de la Universidad de Extremadura – 06006 Badajoz (España)

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