



## PhD Position

### ***Household uptake and impact of demand response measures***

part of the Marie Skłodowska-Curie Actions Doctoral Network on “Consumer Energy Demand Flexibility in Electricity Use” (CoDeF)

- ***Do you want to gain training to deliver a sustainable, just, and consumer-centric energy transition?***
- ***Do you have solid quantitative and analytical skills and interest in energy economics that you want to develop further in an international setting?***

### **Job description**

Consumers and citizens will play an important role in the transition to net zero carbon energy through flexible energy use and matching demand to available renewable energy supply. Nonetheless, technical, economic, and societal challenges currently hinder consumer participation in energy markets.

In this project, the PhD student will focus on the decision-making process of householders to participate in demand response actions to increase the flexibility of electricity load in the residential sector. They will gain an understanding of the influence of economics, behavioural and social characteristics on their adoption of demand response and time-of-use pricing schemes. Consumer energy flexibility is being rapidly acknowledged as a crucial tool as Europe aims for a just and sustainable energy transition to achieve climate neutrality and energy security. However, there are gaps in the understanding of the full potential for flexibility in the residential sector that may be achieved through the use of automation and incentives.

In particular, the PhD student will use surveys, smart meter data, agent-based modelling and other tools of economic analysis to model the future uptake of demand response contracts and their impact on electricity demand. This will be done with considerations for heterogeneous preferences, needs and priorities of diverse households under a range of electricity price and policy scenarios. The aim of the research will be to understand the potential of households to develop flexible load under different incentives, demand response automation contracts, and information framing to alleviate peak demand. The student will benefit from collaboration with other researchers working on related projects across the network.

This PhD position is one of 15 positions funded under the MSCA Doctoral Network (DN) Consumer Energy Demand Flexibility in Electricity Use (CoDeF). Your supervisor will be Prof. Lisa Ryan and you will join the PhD Programme in Economics at [UCD School of Economics](#). More information on the CoDeF training network can be found [here](#). You will also become part of the [UCD Energy Institute](#), a University-wide hub that fosters interdisciplinary links among energy-related projects. Which hosts a dynamic community of internationally renowned researchers. Our University hosts a diverse community with members from different countries and disciplines, and we welcome candidates that contribute to and enjoy this diversity.



We foresee two secondments during this PhD trajectory: subject to confirmation, this would consist of an academic secondment to KU Leuven, in Belgium, supervised by and a non-academic secondment at the energy supplier Electric Ireland. In addition, the doctoral network aims to provide extensive training in research and transferable skills, centred around annual workshops in Dublin (IE), Dübendorf (CH), Copenhagen (DK) and Bochum (DE). More information on the CoDeF doctoral network can be found [here](#).

### **Requirements**

You must be able to demonstrate:

- Masters degree in economics or related discipline (must have been awarded by the agreed-upon starting date of the PhD).
- Strong quantitative and analytical skills with experience in either surveys, agent-based modelling, and/or advanced econometrics.
- Very good written and spoken communication skills in English.
- In line with Marie Slodowska-Curie Action requirements, eligible applicants to PhD programmes in Ireland must not have lived in the Republic of Ireland for more than 12 of the last 36 months.

### **Desirable:**

- Training and/or experience in behavioural and energy economics.
- Training and/or experience in economic data analysis using R, Stata, Python, or similar.
- Prior research experience, especially in behavioural economics, energy, and/or environmental economics.
- Interest and enthusiasm for energy and climate policy.
- Knowledge of the electricity sector and electricity markets.

Doing a PhD at UCD requires English proficiency to ensure that the candidate is able to communicate and interact well, participate in English-taught Doctoral Education courses, and write scientific articles and a final thesis. For more details please check the [Graduate School's Admission Requirements](#).

### **UCD PhD Programme in Economics**

The successful candidate will be part of the UCD School of Economics PhD programme. More information can be found about the programme [here](#).

The PhD position will be fully funded for three years under the CoDeF project under the normal MSCA conditions found [here](#). If needed, additional funding will be subsequently sought.



## **Application procedure**

Are you interested in this vacancy? Please apply before **10 August 2024 23:59** Irish time via email to [lisa.ryan@ucd.ie](mailto:lisa.ryan@ucd.ie)

We will contact shortlisted candidates for an interview.

The starting date will be September 2024 or later, as appropriate.

Documents that must be included in the application:

- Motivation statement, including a paragraph outlining how your research interests fits in the areas outlined in the job advertisement (max. one A4 page).
- CV.
- Contact details for two references (contact details only - please do not submit reference letters until asked).

Official transcripts may be requested in further stages of the selection process.

**Please do not attach any other documents to your application than those requested above. These documents will not be considered in the application procedure.**

- A pre-employment screening can be part of the selection procedure.
- You can apply via email. We will not process applications sent by post.
- Please do not contact us for unsolicited services.

For more information about this vacancy or the application procedure, please contact Lisa Ryan ([lisa.ryan@ucd.ie](mailto:lisa.ryan@ucd.ie))

## **More information on University College Dublin**

University College Dublin is one of Europe's leading research-intensive universities, where a comprehensive suite of strong disciplines forms the foundation of high-quality interdisciplinary research, scholarship and innovation. UCD is the national leader in research funding, attracting quality investment that has helped the university establish a reputation as a world-class destination for leading researchers. UCD is ranked within the top 1% of higher education institutions worldwide and is the largest and most global University in Ireland: 1,800 academic staff across a range of disciplines; 1,600 PhD students, producing 22% of Ireland's PhD graduates each year; 33,000 students (29% international students comprising 144 nationalities). The project will be based in UCD Energy Institute, a hub of energy education, research, demonstration, collaboration (with industry and others), and outreach at UCD, and will be enrolled in the PhD programme of the UCD School of Economics, which offers rigorous training and expert supervision, designed to prepare students for top-level jobs in academia, institutions, and the private sector.