



UNIVERSITY OF LEEDS

CANDIDATE BRIEF

Research Fellow in Energy and Macroeconomics

School of Earth and Environment, Faculty of Environment



Salary: Grade 7 (£33,797 – £40,322 p.a) due to funding limitations an appointment will not be made above £36,914 p.a.

Reference: ENVEE1390

Fixed term for 2 years (due to external funding)

We will consider job share/flexible working arrangements

Research Fellow in Energy and Macroeconomics

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Would you like to further your career by applying your quantitative energy and economic skills at one of the UK's leading research-intensive Universities? Do you have an ability to work at the forefront of the emerging field of exergy economics to find new insights to an urgent global issue: how can we decouple energy use from economic growth? If so, this could be the opportunity for you.

The research project: “Applying thermodynamic laws to the energy-GDP decoupling problem”

Meeting the 2015 Paris Agreement's ambition relies heavily on reducing global energy use through increased energy efficiency. However, despite decades of energy efficiency policies and investment, global growth in energy consumption and economic output (GDP) remain tightly coupled. New insights and methods are thus urgently needed to unlock how energy-GDP decoupling can be achieved.

In response, this [five year project led by Dr Paul Brockway](#) explores the decoupling problem using pioneering analytical methods being developed by the [Exergy Economics](#) research community, at which the University of Leeds is at the forefront. This emerging field applies 'exergy' as the thermodynamic-based measure of energy quality: the ability of energy to do physical work.

With a PhD (or near completion) in the energy/ecological economics field or a closely allied discipline, you will be based at the Sustainability Research Institute ([SRI](#)). You will be part of a dynamic network of researchers who specialise in alternative energy-economy modelling approaches, including SRI-based research centres Living Well Within Limits ([LiLi](#)), and the Centre for Research into Energy Demand Solutions ([CREDS](#)). Together, we have a very strong track record of publishing in high ranking peer-reviewed journals.

What does the role entail?

As a Research Fellow, your main duties will include:

- Working with a range of quantitative energy-economy modelling methods aimed at discovering new insights into the role of thermodynamic-based energy (exergy) efficiency within the energy-economy relationship. These may include:



aggregate production functions; input-output analysis; agent-based / system dynamics models; macroeconometric analysis; decomposition analysis;

- Working both independently and also as part of the larger Leeds-based project team, and project partners including BEIS, IST Lisbon, Bank of England;
- Developing modelling and policy-relevant responses based on the assessment of the likelihood of energy-GDP decoupling;
- Generating and pursuing original research ideas in the project's subject area;
- Communicating or presenting research results through publication or other recognised forms of output, including academic conferences;
- Preparing papers for publication in leading international journals and independently writing reports;
- Contributing to the training of both undergraduate and postgraduate students, where appropriate, including assisting with the supervision of projects.

These duties provide a framework for the role and should not be regarded as a definitive list. Other reasonable duties may be required consistent with the grade of the post.

What will you bring to the role?

As a Research Fellow you will have:

- A PhD or near completion - i.e. the initial thesis needs to have been handed in at the point of application in the energy/ecological economics field or a closely allied discipline;
- A strong background in economy-wide energy and/or economic analysis;
- Demonstrable experience of conducting empirically-based macroeconomic research;
- A good level of numerical literacy and demonstrated ability to interpret complex data;
- A proven track record of peer-reviewed publications in high impact factor journals;
- Excellent written and verbal communication skills including presentation skills;
- A proven ability to work well both individually and in a team;



- Good time management and planning skills, with the ability to meet tight deadlines manage competing demands and work effectively under pressure without close support.

You may also have:

- Direct experience in the field of exergy economics;
- Experience of handling large macroeconomic energy/economy datasets, e.g. International Energy Agency, World Bank, OECD;
- Experience of pursuing external funding to support research;
- Experience of using programming languages such as R, python.

How to apply

You can apply for this role online; more guidance can be found on our [How to Apply](#) information. Applications should be submitted by **23.59** (UK time) on the advertised closing date.

Contact information

To explore the post further or for any queries you may have, please contact:

[Dr Paul Brockway](#), University Academic Fellow

Tel: +44 (0)113 343 5576

Email: p.e.brockway@leeds.ac.uk

Additional information

Find out more about the [Faculty of Environment](#)

Find out more about our [School](#)

Find out more about our [Research and associated facilities](#)

Find out more about [Athena Swan](#) in the Faculty



A diverse workforce

The Faculty of Environment has received a prestigious Athena SWAN silver award from [Advance HE](#), the national body that promotes equality in the higher education sector. This award represents the combined efforts of all schools in the Faculty and shows the positive actions we have taken to ensure that our policies, processes and ethos all promote an equal and inclusive environment for work and study.

Working at Leeds

Find out more about the benefits of working at the University and what it's like to live and work in the Leeds area on our [Working at Leeds](#) information page.

Candidates with disabilities

Information for candidates with disabilities, impairments or health conditions, including requesting alternative formats, can be found in our [Accessibility](#) information or by getting in touch with us at disclosure@leeds.ac.uk.

Criminal record information

Rehabilitation of Offenders Act 1974

A criminal record check is not required for this position, however, all applicants will be required to declare if they have any 'unspent' criminal offences, including those pending.

Any offer of appointment will be in accordance with our Criminal Records policy. You can find out more about required checks and declarations in our [Criminal Records information](#).

