

Summary

Job title	Research Assistant in Just Energy Systems
Division	Mathematical, Physical and Life Sciences Division
Department	Engineering Science
Location	Holywell House, Osney Mead, Oxford
Grade and salary	Grade 6: £34,982-£40,855 per annum
Hours	Full time but would consider 0.8 FTE
Contract type	Fixed-term (externally funded until 31 March 2026. Whilst the project is until 2030, we operate in yearly funding cycles. Therefore, there is the possibility of extension dependent on CCG programme funding).
Reporting to	Prof. Stephanie Hirmer, Department of Engineering Science
Vacancy reference	179452

Research topic	CCG: What are the visions of and pathways to climate-compatible and equitable energy and transport systems, and what synergies or trade-offs exist between national macroeconomic goals and local community development needs? What strategies, policies, institutional changes, and timelines are required to develop climate-compatible and equitable energy and transport systems, and how can cross-sectoral collaboration ensure alignment between national priorities, social equity, and climate impacts? How can soft and hard infrastructure be developed to meet both top-down national macro-economic and policy goals, and local bottom-up community development needs, and where are the synergies and trade-offs in decision-making? How can local community development needs be captured and accounted for in decision-making to increase community resilience, reduce existing vulnerabilities and minimise negative impacts of transitions? SHIELD: How can green hydrogen and ammonia be strategically integrated into Ukraine's energy system to support sustainable development, energy security, and post-conflict reconstruction?
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	What policy, financial, and technical pathways are most effective for enabling equitable and resilient hydrogen and ammonia adoption in Ukraine, given current geopolitical, economic, and infrastructural conditions?
Principal Investigator / supervisor	Prof. Stephanie Hirmer, Department of Engineering Science
Project web site	https://climatecompatiblegrowth.com/ https://epg.eng.ox.ac.uk/shield/
Funding partner	The funds supporting this research project are provided by the Foreign Commonwealth and Development Office (FCDO) as part of the Climate Compatible Growth (CCG) programme and SHIELD in Ukraine project
Recent publications	Hirmer, S., Tomei, J., Yang, P., Leonard, A., Trotter, P., Millot, A., Egli, F., van Dam, K., Beltramo, A. and Stringer, M., 2024. Inconsistent measurement calls into question progress on electrification in sub-Saharan Africa. <i>Nature Energy</i> , 9(9), pp.1046-1050. Mulugetta, Y., Sokona, Y., Trotter, P.A., Fankhauser, S., Omukuti, J., Somavilla Croxatto, L., Steffen, B., Tesfamichael, M., Abraham, E., Adam, J.P. and Agbemabiese, L., 2022. Africa needs context-relevant evidence to shape its clean energy future. <i>Nature Energy</i> , 7(11), pp.1015-1022. Lanza, M. F., Leonard, A., & Hirmer, S. (2024). Geospatial and socioeconomic prediction of value-driven clean cooking uptake. <i>Renewable and Sustainable Energy Reviews</i> , 192, 114199. Müller, L. A., Leonard, A., Trotter, P. A., & Hirmer, S. (2023). Green hydrogen production and use in low-and middle-income countries: A least-cost geospatial modelling approach applied to Kenya. <i>Applied Energy</i> , 343, 121219.

The role

The successful candidate will join the [Climate Compatible Growth](#) (CCG) programme and the [Strategic Hydrogen Integration for Effective Low-Carbon Development](#) (SHIELD) in Ukraine project.

CCG is a £95 million UK FCDO-funded research programme running until March 2030. It supports developing countries in pursuing low-carbon development pathways while unlocking profitable investment in green infrastructure, opening new markets, and advancing the Sustainable Development Goals (SDGs). The programme focuses on energy systems and the decarbonisation of transport, with in-country offices in seven locations, including established offices in Kenya, Zambia, Ghana, India, Vietnam, Laos, and Nepal, with Malawi to follow.

SHIELD is a £1.7 million FCDO-funded research initiative that assesses the potential of green hydrogen and ammonia within Ukraine's energy system. It also explores how this long-term objective can inform short-term decision-making for reconstruction, including financing pathways and policy reform.

The successful candidate will support the team's work on place-based decision-making, with a particular emphasis on equitable energy planning and energy access. The team leads projects that plan low-carbon or critical infrastructure—such as solar-powered irrigation, green hydrogen, mining, and other sectors—to advance broader development goals at national or regional levels. Through contextualised modelling frameworks and in-country engagement, this includes identifying necessary policy reform, investment needs, and energy system planning to support sustainable outcomes and area-based development. A core focus of the team is promoting equity and justice, ensuring that marginalised and vulnerable groups are meaningfully

included in decision-making and planning processes. The team also prioritises decentralised energy planning and community resilience, with a strong commitment to addressing gender, equality, and broader social inclusion.

The position sits within the Energy and Power Group, that is led by Professor Malcolm McCulloch. You will be working under Professor Stephanie Hirmer and will be co-supervised by Dr Alycia Leonard. The ethos of the group is focused on developing individuals to reach their goals, developing real- world tools and techniques for sustainable energy systems and to celebrate diversity. A hybrid working pattern is normal practice for the group.

Interviews will take place on Friday, 30 May, and Monday, 2 June. They will include a technical presentation based on an exercise sent prior to the interview, along with competency-based questions.

Responsibilities

Specific Duties

- **Equitable Energy System Planning:** Contribute to research on equitable energy system planning in low- and middle-income countries, as well as conflict-affected regions. This may involve supporting efforts to measure energy access, analyse tariffs and their impact on equitable energy planning, and advance initiatives for building resilient communities under climate shocks or conflict.
- **Data Collection and Analysis:** Collect, analyse, and present scientific data from a variety of sources to support research objectives.
- **Research in Energy Planning, Economics, and Data Science:** Work across the fields of energy planning, economics, and data science to conduct comprehensive research.
- **Python Programming:** Program in Python, utilising tools for data science, energy modelling, and economic analysis.
- **Data Visualisation:** Create data visualisations to support publications and communicate research findings.
- **Literature Review:** Undertake comprehensive literature reviews to inform research approaches and support the development of new ideas.
- **Scientific Writing:** Contribute to the preparation of scientific reports and journal articles.
- **Strategic Communication:** Draft strategic communications, including policy briefs, working papers, and social media content, designed for specific audiences to maximise the impact and reach of research

Additional Duties

- **Research and Administrative Management:** Manage your own research and administrative activities, adhering to the guidelines set by senior colleagues.
- **Project Planning:** Contribute to broader project planning, including generating ideas for new research initiatives.
- **Stakeholder Engagement:** Collaborate with high-level stakeholders to gather information and effectively disseminate research findings.
- **Methodology Development:** Support with identification of the most appropriate methodologies for testing hypotheses and identify suitable alternatives if technical challenges arise.
- **Representation and Networking:** Represent the research group at external meetings and seminars, either independently or alongside other team members.
- **Collaboration and Knowledge Sharing:** Engage in discussions and share research findings with colleagues from partner institutions and research groups.

Selection criteria

Essential selection criteria

- **Qualifications:** Hold a relevant first and master's degree.
- **Specialist Knowledge:** Possess expertise in energy systems or energy access, and its application to policy and/or economic analysis.
- **Data Analytics and Computational Skills:** Proficient in Python programming, data analytics, energy systems modelling, geospatial and computational methods.
- **Stakeholder Engagement:** Have experience in engaging with relevant stakeholders to inform research and policy development.
- **Contextual Experience:** Have worked in low- and middle-income country contexts or conflict zones, gaining insight into the unique challenges and opportunities.
- **Independent Research Management:** Demonstrate the ability to manage your own academic research and associated activities effectively and independently.
- **Publication Experience:** Have prior experience contributing to publications and reports in academic or professional settings.

Desirable selection criteria

- **Experience:** Has relevant academic or practical work experience.
- **Narrative Building:** Ability to create narratives from quantitative modelling results and scenarios.
- **Organisational Skills:** Strong organisational abilities, including note-taking, record-keeping, and managing research activities.
- **Team Collaboration:** Experience working in a research team and contributing ideas for new research projects.
- **Research Innovation and Income Generation:** Contributed to research income generation activities.
- **Communication Skills:** Exhibits excellent communication skills, including the ability to write for publication, present research proposals and findings, and represent the research group at external meetings and seminars.

The candidate will be assessed based on the essential and desired criteria. Instead of a traditional cover letter, applicants must provide a supporting statement in the form of a **selection criteria response** (maximum of 2 pages) pointing to relevant and specific examples, alongside a **CV** (maximum of 3 pages). Applications exceeding 5 pages will not be considered. The candidate may reference their research profile or relevant publications/reports in the supporting statement.

Pre-employment screening

Standard checks

If you are offered the post, the offer will be subject to standard pre-employment checks. You will be asked to provide: proof of your right-to-work in the UK; proof of your identity; and (if we haven't done so already) we will contact the referees you have nominated. You will also be asked to complete a health declaration so that you can tell us about any health conditions or disabilities for which you may need us to make appropriate adjustments.

Please read the candidate notes on the University's pre-employment screening procedures at: <https://www.jobs.ox.ac.uk/pre-employment-checks>

About the University of Oxford

Welcome to the University of Oxford. We aim to lead the world in research and education for the benefit of society both in the UK and globally. Oxford's researchers engage with academic, commercial and cultural partners across the world to stimulate high-quality research and enable innovation through a broad range of social, policy and economic impacts.

We believe our strengths lie both in empowering individuals and teams to address fundamental questions of global significance, while providing all our staff with a welcoming and inclusive workplace that enables everyone to develop and do their best work. Recognising that diversity is our strength, vital for innovation and creativity, we aspire to build a truly diverse community which values and respects every individual's unique contribution.

While we have long traditions of scholarship, we are also forward-looking, creative and cutting-edge. Oxford is one of Europe's most entrepreneurial universities and we rank first in the UK for university spin-outs, and in recent years we have spun out 15-20 new companies every year. We are also recognised as leaders in support for social enterprise.

Join us and you will find a unique, democratic and international community, a great range of staff benefits and access to a vibrant array of cultural activities in the beautiful city of Oxford.

For more information, please visit www.ox.ac.uk/about/organisation.

Engineering Science Department

Engineering teaching and research takes place at Oxford in a unified Department of Engineering Science whose academic staff are committed to a common engineering foundation as well as to advanced work in their own specialties, which include most branches of the subject. We have especially strong links with computer science, materials science, and medicine. The Department employs 140 academic staff and has around 770 research students, 700 undergraduates and 200 researchers at any one time. Our research and education activities are supported by over 230 Professional and Technical staff.

Direct funding of research grants and contracts, from a variety of sources, amounts to an annual turnover of approximately £73m, of which research grant income is approximately £34m. Research activities fall into 8 broad headings, though there is much interdisciplinary research in practice: Information Engineering (Robotics, Computer Vision and Machine Learning); Control; Thermofluids; Materials and Mechanics; Civil and Offshore; Electrical and Optoelectronic; Chemical and Process; and Biomedical.

Research Excellence

The results of the seven-yearly UK-wide assessment of university research, REF2021, published on 12th May 2022, demonstrate that the University of Oxford made the highest volume of world-leading research submissions. The Department of Engineering Science had 71% of submissions which met the requirements for the highest grading of 4* (research that is world-leading in terms of originality, significance, and rigour).

Teaching

Each year 170-180 new undergraduates start the 4-year course leading to the MEng degree in Engineering Science. The course is accredited at MEng level by the major engineering institutions. The syllabus has a common core extending through the first two years, with specialist options introduced in the third year, and the fourth year offering further specialist material and a major project.

Working for the Department

The Department of Engineering Science is a diverse, inventive, and dynamic place to work. There are many benefits to working for the University of Oxford, including flexible working arrangements, competitive benefits including a contributory salary scheme, travel discounts, and attractive family policies, as well as many training and self-development opportunities and a wealth of support for mental health and work-life balance.

The Department holds a bronze Athena Swan award to recognise advancement of gender equality: representation, progression and success for all. We have an active Equality and Diversity Committee who evaluate our position and help formulate plans to take us forward.

Researchers are supported via training, a researcher committee, regular events, career development support and opportunities to develop science communication and other useful skills. We have a well-established and active Women in Engineering network which fosters a supportive community for women engineers across various disciplines, organizes engaging and inspiring events for all.

Further information about the Department is available at www.eng.ox.ac.uk/about/.

The Mathematical, Physical, and Life Sciences Division

The Mathematical, Physical, and Life Sciences (MPLS) Division is one of the four academic divisions of the University. In the results of the six-yearly UK-wide assessment of university research, REF2014, the MPLS division received the highest overall grade point average (GPA) and the highest GPA for outputs. We received the highest proportion of 4* outputs, and the highest proportion of 4* activity overall. More than 50 per cent of MPLS activity was assessed as world leading.

The MPLS Division's 10 departments and 3 interdisciplinary units span the full spectrum of the mathematical, computational, physical, engineering and life sciences, and undertake both fundamental research and cutting-edge applied work. Our research addresses major societal and technological challenges and is increasingly focused on key interdisciplinary issues. MPLS is proud to be the home of some of the most creative and innovative scientific thinkers and leaders working in academe. We have a strong tradition of attracting and nurturing the very best early career researchers who regularly secure prestigious fellowships

We have around 6,000 students and play a major role in training the next generation of leading scientists. Oxford's international reputation for excellence in teaching is reflected in its position at the top of the major league tables and subject assessments.

MPLS is dedicated to bringing the wonder and potential of science to the attention of audiences far beyond the world of academia. We have a strong commitment to supporting public engagement in science through initiatives including the Oxford Sparks portal (<http://www.oxfordsparks.net/>) and a large variety of outreach activities. We also endeavour to bring the potential of our scientific efforts forward for practical and beneficial application to the real world and our desire is to link our best scientific minds with industry and public policy makers.

For more information about the MPLS division, please visit: <http://www.mpls.ox.ac.uk/>

How to apply

Applications are made through our online recruitment portal. Information about how to apply is available on our Jobs website <https://www.jobs.ox.ac.uk/how-to-apply>.

Your application will be judged solely on the basis of how you demonstrate that you meet the selection criteria stated in the job description.

As part of your application you will be asked to provide details of two referees and indicate whether we can contact them now.

You will be asked to upload a CV (max 3 pages) and a supporting statement (max 2 pages). The supporting statement must explain how you meet each of the selection criteria for the post using examples of your

skills and experience. This may include experience gained in employment, education, or during career breaks (such as time out to care for dependants). Application material should not exceed 5 pages and will not be considered if so.

Please upload all documents **as PDF files** with your name and the document type in the filename.

All applications must be received by **midday** UK time on the closing date stated in the online advertisement.

Information for priority candidates

A priority candidate is a University employee who is seeking redeployment because they have been advised that they are at risk of redundancy, or on grounds of ill-health/disability. Priority candidates are issued with a redeployment letter by their employing department(s).

If you are a priority candidate, please ensure that you attach your redeployment letter to your application (or email it to the contact address on the advert if the application form used for the vacancy does not allow attachments).

If you need help

Application FAQs, including technical troubleshooting advice is available at:

<https://staff.web.ox.ac.uk/recruitment-support-faqs>

Non-technical questions about this job should be addressed to the recruiting department directly:

recruitment@eng.ox.ac.uk

To return to the online application at any stage, please go to: www.recruit.ox.ac.uk.

Please note that you will receive an automated email from our online recruitment portal to confirm receipt of your application. **Please check your spam/junk mail** if you do not receive this email.

Important information for candidates

Data Privacy

Please note that any personal data submitted to the University as part of the job application process will be processed in accordance with the GDPR and related UK data protection legislation. For further information, please see the University's Privacy Notice for Job Applicants at:

<https://compliance.admin.ox.ac.uk/job-applicant-privacy-policy>. The University's Policy on Data Protection is available at: <https://compliance.admin.ox.ac.uk/data-protection-policy>.

The University's policy on retirement

The University operates an Employer Justified Retirement Age (EJRA) for very senior research posts at **grade RSIV/D35 and clinical equivalents E62 and E82**, which with effect from 1 October 2023 will be 30 September before the 70th birthday. The justification for this is explained at:

<https://hr.admin.ox.ac.uk/the-ejra>.

For **existing** employees on these grades, any employment beyond the retirement age is subject to approval through the procedures: <https://hr.admin.ox.ac.uk/the-ejra>.

There is no normal or fixed age at which staff in posts at other grades have to retire. Staff at these grades may elect to retire in accordance with the rules of the applicable pension scheme, as may be amended from time to time.

Equality of opportunity

Entry into employment with the University and progression within employment will be determined only by personal merit and the application of criteria which are related to the duties of each particular post and the relevant salary structure. In all cases, ability to perform the job will be the primary consideration. No applicant or member of staff shall be discriminated against because of age, disability,

gender reassignment, marriage or civil partnership, pregnancy or maternity, race, religion or belief, sex, or sexual orientation.

Benefits of working at the University

Employee benefits

University employees enjoy 38 days' paid holiday, generous pension schemes, travel discounts, and a variety of professional development opportunities. Our range of other employee benefits and discounts also includes free entry to the Botanic Gardens and University colleges, and discounts at University museums. See <https://hr.admin.ox.ac.uk/staff-benefits>

University Club and sports facilities

Membership of the University Club is free for all University staff. The University Club offers social, sporting, and hospitality facilities. Staff can also use the University Sports Centre on Iffley Road at discounted rates, including a fitness centre, powerlifting room, and swimming pool. See www.club.ox.ac.uk and <https://www.sport.ox.ac.uk/>.

Information for staff new to Oxford

If you are relocating to Oxfordshire from overseas or elsewhere in the UK, the University's Welcome Service website includes practical information about settling in the area, including advice on relocation, accommodation, and local schools. See <https://welcome.ox.ac.uk/>

There is also a visa loan scheme to cover the costs of UK visa applications for staff and their dependents. See <https://staffimmigration.admin.ox.ac.uk/visa-loan-scheme>

Family-friendly benefits

With one of the most generous family leave schemes in the Higher Education sector, and a range of flexible working options, Oxford aims to be a family-friendly employer.

The University has excellent childcare services, including five University nurseries as well as University-supported places at many other private nurseries.

For full details, including how to apply and the costs, see <https://childcare.admin.ox.ac.uk/>

Disabled staff

We are committed to supporting members of staff with disabilities or long-term health conditions. For further details, including information about how to make contact, in confidence, with the University's Staff Disability Advisor, see <https://edu.admin.ox.ac.uk/disability-support>

Staff networks

The University has a number of staff networks including the Oxford Research Staff Society, BME staff network, LGBT+ staff network and a disabled staff network. You can find more information at <https://edu.admin.ox.ac.uk/networks>

The University of Oxford Newcomers' Club

The University of Oxford Newcomers' Club is an organisation run by volunteers that aims to assist the partners of new staff settle into Oxford, and provides them with an opportunity to meet people and make connections in the local area. See www.newcomers.ox.ac.uk.