

Senior R&D Engineer - Low Carbon Heat Systems

Department	Power Networks Demonstration Centre (PNDC) (https://pndc.co.uk/), Department of Electrical and Electronic Engineering (http://www.strath.ac.uk/engineering/electronicalelectricalengineering/)		
Faculty	Faculty of Engineering (www.strath.ac.uk/engineering/)		
Staff Category	Knowledge Exchange	Reference No	395102
Reports To	Lead Engineer (Whole Energy Systems)	Grade:	8
Salary Range:	£42149 - £51799	Contract Type:	Open Contract
FTE:	1 (35 hours/week)	Closing Date	Friday, 14 January 2022

Job Advert

The Power Networks Demonstration Centre (PNDC), part of the University of Strathclyde (Times Higher Education Awards University of the Year 2019 and Scottish University of the Year 2020), wishes to appoint a Senior Engineer – Low Carbon Heat Systems to manage and deliver our innovation activities focussed on the development, realisation and integration of low carbon heat solutions. This role is part of PNDC's broader Integrated Energy Systems activities which focusses on whole energy system solutions - those that span or can impact upon more than one sector of the energy system (electricity, heat, transport). By bringing our expertise to project teams and key stakeholders, our aim is to accelerate innovation and de-risk the deployment and integration of new innovations and drive them towards business-as-usual within the net-zero energy system of the future.

The Senior R&D Engineer – Low Carbon Heat Systems will work closely with the Lead R&D Engineer (Whole Energy Systems) and other colleagues in the PNDC to develop and deliver a wide range of technical projects to support the growth of PNDC's whole energy system activities, with a particular emphasis on the experimental validation and testing of low carbon heating systems. The postholder will be expected to lead on and contribute to high value industrial funding proposals, in addition to working with the PNDC's industrial partners, with a strong focus on knowledge exchange.

Opportunities for innovation are extensive, through the strong working relationship and routes to market afforded by the PNDC's industry members and commercial engagements. This will be supplemented with collaborative opportunities with other research and industry teams in the UK and abroad.



The PNDC offers a dynamic and varied environment, providing the opportunity to be involved in leading edge work within the energy sector. As part of the University of Strathclyde, the PNDC can offer a wide range of benefits to the post holder, including a generous holiday entitlement, pension scheme, and discounts to the state-of-the-art Strathclyde Sport gym and leisure facilities. The University also currently holds a Bronze Athena SWAN award, recognising our commitment to advancing women's careers in science, technology, engineering, maths and medicine (STEMM) employment in academia.

To be considered for the role, you will

- Possess the knowledge, skills and experience normally associated with a PhD in a relevant field or you will be educated to Honours Degree level with relevant industrial experience
- Have experience of low carbon heating systems and technology, and their integration into the wider energy system
- Be able to apply this knowledge in a highly practical environment, have experience of leading the delivery of research and development projects in collaboration with industry or in an industrial context, and have good technical writing ability and strong communication skills
- Be able to lead and contribute to high value industrial funding proposals
- Be a self-starter, and able to plan and conduct individual research and knowledge exchange activities with minimal supervision, as well as generate new ideas and concepts, with the capacity to work in a dynamically changing team environment

Job Description

Brief Outline of Job:

The Senior R&D Engineer – Low Carbon Heat Systems is a senior technical role responsible for the development and successful delivery of research and development projects to support the PNDC's innovation activities in low carbon heating systems as part of our broader whole energy systems work. The role requires strong engagement with industry, PNDC colleagues, the wider University team, and collaboration partners to support the realisation of relevant and valuable results.

Main Activities/Responsibilities:

1.	Secure and conduct research, development and testing activities in collaboration with industrial and academic colleagues focussed in the area of low carbon heating innovation and its broader interactions at the whole system level. This will include aspects of: <ul style="list-style-type: none">- Providing technical leadership of these projects- Leading the development and submission of geared collaborative funding proposals- Developing project requirements specifications through engagement with external partners and by incorporating learnings from previous research- Technology and system design, system integration, and engineering studies (including system modelling, simulation and transient performance studies)- Techno-economic assessments and feasibility studies- Producing technical guidance, insights and briefings to maximise impact- Timely and on-budget delivery of complex projects, ensuring deliverables are met and clear reporting is achieved
2.	Provide technical support for broader PNDC activities, including inputting to strategy development
3.	Provide mentorship and professional support to early-career research staff, including line management and sub-team leadership duties where required
4.	Ensure high-quality technical and progress reporting of R&D activities, adopting best practice in effective knowledge transfer to internal and external stakeholders to maximise impact, and supporting dissemination at conferences and in peer-reviewed journals whilst ensuring that any IP generated is recognised and managed appropriately
5.	Attend and contribute to external reviews, project progress meetings, and knowledge exchange events and initiatives
6.	Maintain engagement with colleagues in the wider university teams, to draw in appropriate expertise into project and proposal activity, exploit synergy with other research programmes, and contribute to sector-leading activities aligned with key industry member and stakeholder needs
7.	Engage in continuous professional development, participating in external networks and consultations to maintain current knowledge of relevant state of the art, patent positions, products and technology readiness levels
8.	Carry out representation duties for PNDC, for example by participating in relevant committees or presenting at conferences

Person Specification

Educational and/or Professional Qualifications

(E=Essential, i.e. a candidate must meet all essential criteria to be considered for selection, D=Desirable)

E1 Good Honours degree (minimum class 2:1) in a relevant discipline

E2	PhD in appropriate discipline and/or relevant industrial experience
D1	Membership, or working towards membership, of a relevant Professional Institution
Experience	
E3	Experience in low carbon heating systems design, analysis and integration
E4	Experience of engaging with external clients to capture system requirements and developing technical or project specifications from these requirements
E5	Experience in modelling and simulation in a discipline relevant to low carbon heating applications
E6	Experience of building and applying techno-economic models
E7	A track record of successfully leading the delivery of research and development projects
D2	Knowledge of the industry landscape associated with low carbon heating applications, in particular innovation and demonstration projects around Scotland and internationally
Job Related Skills and Achievements	
E8	An excellent problem-solver, with a track record of achievement in an R&D environment
E9	Track record of securing funding for low carbon heating and related whole energy system innovation projects
E10	High level of initiative with the ability to apply knowledge in a highly practical environment, and to generate new ideas
E11	Ability to conduct testing, data analysis, preparation of test programmes and reports, and to present findings to experienced technical audiences
E12	Ability engage with external stakeholders at senior level
E13	Ability to lead and take technical ownership of research and development areas, and manage the work of R&D engineers
D3	Ability to learn quickly in a fast moving, changing environment
Personal Attributes	
E14	Enthusiastic self-starter and able to work to deadlines, with a customer focus
E15	Excellent interpersonal and communication skills (oral and written), with the ability to listen, engage and persuade, and to present complex information in an accessible way to a range of audiences
E16	The ability to work independently and manage own workload, with minimum supervision, and as part of a small team

Application Procedure

Applicants are required to complete an application form including the name of three referees who will be contacted without further permission, unless you indicate that you would prefer otherwise. Applicants should also submit a Curriculum Vitae and a covering letter detailing the knowledge, skills and experience you think make you the right candidate for the job. Applicants should also complete the Equal Opportunities Monitoring Form.

Other Information

Further information on the application process and working at Strathclyde can be found on our website (<http://www.strath.ac.uk/hr/workforus>).

Informal enquiries about the post can be directed to Richard Knight, Director for Strategy & Technology (richard.knight@strath.ac.uk).

Conditions of Employment

Conditions of employment relating to the Knowledge Exchange staff category can be found at: [Conditions of Employment](#).

Rewards and Benefits

Our staff have access to a wide range of outstanding benefits that include financial rewards, family friendly and wellbeing benefits and career development opportunities, details of which can be found [here](#).

PVG Check

This position involves regulated work, making it a legislative requirement that the successful candidate becomes a member of the Protection of Vulnerable Groups Scheme. If appointed, employment with the University will not be confirmed, until

membership of the Scheme has been received. The successful applicant will be precluded from working with protected groups until that time.

Pre-employment health screening

An offer of appointment will be subject to a medical assessment by Occupational Health. An individual who accepts an offer of employment must complete a confidential medical questionnaire and forward it to the Occupational Health Nurse within 5 days of receipt. If further information is required the individual may be contacted by the OHN or a Medical Advisor and a personal appointment with the individual may be arranged. An unconditional contract of employment will not be issued until Human Resources receives confirmation that applicant is fit to undertake the duties of the post.

Probation

Where applicable, the successful applicant will be required to serve a 12 month probationary period.

Pension

The successful applicant will be eligible to join the Universities' Superannuation Scheme. Further information regarding this scheme is available from [Payroll and Pensions](#).

Relocation

Where applicable, the University offers a relocation package to support new employees who meet the eligibility criteria. The relocation package is offered as a contribution towards costs incurred, and is designed to be flexible, allowing staff to use the financial support available in the way that will be most helpful to them. Further details are outlined in the Relocation Policy.

Interviews

Formal interviews for this post will be held in late January / early February 2022.

Equality and Diversity

We value diversity and welcome applications from all sections of the community.

The University currently holds a Bronze Athena SWAN award, recognising our commitment to advancing gender equality in academia across all academic disciplines and professional and support functions.

University Values

The University's Values capture what we're all about: who we are, what we believe in and what we stand for. [Our Values](#) have been derived from how we act and how we expect to be treated as part of Strathclyde.

