



## Research & Development Engineer (Energy Systems)

Department	PNDC ( <a href="https://pndc.co.uk">https://pndc.co.uk</a> ), Department of Electrical and Electronic Engineering ( <a href="http://www.strath.ac.uk/eee/">http://www.strath.ac.uk/eee/</a> )		
Faculty	Faculty of Engineering ( <a href="http://www.strath.ac.uk/engineering/">www.strath.ac.uk/engineering/</a> )		
Staff Category	Knowledge Exchange	Reference No	657096
Reports To	Lead R&D Engineer (Whole Energy Systems)	Grade:	7
Salary Range:	£36924 - £45163	Contract Type:	Fixed Term (24 months)
FTE:	1 (35 hours/week)	Closing Date	Tuesday, 11 February 2025
Holidays	31 annual leave & 11 public holidays Option to purchase additional holidays		
Pensions	Contributory pension scheme available to all staff including generous employer contribution.		
Training	Professional Development with <a href="#">Organisational and Staff Development Unit</a> (OSDU) plus external training if required		
Family Friendly Benefits	Generous parental leave provision and options for flexible working		
Health and Wellbeing	University Sport centre, Occupational Health service, access to health and wellbeing events, cycle to work scheme, Employee Assistance Programme, agile working and established carers support network and carer friendly policies		

### Job Advert

This is an exciting role within PNDC that will lead and manage the delivery of research projects in the area of energy systems. 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).

The successful candidate will work as part of a growing dynamic team on a wide range of technical projects and research with particular emphasis on energy systems. This role will involve live network testing using PNDC onsite test infrastructure, real time power system simulation and project dissemination to a wide range of stakeholders.

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 on low carbon technologies and their integration into the electrical 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 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

## About PNDC

Established in 2013 as one of the University of Strathclyde's industry-facing innovation centres, PNDC is a world-class whole energy systems innovation, test and demonstration environment across multiple locations, shaping the energy transition through its leading-edge programme of work. The facilities and capabilities offered by PNDC are unique in Europe, attracting global organisations to partner with us in our combined efforts to accelerate the deployment of innovations in integrated energy systems.

PNDC continues to evolve its capabilities in the established facility located in Cumbernauld and support innovation in advancing power networks and accelerating the decarbonisation of heat and transport. PNDC is investing over £20m in new capabilities with a particular focus on decarbonisation of heat and transport, and will launch a second testing facility in 2024, which will be located in Inchinnan.

The PNDC innovation program covers three main focus areas: Advancement of Power Networks, Decarbonisation of Heat, and Decarbonisation of Transport. The program includes a number of innovation themes within each area as well as whole energy system innovation across power networks, heat and transport.

Advancement of Power Networks concentrates primarily on accelerating and de-risking innovations that support the major changes in electricity generation and demand characteristics resulting from the net zero transition. Particular focus is placed on solutions that increase power system robustness and security, support the digitalisation of the entire power network sector, and those that facilitate the greater flexibility and participation of demand side innovations in the energy transition.

Decarbonisation of Heat concentrates primarily on accelerating and de-risking novel low carbon heating solutions, both at large scale (e.g. zero-carbon CHP, district heating schemes, hydrogen-for-heating) and at smaller scale addressing the domestic/small commercial scale markets (e.g. heat pumps, hydrogen boilers, solar thermal). Particular focus is also placed on the integration of novel low carbon heating technologies into the wider energy system, their control and scheduling, and the impact of consumer behaviour on technology deployment.

Decarbonisation of Transport concentrates primarily on accelerating and de-risking novel low carbon transport systems for land, marine and aero transport sectors. This covers both innovations in vehicle charging infrastructure and innovations in on board systems. Particular focus is placed on new electric drive trains and on board power systems, including a number of new components such as fuel cells, batteries, and power electronic machine and drive components.

We are a dynamic, flexible and collaborative team, where colleagues support each other through constructive challenge as well as simply lending a hand to build something new. We are energised when we see the products we've helped develop being deployed and actively reducing costs to consumers, increasing reliability of supply or making the world a more sustainable place. If this appeals to you, then please visit our website ([www.pndc.co.uk](http://www.pndc.co.uk)) to learn more about our Focus Areas and our team.

## Job Description

### Brief Outline of Job:

You will undertake specific research and development projects to support the activities of the Whole Energy System Accelerator and the PNDC's evolving portfolio of multi-vector projects.

While part of the University, PNDC has one off-campus industry facing facility based in Cumbernauld and will open a new facility in Inchinnan in 2024. You will undertake specific research and development projects under the guidance of the PNDC R&D leadership team, providing regular updates and reports for industrial partners, and thus supporting the Centre objectives and targets.

You will have regular engagement with industry and academic colleagues to support the realisation of relevant and valuable results. You will also develop project plans for consideration by industrial partners and clients as well as research proposals for geared funding. Through engaging in relevant professional and knowledge exchange activities you will support the PNDC's external profile and technical leadership.

### Main Activities/Responsibilities:

1.	Conduct collaborative research, development and testing projects relevant to the PNDC research programme, determining and utilising appropriate research methods, with a focus on practical implementation and validation within the PNDC facilities.
2.	Produce high-quality technical and project progress reports, and supporting dissemination at conferences and in peer-reviewed journals.
3.	Contribute to PNDC's innovation programme in collaboration with industrial stakeholders, academics and R&D colleagues to deliver the centre's growth ambitions.
4.	Manage projects that you are working on (either individually or as part of a small team), ensuring deliverables are met and the findings clearly reported to the project stakeholder.

5.	Plan and manage own workload, with guidance from colleagues as required, while adopting safe and appropriate working practices.
6.	Maintain appropriate engagement with colleagues in the wider university teams, industrial members and third party vendors to ensure relevance and accuracy of work. Maintain professional awareness to ensure originality and exploitability of the research outputs.
7.	Identify sources of funding and contribute to the securing of funds for research activities, including fostering links with potential partners, drafting proposals and planning for future proposals
8.	As part of the dynamic team at PNDC, contribute to the Centre's safe operational running, effective administration, and knowledge exchange events and initiatives.
9.	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.

## 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)

E.1	Good honours degree (minimum class 2:1) in Electronic and Electrical Engineering or similar	Application/CV
E.2	PhD in a relevant discipline and/or relevant industry research experience.	Application/CV
D.1	Membership, or working towards membership, of a relevant Professional Institution	Application/CV

### Experience

E.3	Experience in low carbon technologies, heating or transport or hydrogen with specific emphasis on integration with electricity network	App/CV/ Interview
E.4	Experience solving analytical problems using quantitative methods	App/CV/ Interview
E.5	Demonstrable knowledge of electrical power systems design and systems integration	App/CV/ Interview
E.6	Experience of engaging with external clients to capture system requirements, and to develop technical or project specifications from these requirements	App/CV/ Interview
E.7	Fluency in high level programming languages for automation, data preparation, and analysis e.g. Python, Java, Matlab	App/CV/ Interview
E.8	Experience of practical power system projects or testing in a lab based or equivalent environment	App/CV/ Interview
E.9	Experience of power system modelling tools e.g. Simscape, DIgSILENT, IPSA or RTDS	App/CV/ Interview
D.2	Knowledge of the low carbon heating or transport or hydrogen and electricity supply industry landscapes, and of the energy, renewables and hydrogen projects around Scotland and internationally	App/CV/ Interview
D.3	Experience of building techno-economic models	App/CV/ Interview

### Job Related Skills and Achievements

D.4	Ability to conduct individual testing, data analysis, preparation of test programmes and reports and engaging with industrial clients.	Interview
E.10	High levels of initiative with the ability to apply knowledge in a highly practical environment, and to generate new ideas	Interview

### Personal Attributes

E.11	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	Interview
E.12	The ability to work independently and conduct experiments, with minimum supervision, and as part of a small team.	Interview
E.13	Enthusiastic self-starter and able to work to deadlines, with a customer focus.	Interview

## Application Procedure

Applicants are required to complete an application form including the name of three referees. Applicants should also submit a Curriculum Vitae and a covering letter as a single document 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 Priya Bhagavathy, Team Lead, Whole Energy Systems (Priya.bhagavathy@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](#).

### Probation

Where applicable, the successful applicant will be required to serve a 9 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](#).

### Interviews

Formal interviews for this post are likely to be held on a date to be confirmed.

### 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.

### Equality and Diversity

The University of Strathclyde is a socially progressive institution that strives to ensure equality of opportunity and celebrates the diversity of its student and staff community. Strathclyde is people-oriented and collaborative, offering a supportive and flexible working culture with a deep commitment to our equality, diversity and inclusion charters, initiatives, groups and networks.

We strongly encourage applications from Black, Asian and minority ethnicity, women, LGBT+, and disabled candidates and candidates from lower socio-economic groups and care-experienced backgrounds.

### 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.



# Conditions of Employment

## Knowledge Exchange Staff



### 1. GENERAL CONDITIONS

Members of staff are subject to the Charter and Statutes and the Ordinances and Regulations of the University, published in the Calendar, and to any amendments or additions thereto approved by the University Court and, in the case of the Charter and Statutes, the Privy Council. Staff are also expected to familiarise themselves with, and adhere to, general University policies and procedures, as published on University web pages.

The University Court recognises Strathclyde Universities and College Union (SUCU) as the sole body with which it will negotiate and consult on all collective issues concerned with the terms and conditions of employment of Knowledge Exchange Staff. Such terms and conditions may be varied by the University Court after negotiation and consultation with SUCU.

Each member of staff is responsible for the proper performance of allocated duties to the person or persons specified in the member of staff's letter of appointment and any accompanying papers.

The University is committed to ensuring that its business is conducted in an open and transparent manner and will take all appropriate steps to address risks of bribery or corruption. Members of staff are required at all times to act honestly and with integrity and to safeguard the resources for which they are responsible. The University has in place a robust Public Interest Disclosure (Whistleblowing) Policy to enable concerns to be brought to its attention. This is available at [www.strath.ac.uk/publicinterestdisclosure](http://www.strath.ac.uk/publicinterestdisclosure). Other relevant policies, e.g. Fraud Prevention and Conflicts of Interests, can also be found on the University's website.

Any member of staff may at any time be exposed to commercially sensitive information, information related to potentially valuable intellectual property or information which may otherwise be of a confidential nature. This information, which could be found anywhere in the University, may be written or disclosed orally, can include information of a commercial or technical nature, and may be owned by the University or by third parties. The University requires all employees to keep any such information confidential in the first instance and not disclose, publish or otherwise disseminate it without prior consent of the University. Such confidentiality obligations are commonplace and in the commercial interests of the University. When in doubt advice should always be sought from Research and Knowledge Exchange Services prior to disclosure.

The University operates probationary periods for new staff, the duration of which will be specified in individual letters of appointment. The normal probation period for posts in this staff category is 9 months for those at grades 6 and 7, and 12 months for grades 8 and above. Further guidance on probationary procedures is published at <http://www.strath.ac.uk/staff/policies/hr/>.

Further guidance on probationary procedures is published at [www.strath.ac.uk/hr](http://www.strath.ac.uk/hr).

Further information on the terms and conditions specified in this document and other staffing policies and procedures can also be found at [www.strath.ac.uk/hr](http://www.strath.ac.uk/hr).

### 2. SALARY

Appointments are made at an appropriate salary point on the University's grading structure, with initial placing determined according to qualifications and experience. Increments are paid to staff on the 12 month anniversary of their appointment. Where this is not the first of the month, the increment will be paid on the first of the month directly

after the 12 month anniversary. This allows 1 progression to the next point on the salary scale until the top guaranteed point of the scale is reached.

Salaries are paid directly to staff members nominated bank account, normally on the second last working day of the month.

### 3. HOURS OF WORK

Working time is that required to fulfil the duties of the post. The University Court recognises that Knowledge Exchange staff carry out their duties in a variety of ways appropriate to the nature of their role, but expects work to generally be performed during normal working hours on week days. There are exceptions to this pattern which may involve contact at other locations or in the evenings, or at weekends, but these arrangements will be made with the agreement of the member of staff concerned.

Duties may, by arrangement with Head of Department/School/Director, include some teaching associated with the post (up to a maximum of 40 hours per semester) for which no additional payment will be made.

Additional work which does not fall within the scope of that described above may by arrangement attract payment which must be authorised and processed through the payroll.

### 4. HOLIDAYS

Annual leave entitlement is 31 days per year to be taken by agreement with the line manager. For staff members working on a part-time basis, holidays will be calculated on a pro-rata basis.

In addition to annual leave there is an entitlement to eleven public holidays per year which should be taken on days that the University is closed for this purpose. The University presently closes for four additional days over the Christmas and New Year period. **These additional days count against the annual leave entitlement.**

For staff members working on a part-time basis, public holiday entitlement will be calculated on a pro-rata basis.

Annual leave and public holiday entitlements should be taken in the leave year to which they relate. Up to five days leave can be carried forward into the new leave year subject to line management agreement. In exceptional circumstances, Heads of Department/School/Director may approve carry forward of accrued annual leave in excess of five days.

The University's expectation is that staff take all accrued holidays prior to their termination date. If staff have exceeded their entitlement the University will deduct an equivalent number of days pay from final salary payments.



## 5. SICKNESS ABSENCE

During any period of absence through illness or injury provided the appropriate notification and certification procedures have been followed the University will pay a member of staff (having taken account of the aggregate of all periods of absence due to illness during the twelve months immediately preceding the first day of the current absence) as follows:

<b>Period of Continuous Employment at start of absence from work</b>	<b>Full Pay</b>	<b>Half Pay</b>
Less than 1 year	1 month	1 month
1 year but less than 2 years	2 months	2 months
2 years but less than 3 years	4 months	4 months
3 years but less than 5 years	5 months	5 months
5 years or more	6 months	6 months

In order to manage the University's sick pay scheme the University requires to maintain sickness absence records on individual members of staff. When making payments after the expiry of statutory sick pay the University will deduct an amount equivalent to any benefit normally payable by the Department of Work and Pensions. For full details on the general University policy in this area please refer to the Sickness Absence Management Policy at [www.strath.ac.uk/staff/policies/hr](http://www.strath.ac.uk/staff/policies/hr).

## 6. PENSIONS

If you are under age 75 at the date your appointment commences you will automatically become a member of the pension scheme operated by the University — the Universities Superannuation Scheme (USS). You will be admitted to the career revalued benefits scheme called the USS Retirement Income Builder; the contribution rate that currently applies is 6.1% of pensionable salary. A threshold applies to the maximum salary that counts towards the USS Retirement Income Builder. The current threshold from 1 April 2024 is £70,296 per year. Contributions based on salary above the monthly equivalent rate of the threshold are paid to the defined contribution section of the scheme called the USS Investment Builder. Please use the following link to access information, including the USS Member Guide: <https://www.uss.co.uk/for-members/youre-a-new-joiner>. The scheme booklet is called 'Your Guide to the Universities Superannuation Scheme'.

The University operates a salary exchange arrangement, Pensions Plus, for members of the USS. Pensions Plus enables pension contributions to be made in a manner so that both employees and the University can benefit from available National Insurance Contribution savings. You will be automatically included in Pensions Plus, provided it does not adversely affect your take-home pay or your ability to claim certain state benefits. If your earnings fall below the Pension Plus pay protection limit you will be opted out of Pension Plus. This will not affect your membership of the USS.

New members of staff may opt out of USS within three months of taking up appointment and will then be treated as if they had never been a member of the scheme. After three months members of staff who wish to withdraw from USS during their employment will be required to give a minimum of 28 days' notice in writing to the University. Any member of staff who wishes to opt out should contact the Pensions Section, Finance, in the first instance ([pensions@strath.ac.uk](mailto:pensions@strath.ac.uk)). Please note that if you are a member of Pensions Plus and withdraw from USS with less than two years of membership, or cease employment with the University and have less than two years of USS membership, the option of a refund of pension contributions will not be available to you. Instead, USS must provide you with a pension benefit that is payable from your Normal Pension Age. Regardless of whether you participate in Pensions Plus, if you are a member of the pension scheme for two years or more you are not entitled to a refund of pension contributions on leaving the scheme, you will be entitled to a pension benefit.

The University reserves the right to alter or withdraw Pensions Plus as it sees fit or as required to comply with legislative changes. Withdrawal or amendment of Pensions Plus will not affect your membership of USS. If you do not wish to participate in Pensions Plus but wish to remain in

the pension scheme please contact the Pensions Team who will provide you with a non-participation form.

Information regarding pension scheme membership can be found on the Pensions pages of the University's website. Full information regarding USS can be found on the USS website – [www.uss.co.uk](http://www.uss.co.uk)

## 7. PLACE OF WORK AND RESIDENCE

Members of staff will be based on the John Anderson Campus, unless otherwise stated in the letter of appointment. The Department/School in which the post is initially placed will be specified in the letter of appointment although there will be an expectation to work at such other places as required in the course of employment.

If the need arises for members of staff to work outside the UK for a period (or periods) of more than one month then such arrangements will be subject to mutual agreement. Members of staff would then be provided with a statement in advance setting out the terms covering such periods of employment.

The University does not normally place specific restrictions upon the place of residence of members of staff. All staff are, however, expected to reside in a location which is compatible with the satisfactory fulfilment of all the duties associated with their appointment.

## 8. CONSULTANCY/FURTHER ACTIVITIES

To support the strategic objectives of the University and to facilitate individual professional development, the University encourages staff to engage in professional activities with outside bodies related to their field of work. In many cases, such activity will be approved on the basis that it represents University knowledge exchange activity and should therefore be treated as part of the individual's overall workload and managed through the University's systems. It is also recognised that there will be some cases where an activity is entirely separate from the University and should thus be notified/approved as a personal business activity. For further information please refer to the "University Procedure in relation to Work for Outside Bodies including Consultancies", which forms part of the employment contract and can be accessed at <http://www.strath.ac.uk/hr>.

## 9. DISCIPLINARY AND GRIEVANCE PROCEDURES

Further information on the University's disciplinary and grievance procedure can also be found at [www.strath.ac.uk/policies/hr](http://www.strath.ac.uk/policies/hr) or on request from Human Resources.

## 10. NOTICE AND TERMINATION

The employment of a member of staff is terminable by at least three months notice in writing, on either side; except during probationary period when the notice period is one month. If notice is being given by a member of staff earlier release may be granted if this can be arranged without detriment to the work of the department or area. If the appointment is for a fixed term it will expire at the end of the period without the necessity for notice. Fixed term contracts may be terminated by either party short of the expiry date by the serving of one months' notice in writing. The University is not obliged to continue a fixed term appointment beyond the employment period.

Revised April 2024