# Position Details

## Research Scientist/Engineer- CSOF5

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| The following information is for applicants | |
| Advertised Job Title | Energy Modelling Research Scientist |
| Job Reference | 90745 |
| Tenure | Indefinite, Full-time |
| Salary Range | AU$105,806 - AU$114,500 per annum (pro-rata for part-time)  plus, up to 15.4% superannuation |
| Location(s) | Newcastle, NSW, Australia |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * Australian Citizens Only * Australian/New Zealand Citizens and Australian Permanent Residents |
| Position reports to the | Team leader of End Use Flexibility |
| Client Focus – Internal | 70% |
| Client Focus – External | 30% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Himani Goyal via email Himani.goyal@csiro.au |
| How to apply | Apply online at <https://jobs.csiro.au/>  Internal applicants please apply via **Jobs Central**  If you experience difficulties when applying, please email [careers.online@csiro.au](mailto:careers.online@csiro.au) or call 1300 984 220. |

**Acknowledgement of Country**

CSIRO acknowledges the Traditional Owners of the land, sea, and waters, of the areas that we live and work on across Australia. We acknowledge their continuing connection to their culture and pay our respects to their Elders past and present. View our [vision towards reconciliation](https://www.csiro.au/en/about/Indigenous-engagement/Reconciliation-Action-Plan).

### Role Overview

The role of Research Scientist/Engineer staff is to conduct innovative research leading to scientific achievements that are aligned with CSIRO’s strategies. The Research Scientist/Engineer may be engaged in scientific activity ranging from fundamental research to the investigation of specific industry or community problems. The Research Scientist/Engineer will have the opportunity to build and maintain networks, play a lead role in securing project funds, provide scientific leadership, and pursue new ideas and approaches that create new concepts.

As Energy modelling research scientist, you will work closely with internationally renowned research scientists and engineers to develop cutting edge digital tools to support Australia’s electricity system transition. You will support testing of new methods for delivering demand flexibility from commercial & industrial, residential loads.

As an experienced researcher, you will work with a range of energy modelling tools, handle large data sets, carry out independent research, publish your work in reputed journals/conferences.

### Duties and Key Result Areas

* Take ownership of energy model development activities including model validation with real life data, model maintenance and upgrade activities.
* Explore new ways to integrate data science and physics in energy modelling for delivering new outcomes in the energy flexibility research area.
* Under the supervision of more senior researchers, assist in the planning and preparation of research proposals and carry out research investigations.
* Utilise modelling and domain knowledge to support testing, data collection activities.
* Present results in a meaningful format, prepare reports for clients and/or write scientific papers for publication.
* Participate in interactions within CSIRO and external stakeholders to identify solutions to their problems.
* Participate and actively contribute to project team discussions and support successful delivery.
* Adhere to the spirit and practice of CSIRO’s Code of Conduct, Health, Safety and Environment procedures and policy, Diversity initiatives and Making Safety Personal goals.
* Other duties as directed.

## **Required Competencies:**

* **Applied research delivery:** Ability to develop and deploy energy models for digital energy problems.
* **Teamwork and Collaboration:** Work with senior researchers and team members on development of digital energy models, integrate models with other in-house tools. Collaborate with other teams as well as industry colleagues to support testing and demonstration activities.
* **Influence and Communication:** Use research outputs to influence business decisions, communicate findings through presentations, lead authorship of reports and publications.
* **Resource Management/Leadership:** Contribute to project planning and resourcing discussions to support effective delivery of outcomes with quality. Provide technical mentoring and support for skill development purposes and support project delivery.
* **Independence:** Work with minimal supervision, recognises where endeavours will make the most impact or difference, decides on desired outcome, and sets realistic goals to reach this target.
* **Adaptability:**Cope with ambiguity or situations that lack clarity. Adapt readily to changing circumstances and new responsibilities.

## **Selection Criteria**

#### Essential

*Under CSIRO policy only those who meet all essential criteria can be appointed.*

1. A PhD (or an equivalent combination of qualifications and research experience) in a relevant field such as engineering/physical sciences/applied mathematics.
2. Demonstrated experience in undertaking novel, innovative research in one or more of the following areas: building energy efficiency, demand response, energy flexibility, digital energy systems.
3. Demonstrated experience using one or more modelling tools such as Energy Plus, Modell Ica, Open Studio or MATLAB for solving energy research problems related to buildings, HVAC (Heating Ventilation and Air Conditioning) and Distributed Energy Resource (DER) systems.
4. Demonstrated experience applying data driven modelling methods using one or more programming languages such as Python, R, C++, C#, or MATLAB to solve energy domain problems.
5. A demonstrated publication history of authorship on scientific papers in peer reviewed journals.
6. Evidence of understanding business & customer needs and experience developing solutions to meet these needs.

## **Desirable**

1. Experience of working in the following research topics: HVAC controls in buildings, optimisation of DER, demand flexibility.
2. Demonstrated experience working with real-time data from IoT sensors or metering equipment.
3. Experience using common software development tools and processes.
4. Experience in writing grant applications in the associated field of research.
5. **Ability to work effectively as part of a multi-disciplinary, potentially regionally dispersed research team, plus the motivation and discipline to carry out autonomous research.**
6. Experience in project leadership, technical leadership.

## **Required Competencies**

* **Teamwork and Collaboration:** Cooperates with others to achieve organisational objectives and may share team resources in order to do this. Collaborates with other teams as well as industry colleagues.
* **Influence and Communication:** Uses knowledge of other party's priorities and adapts presentations or discussions to appeal to the interests and level of the audience. Anticipates and prepares for others’ reactions.
* **Resource Management/Leadership:** Allocates activities, directs tasks and manages resources to meet objectives. Provides coaching and on the job training, recognises and supports staff achievements and fosters open communication in the team.
* **Judgement and Problem Solving:** Investigates underlying issues of complex and ill-defined problems and develops appropriate responses by adapting/creating and testing alternative solutions.
* **Independence:** Plans, sets and works to meet challenging standards and goals for self and/or others. Recognises where endeavours will make the most impact or difference, decides on desired outcome and sets realistic goals to reach this target.
* **Adaptability:**Copes with ambiguity or situations that lack clarity. Adapts readily to changing circumstances and new responsibilities (which may include activities outside own preferences) in the interests of achieving team objectives. Recognises the need for and undertakes personal development as a result of change.

Special Requirements

Appointment to this role may be subject to conditions including provision of a national police check as well as other security/medical/character clearance requirements.

## **About CSIRO**

We solve the greatest challenges through innovative science and technology. To find out more visit us [online](http://www.csiro.au/)!

Find out more about CSIRO [Energy](https://www.csiro.au/en/Research/EF)

CSIRO is a values-based organisation.  In your application and at interview you will need to demonstrate behaviours aligned to our values of:

* People First
* Further Together
* Making it Real
* Trusted