# Position Details

## Research Scientist/Engineer- CSOF65/6

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| The following information is for applicants | |
| Advertised Job Title | Research Scientist/Engineer – Energy and Economic Modelling (CSOF5)  Research Scientist/Engineer – Energy and Economic Modelling (CSOF6) |
| Job Reference | 79225 |
| Tenure | Indefinite  Full-time |
| Salary Range | CSOF5: AU$102,724 to AU$111,165 pa (pro-rata for part-time) + up to 15.4% superannuation  CSOF6: AU$117,917 to AU$138,176 pa (pro-rata for part-time) + up to 15.4% superannuation  \*NB: This position is offered across two levels, the appointment level will be determined by the qualifications, skills and relevant experience of the successful candidate |
| Location(s) | Newcastle preferred, other locations considered |
| Relocation Assistance | Will be provided to the successful candidate if required |
| Applications are open to | * All Candidates |
| Position reports to the | Team Leader, Economic Modelling Team |
| Client Focus – Internal | 50% |
| Client Focus – External | 50% |
| Number of Direct Reports | 0 |
| Enquire about this job | Contact Luke Reedman at [luke.reedman@csiro.au](mailto:luke.reedman@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. |

### Role Overview

CSIRO Energy is playing a key role in Australia’s energy transition. With work spanning from energy efficiency in buildings to the operation of electricity systems, the CSIRO team works across a large range of industries and application domains. Our research includes establishing costs of different technology pathways and modelling different future scenarios - this is often a contentious area and the successful candidate will lead stakeholder discussions and communicate this research.

The role of Research Scientist/Engineer Staff in CSIRO is to conduct innovative research leading to scientific achievements that are aligned with CSIRO's strategies. You may be engaged in scientific activity ranging from fundamental research to the investigation of specific industry or community problems. You 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.

The Research Scientist – Energy and Economic Modelling will utilise their knowledge of the social and physical sciences, quantitative modelling and energy system to develop techno-economic models of Australia’s energy sector with a view to assessing existing and emerging energy technologies, sector trends and policy directions.

This position is offered across two levels, the appointment level will be determined by the qualifications, skills and relevant experience of the successful candidate.

### Duties and Key Result Areas:

* Incorporate novel approaches to scientific investigations by adapting and/or developing original concepts and ideas for new, existing and further research.
* Develop, apply and interpret techno-economic models of the energy system, particularly the Australian electricity and transport sectors.
* Evaluate the potential impact of current or proposed policies on stakeholders across the energy sector value chain.
* Identify and integrate key energy sector datasets from across Australia and internationally.
* Produce professional reports for key industry and government clients from across the energy sector and contribute to quality science publications.
* Contribute to the development of innovative concepts and ideas for further research.
* Communicate effectively and respectfully in the interests of good business practice, collaboration and enhancement of CSIRO’s reputation.
* Produce high quality scientific and/or engineering papers suitable for publication in quality journals and for presentation at national and international conferences.
* Work effectively as part of a multi-disciplinary, often regionally dispersed research team, to undertake independent scientific investigations and carry out associated tasks under the guidance of more senior Research Scientists/Engineers.
* Under the guidance of Senior Research Scientists/ Engineers, work collaboratively and honestly with internal and external colleagues, clients and partners to help define and satisfy objectives for small to medium research projects.
* Assist in leading small research projects, including the negotiation of resource requirements.
* Provide coaching and on-the-job training to technical staff and students to ensure experiments are established in accordance with research design.
* 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.

**For appointment at the higher salary level (CSOF6), duties will also include:**

* Lead the development of innovative concepts and ideas for further research.
* Lead scientific investigations and direct the associated tasks of other members of the research team.
* Lead research projects, including the negotiation of resource requirements.
* Other duties as directed.

## **Required Competencies**

**CSOF5**

* **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 response 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 changes.

**CSOF6**

* **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:** Identifies critical stakeholders and influences them via an influential third party, for example through an established network, to gain support for sometimes contentious proposals/ideas.
* **Resource Management/Leadership:** Sets up and maintains effective and efficient work teams and manages performance and resources, to achieve objectives. Chooses appropriate management strategies and communication styles to maintain high levels of motivation and productivity. Gives feedback for development purposes and provides support and direction for improvement.
* **Judgement and Problem Solving:** Anticipates and manages problems in ambiguous situations. Develops and selects an appropriate course of action and provides for contingencies. Evaluates, interprets and integrates complex bodies of information and draws logical conclusions, synthesises proposals and defends options with reasoned arguments.
* **Independence:** Assesses the risk and opportunity of identified strategies, options and actions. Overcomes problems and setbacks in achieving goals. Invariably includes consideration of value-added future impact on bottom line when determining the optimal and efficient use of resources.
* **Adaptability:**Demonstrates flexibility in thinking and adapts to, and manages, the increasing rate of organisational change by adjusting strategies, goals and priorities.

## **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 Economics, Social or Physical Sciences.
2. Demonstrated experience in optimization (Linear Programming, Non-Linear Programming or Mixed-integer Programming problems) or simulation modelling
3. **The ability to work effectively as part of a multi-disciplinary, regionally dispersed research team, and carry out independent individual research, to achieve organisational goals.**
4. Experience in working on multiple projects simultaneously for internal and external clients.
5. Proficiency in the General Algebraic Modelling System (GAMS) or JuMP programming language.
6. Strong written and oral communication skills including the ability to publish research results, prepare reports and present the results of scientific investigations at national and international conferences and stakeholder meetings.

## **Desirable:**

1. Experience in application of the TIMES or MARKAL energy systems model generators.
2. Energy sector domain knowledge such as a general understanding of energy sources, technologies and common units and terms.

**For appointment at the higher salary level (CSOF6), essential criteria will also include:**

1. **The ability to lead multi-disciplinary projects and coordinate research, to achieve organisational goals.**
2. **Demonstrated experience in leading development of techno-economic models.**
3. **Demonstrated experience in leading projects for industry or government clients.**

**For appointment at the higher salary level (CSOF6), desirable criteria will also include:**

1. Experience in leading the development of TIMES or MARKAL energy systems models.
2. Experience of collaboration in multi-country projects.

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.

* The successful candidate will be asked to obtain and provide evidence of a National Police Check or equivalent. Please note that people with criminal records are not automatically deemed ineligible. Each application will be considered on its merits.
* If the successful candidate is not an Australian Citizen or Permanent Resident, they may be required to undergo additional security clearances, which may include medical examinations and an international standardised test of English language proficiency (i.e. IELTS test).- https://ielts.com.au/

## **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)