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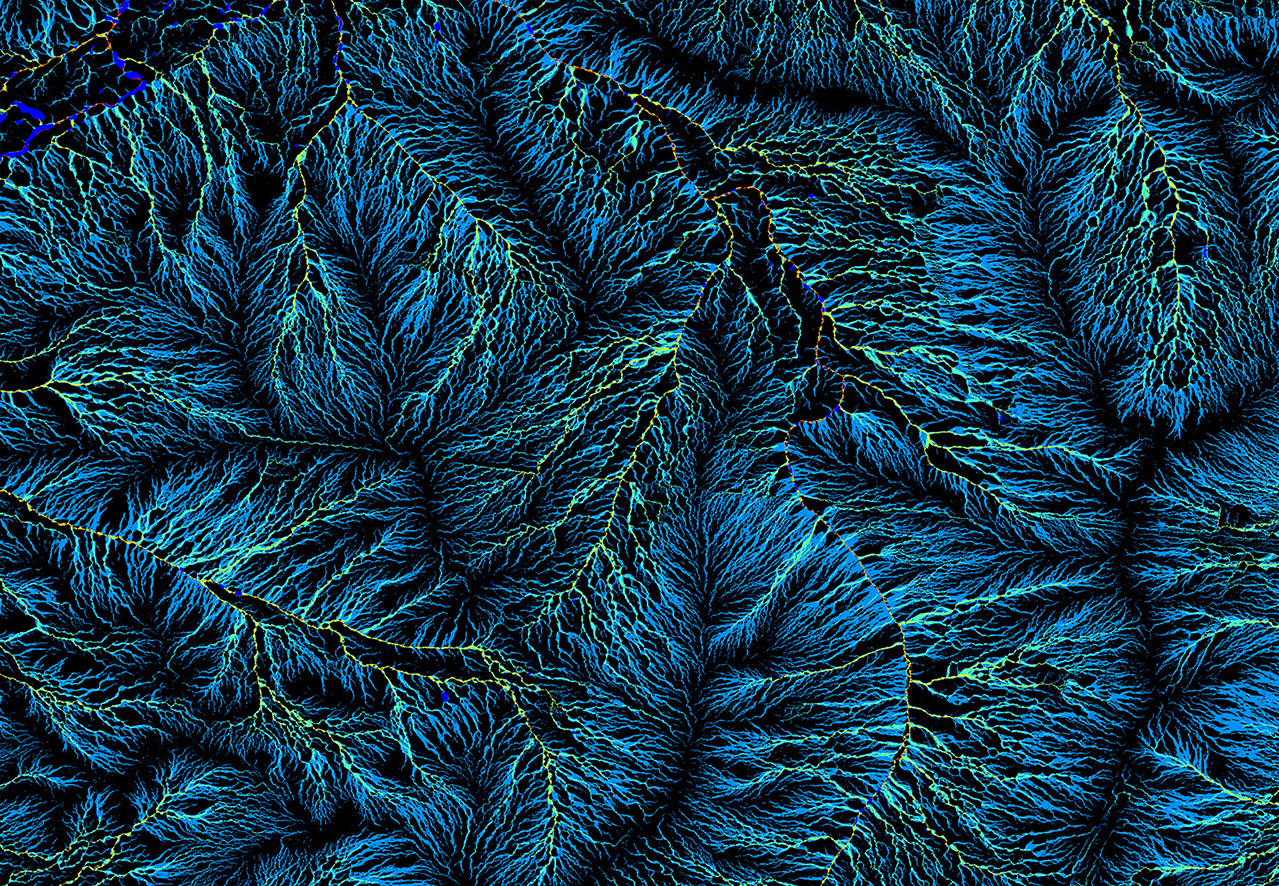
# Research Director

# Energy Systems

# Energy Business Unit

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Australia’s National  
Science Agency



**CSIRO’s Energy Business Unit**

**Delivering science and technology to enable Australia’s transition to a net zero emissions energy future.**

The transition to a reliable, net zero emissions energy future at lowest cost will involve:

* A shift to decentralised electricity generation, with increased share of renewable energy
* Replacement of coal-fired power by gas-fired generation, renewables and other low-carbon technologies
* Integration of short-term and long-term storage into the grid
* A flexible distribution grid capable of balancing demand and response reliably and economically
* Decarbonisation of industry and transport, through electrification, integration of clean energy into industrial processes and increased energy efficiency
* A transforming energy export industry that manages carbon impacts and associated risks
* An emerging hydrogen industry for domestic and export markets

CSIRO Energy’s portfolio priorities include a focus on:

* **Electricity network transformation** - Simulation and analysis tools, and facilities, to inform investments in electricity grid systems, including co‑developing a National Energy Simulator
* **Industry productivity** - Deliver technologies and solutions to enable industries to shift from fossil energy to renewable energy, to automate and optimise processes, and to increase energy efficiency
* **Hydrogen** - Demonstrate viable technologies for production, storage, transport, and use of hydrogen.

**Energy Systems Program**

The Energy Systems program is one of the three Programs within CSIRO’s Energy Business unit. The Energy Systems Program’s vision is to **provide the technology, analysis and insight that reduces the costs and accelerates reliable transition to towards net zero emissions.**

## To goals of the Program are to:

* Inform Australia’s energy transition through techno-economic modelling, detailed data collection and analysis
* Use scenario modelling, electricity system simulation and real-time state estimation to unlock latent capacity within distribution networks to enable reliable electricity networks
* Development of power generation technology systems and supply networks, and integration of electricity generation technologies and storage, to facilitate flexible generation, use and storage
* Improve energy efficiency in built environments through better building design, new control methods and operation technologies to facilitate reduced end-user energy consumption and costs
* Develop new energy management, energy efficiency and energy storage technologies that contribute to cost reduction of Australia’s renewable energy transition.

For further information about our work head to https://www.csiro.au/en/Research/EF

**About CSIRO**

The Commonwealth Scientific and Industrial Research Organisation (CSIRO) is one of the world’s largest and most successful publicly-funded research and development organisations with locations across Australia and internationally. CSIRO is committed to complementing its world-class science capabilities with outcome-focused research that will generate economic, environmental and social benefits for Australia in a global context. At CSIRO you can be part of helping to solve big, complex problems that make a real difference to our future. We spark off our organisational values, people first; further together; making it real and trusted to achieve more than we could individually in a supportive, rewarding, inclusive and flexible environment.

**About the Role**

The Research Director sets the vision and strategy for the Energy Systems Research Program and is responsible for leading a portfolio of multi-disciplinary, collaborative research projects that deliver on the goals of the Energy Business Unit. The Energy Systems Program contains the following key capabilities:

**Renewable energy integration/energy management**

Operation of grid systems and solving the challenges of renewable energy integration and energy storage operation, from microgrids to distribution grids, particularly when operating with a high penetration of intermittent renewable energy.

**Grid futures**

The Program has an extensive portfolio of research looking to guide the nation through the transition ahead. This work seeks to answer questions ranging from how to best handle reverse power flow, to how transactional energy approaches might co-exist with distribution network constraints, using a team of experts from economists to electrical engineers.

**Energy information**

The Program provides the Chenath modelling engine used for regulating the entire Australian residential building sector through the National Home Energy Rating scheme (NatHERS). We also run the National Energy Analysis & Repository (NEAR) Program, which is Australia’s national reference for how we use and produce distributed energy across the country.

**Behaviour change**

The Program staff run a major portfolio of research on energy consumer behaviour – to develop an understanding of why consumers make energy choices, and how social science and behavioural economics can be used to assist people to make more informed energy decisions.

**New devices**

Recognising the benefits possible from new material science, machine learning and optimal-control techniques, the Program has several projects looking to produce disruptive air-conditioning and building management technologies, which will significantly reduce the energy consumption of Australian buildings.

The Program leverages these key capabilities with several national impact partners including: state and federal government, the Australian Electricity Market Operator (AEMO), Australia’s entrepreneurial energy start-up community, ARENA, and most of Australia’s electricity transmission and distribution network providers. The Program collaborates with key national and international research partners including the National Renewable Energy Laboratory, Los Alamos National Laboratories, Sandia National Laboratories, and UniSA, UNSW, University of Newcastle, UTS, and QUT.

CSIRO’s mandate is to deliver world-class research that provides innovative solutions for industry, government and the community. The research effort is, therefore, mission-directed and impact-focused and it is essential that the Research Director has, or can readily develop, strong links with industry partners and relevant government agencies. Experience in building cohesive, dynamic and creative research teams that integrate across disciplinary and organisational boundaries is essential. It should be expected that the portfolio of research will evolve over time based on need, strategy and performance.

The Research Director must be a collaborative and an entrepreneurial science leader who has demonstrated commitment to progressing inclusion and promoting diversity. He or she will form part of the Energy Business Unit Leadership Team and be accountable for the delivery of specific elements of the Business Unit’s overall impact, science and financial objectives as well as development of its strategy.

**Key Result Areas and Duties**

**Impact Science Leadership**

* Create a long-term impact plan for the Program that addresses national challenges and builds the necessary science, collaborative networks and capacity to deliver on Program objectives.
* Develop a culture of science excellence, creativity, innovation and flexibility.
* Stimulate science thinking – develop and encourage science networks, sponsor new initiatives and explore innovative solutions to problems.
* Oversee the Program’s pipeline of projects – facilitate prioritisation and allocation decisions.
* Identify CSIRO-wide opportunities, build and deliver on a pipeline of contracts (3-5 years focus)
* Manage the Program’s Intellectual Property strategy and portfolio.
* Drive the pursuit of external revenue to support the goals of the business unit.
* Engage key stakeholders and clients to build support for investment.
* Support the Business Unit Director, Science Director and Deputy Director in Project, Intellectual Property and Commercialisation Reviews.

**Functional Leadership**

* Contribute to strategic and operational planning for the Business Unit as well as leadership in the implementation
* Proactively lead and support change initiatives across the Research Program and Business Unit.
* Develop strategic proposals aligned with the Business Unit’s strategic direction and lead the promotion and facilitation of their implementation.

**Capability Leadership**

* Drive ’Zero Harm’, lead by example, and actively promote a healthy, safe and environmentally sustainable workplace.
* Demonstrate exemplary behaviour in the workplace and manage people matters proactively in accordance with CSIRO values.
* Attract, develop and retain world class talent which meet current and future needs of the Program.
* Forecast and develop capability which is aligned to the goals of the business unit and supports the delivery of Program’s research.
* Build effective and diverse teams, facilitate career development for staff and actively plan for succession within the Program.

**Engagement and Partnership**

* Build strategic alliances within the organisation to collaboratively execute CSIRO and Energy Business Unit strategies across lines of business.
* Develop and cultivate national and international research collaborations and networks to keep abreast of emerging advances in relevant science fields and industry challenges.
* Communicate Energy’s strategy and Program goals to internal and external stakeholders.
* Identify and pursue high level contact with customers/partners to identify and capitalise on opportunities for future collaboration – externally and within other Programs and Business Units.

**Resource Leadership**

* Lead and manage the Program’s finances, people, infrastructure and other assets to ensure their effective and efficient use.
* Ensure management of infrastructure and resources in a sustainable way.
* Ensure best practice governance and management of commercial activities and intellectual property.
* Manage financial performance of the Program and deliver annual budgets.
* Ensure Program delivers against milestones and quality standards.
* Contribute to the development of science and future infrastructure plans.

**RD – Energy**

**Selection Criteria**

***Pre-Requisites:***

1. **Education/Qualifications:** A doctorate and/or equivalent research experience in computer science, electrical engineering, or other relevant discipline area.
2. **Demonstration of Personal attributes:**
3. **Behaviours:** Reputation of exemplary values and behaviours and active promotion of cross business collaboration. Track record of proactively addressing important and challenging issues in a respectful, tactful and effective way. Models and actively promotes principles of inclusion and diversity and has a personal commitment to Safety.
4. **Leadership:** Established reputation for developing and leading strategic direction in a manner that inspires a large team and supports the achievement of strategic goals combined with an ability to translate the strategy to tangible action plans to deliver on schedule and in budget. Experience in leading correspondingly sized multi‐disciplinary business or research group, preferably including P&L accountability, potentially across several science areas and/or geographic locations.
5. **Communication:** Excellent written and oral communication skills, evidenced by superior reporting, presentation and negotiation abilities, and the capacity to identify and influence critical stakeholders to gain support for contentious proposals/ideas.
6. **Problem Solving:**Proven ability to resolve major scientific, technical, commercial or management problems which have a significant research impact, through the development of original concepts and approaches.
7. **Adaptability:**Demonstrated ability for flexibility to respond to external change and deal with external constraints, including identifying and promoting opportunities arising as a result of change.

***Essential Criteria:***

1. Demonstrated leadership and excellence in a relevant field of science or engineering, as demonstrated by high‐quality peer reviewed, published research since PhD (at least ten years) including an established international research reputation and credibility.
2. Demonstrated experience in the development of modelling software, data analysis and related tools.
3. Evidence of an ability to strategically develop programs and opportunities that respond to national and global research challenges, drawing from knowledge in:
4. Energy systems and technologies
5. Energy economics and markets
6. Local and national energy policies and regulations
7. Evidence of successful leadership in developing a project pipeline and a portfolio of science, research and innovation opportunities on a national and international scale. The ability to develop, implement and successfully deliver a portfolio of relevant research, including financial and risk management; and experience in growing, reshaping and revitalising a capability area.
8. Evidence of strong industry and/or government engagement and strategic relationship management that grows new impact opportunities and supports positive and sustainable commercial outcomes.
9. The ability to work effectively as an integral member of the Energy Business Unit Leadership Team and as a leader of a multi-disciplinary, regionally dispersed research team, and foster an environment in which there is a high level of co-operation within and between Programs, Groups and Teams.
10. Demonstrated ability to establish productive teams, manage performance, undertake strategic planning and financial management, drive and implement change, operationalise the strategic vision for staff, and gain commitment to the direction chosen.

***Desirable Criteria:***

* An exceptional record of science innovation and creativity, plus the ability to apply well developed research skills to scientific investigations of significant consequence.

**CSIRO is a values-based organisation. You will need to demonstrate behaviours aligned to our values of:**

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

**Position term:** three years.

**Location:** Preferred location Newcastle.

**Special requirement:**

To be eligible for this position you must be willing and able to undertake significant domestic and international travel**.**

A National Police Check is required to be lodged by the successful applicant and clearance to be received before commencing.

**CSIRO’s Commitment to diversity**

We’re working hard to recruit diverse people and ensure all our people feel supported to do their best work and empowered to let their ideas flourish. For more on our Diversity and Inclusion strategy go to www.csiro.au/Diversity.

**Flexible working arrangements**

We work flexibly at CSIRO, offering a range of options for how, when and where you work. Talk to us about how this role could be flexible for you. For more information go to www.csiro.au/Careers/The-CSIRO-Experience/Balance

Relocation and immigration assistance will be provided to the successful candidate where required.

**Contact**

For further information about this role contact Yvette Ryan at yvette.ryan@csiro.au or call 02 4960 6039

#### How to Apply

As part of their application, candidates are requested to provide the following in Microsoft Word format:

* **Curriculum Vitae.**
* **Cover Letter –** outlining the motivation and relevant capabilities and experience you could bring to this role**.**
* **Contact details for three Referees** **–** Referees will only be contacted after prior consultation with the candidate. It is the candidate's responsibility to ensure that their referees are willing to provide reports when contacted by CSIRO.
* **Date of commencement –** An indication of the earliest date on which the candidate could commence in the position.

**Please apply online via the CSIRO website:** [**https://jobs.csiro.au/**](https://jobs.csiro.au/)

For further information

Energy Business Unit

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csiro.au

As Australia’s national science agency   
and innovation catalyst, CSIRO is solving   
the greatest challenges through   
innovative science and technology.

CSIRO. Unlocking a better future for everyone.