

**TO:**

**The Hon Tim Ayres**

Minister for Industry and Innovation  
Minister for Science

**The Hon Chris Bowen**

Minister for Climate Change and Energy

**The Hon Jason Clare**

Minister for Education

**Sent via email and post**

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**Subject:** Seizing Australia's energy opportunity; the case for increased investment in research, development and innovation

**FROM:**

**The Directors of ERICA  
(Energy Research Institutes  
Council for Australia)**

**ERICA**

ENERGY RESEARCH INSTITUTES  
COUNCIL FOR AUSTRALIA

## **Dear Ministers,**

Australia's energy transition is undergoing its most significant transformation in generations, supported by large-scale investment in clean energy infrastructure. Yet, while deployment spending has tripled since 2015, public energy R&D investment has halved over the past decade – from around 0.06% of GDP in 2013–14 to roughly 0.03% (\$673 million) today.

This imbalance poses a growing risk to system reliability, affordability and productivity. Without sustained R&D, Australia will struggle to maintain the long-term competitiveness, skills and innovation pipeline needed to deliver a secure, affordable and sovereign clean energy future.

ERICA – the Energy Research Institutes Council for Australia – represents 14 leading university energy institutes. We provide evidence-based policy advice, social and technical innovation, and a trusted interface between academia, industry and government.

### **Why energy research matters now**

- R&D investment has not kept pace with deployment. While clean energy deployment rose from \$4.3 billion in 2015 to \$12.7 billion in 2024, public R&D spending fell sharply.
- Australia lags international peers. Our total R&D intensity sits at 1.68% of GDP, compared with the OECD average of 2.73%, placing us 27th globally.
- Industry R&D has also declined, as new energy entrants rely on offshore research divisions –risking a drain of intellectual property and capability.
- The Business Council of Australia and the Australian Council of Learned Academies (ACOLA) both call for mission-oriented research in national priority areas, including clean energy and climate resilience.

### **Why investment matters**

Increased energy R&D will:

- Accelerate innovation and commercialisation in areas where Australia already leads – such as long-duration storage, grid-forming inverters and industrial heat.
- Strengthen system reliability, affordability and forecasting capacity.
- Drive productivity and new export opportunities by linking research with advanced manufacturing, AI, and clean energy industries.
- Build a skilled workforce and sustain Australia's global reputation for energy innovation.

### **Recommendations**

ERICA recommends that the Government:

1. Double the public energy R&D investment as soon as possible.
2. Commit to a staged increase reaching 0.06% of GDP by 2028, reversing a decade of decline.
3. Formally recognise energy as a nationally significant R&D priority, aligning with the Net Zero National Science and Research Priority 2024.

As representatives of Australia's university energy research community, we respectfully reiterate our call: recognise energy as a nationally significant R&D priority, **double public investment in energy R&D as soon as possible** and commit to a staged increase reaching **0.06% of GDP by 2028**. A time-bound uplift will unlock Australia's research and innovation capacity to help lower long-term system costs, accelerate commercialisation of high-value technologies, unlock export markets and materially boost productivity and GDP by creating higher-value industries and skilled jobs.

ERICA represents 14 member Energy Institutes from Australia's leading Universities, representing hundreds of globally-recognised energy experts and thousands of students. We stand ready to partner with the Government to unlock our collective R&D potential and help deliver the productivity, resilience and jobs to safeguard our national needs. We look forward to working with you on identifying and developing a research funding agenda that responds to this urgent need.

Our Chair, Dani Alexander, is the best contact to convene our collective expertise to work with you on identifying Australia's energy research priorities. Please don't hesitate to reach out to her at [dani.alexander@unsw.edu.au](mailto:dani.alexander@unsw.edu.au) or 0433 337 766.

Yours sincerely,

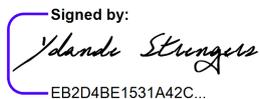
**The Directors of ERICA**

Energy Research Institutes Council for Australia

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### **Associate Professor Chris Briggs**

Research Director, Institute for Sustainable  
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The Australian Government has committed to a net-zero transition, underpinned by significant investment in clean energy infrastructure. For this vision to succeed, the Government needs to recognise energy as a nationally significant research and development (R&D) priority. On behalf of the Energy Research Institutes Council for Australia (ERICA), ***we respectfully urge the Government to double current public energy R&D investment as soon as feasible, and commit to a staged increase reaching 0.06% of GDP by 2028, reversing the decline in energy R&D investment over the past decade.***

ERICA brings together 14 of Australia's leading university energy research institutes. Collectively, we represent hundreds of world-class experts and thousands of students working across specialised and interdisciplinary fields. We provide evidence-based policy advice; social, market and technical innovations; over-the-horizon perspectives on emerging opportunities and risks; and a trusted touchpoint for industry and government on issues of national significance. Just as importantly, we are training the next generation of researchers and energy leaders who will be responsible for implementing the transition.

## **Why energy research matters now**

Australia's energy system is undergoing its most significant transformation in generations. Our rapid adoption of renewable energy, both at the utility and household levels, has positioned us as a global leader in the deployment of new energy technologies, particularly solar. Yet the pace, scale and complexity of the transition require more than technology deployment alone. It requires sustained research, development and investment to safeguard energy security, maximise consumer benefits, and maintain Australia's global competitiveness as we modernise a system based on market rules and grid infrastructure that is rooted in the last century.

This contrast is stark. While clean energy deployment investment is accelerating at record levels, tripling from \$4.3B<sup>1</sup> in 2015 to \$12.7B in 2024<sup>2</sup> – transforming grids, markets and communities with unprecedented speed and introducing new complexities – public R&D investment has not kept pace, halving from around 0.06% of GDP in 2013–14 to around 0.03% (approximately \$673 million) today<sup>3</sup>. At a broader level, Australia's R&D intensity is just 1.68% of GDP, well behind competitors and far below the OECD average of 2.73%, placing us 27th globally and bottom among comparable economies<sup>4</sup>. This risks leaving Australia underprepared to manage the complexity, sustain the transition, and deliver long-term outcomes that enhance system reliability, serve consumers, drive Australia's economic productivity, and maintain our competitive advantage in our region.

Industry investment has also declined. The acceleration of Australian energy investment into renewables over the past decade has given rise to new market entrants that are primarily based overseas with offshore R&D divisions. This also risks a net drain of IP from Australia to other countries.

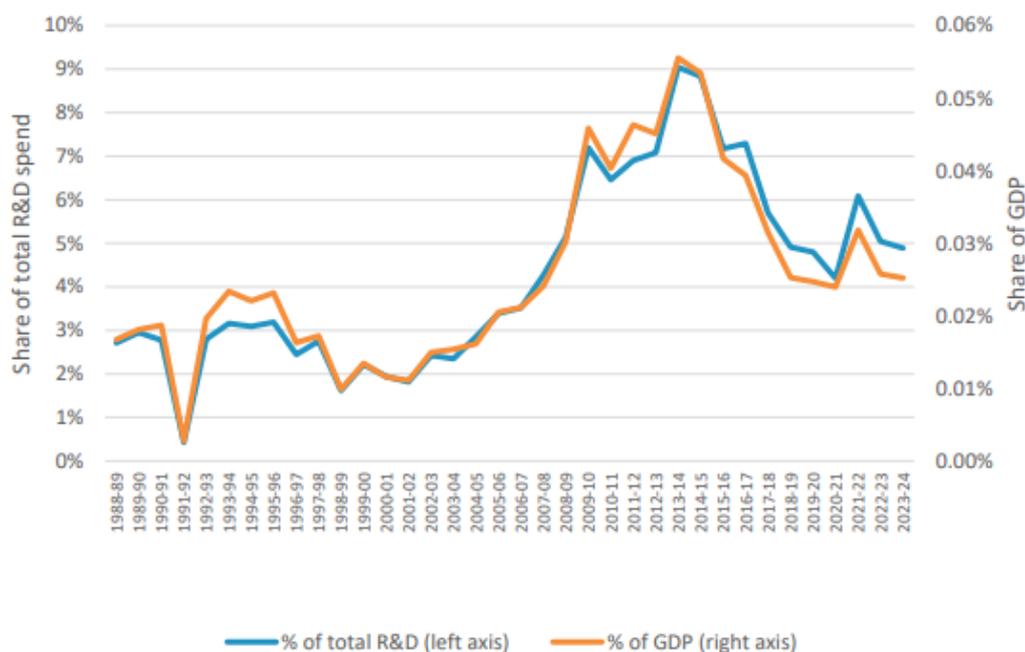
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<sup>1</sup> [Clean Energy Australia 2015. Clean Energy Council](#)

<sup>2</sup> [Clean Energy Australia 2025. Clean Energy Council](#)

<sup>3</sup> [Energy Research, Development and Innovation. Energy Efficiency Council position statement, November 2024](#)

<sup>4</sup> [Australia's R&D Intensity: A Decadal Roadmap to 3% of GDP](#)



Sources: DISR, 2024, 2024-25 Science, Research and Innovation Budget Tables; ABS, Australian National Accounts: National Income, Expenditure and Product, Table 34. Key Aggregates and analytical series, Annual.

Source: [EEC](#), 2024, Figure 1, p.6

This decline comes despite energy being one of the most urgent, complex, and politically charged challenges facing our nation. Without a coordinated uplift in energy R&D, the transition risks being slower, more expensive, and more emissions-intensive than necessary.

A report from the Energy Efficiency Council<sup>5</sup> highlights how we must engage communities, navigate rapid technological disruption, and rethink the role of research in this era of both inertia and breakneck change. At ERICA, we believe this message must cut through, and we are building the research community to respond. In the energy sector, our focus has shifted to implementation at scale, to getting stuff done. Yet the research questions persist, and many challenges remain unresolved. At the same time, the sector faces a critical shortage of skilled professionals to manage and lead the transition. These are not abstract risks – they are missed opportunities that can and should be realised through targeted, world-class energy research.

The Mandala report<sup>6</sup> commissioned by the Business Council of Australia (BCA), Atlassian Corporation and Cochlear Limited, highlights that investment into R&D plays a key role in driving productivity, which in turn leads to better living standards and economic competitiveness. The BCA is calling for R&D to be a new national strategic priority, with private and public investment increasing to 3% of GDP.

The Australian Government's Strategic Examination of R&D: discussion paper consultation findings and analysis<sup>7</sup>, found that there was widespread agreement from the submissions on

<sup>5</sup> [Energy research, development and innovation: EEC position statement](#)

<sup>6</sup> [Unlocking Australia's R&D potential, Mandala, July 2025](#)

<sup>7</sup> [Strategic Examination of R&D: discussion paper consultation findings and analysis, July 2025](#)

the need for mission-oriented research that aligns with national priorities such as clean energy and climate resilience.

Resources like the Australian Council of Learned Academies' (ACOLA) Australian Energy Transition Research Plan<sup>8</sup>, further highlight the research gaps and needs for Australia, and provide direction on the risks and opportunities ahead. We are continuing to work with ACOLA to identify the research priorities needed to support Australia's energy trajectory to achieve its net-zero goals.

## **What success buys Australia**

Strategic investment in energy R&D will deliver measurable national benefits:

- Commercial opportunities in long-duration storage, grid-forming inverters and industrial heat – areas where Australia already has competitive strengths.
- Enhanced reliability and affordability for households and businesses.
- Better forecasting and planning, reducing duplication and preparing for complex system impacts.
- Stronger social licence and demand-side innovation, supported by world-class but underutilised social science expertise.
- A pipeline of skilled researchers and practitioners to address critical workforce shortages.
- Positions Australia as a global leader and magnet for large-scale investment in clean energy.

## **Delivering national benefits**

The Government's *Future Made in Australia* agenda sets out to attract and enable private sector investment, and the *Net Zero National Science and Research Priority (2024)* establishes clean energy as a national mission – yet without stable investment, Australia cannot credibly deliver. Internationally, our leadership roles, such as co-chairing the Mission Innovation Clean Hydrogen Mission, are undermined when our domestic capacity is underfunded.

Research also underpins productivity growth. Without innovation, Australia risks higher transition costs, weaker productivity growth and diminished competitiveness. To remain globally competitive, Australia must lift its level of investment and re-establish a stable, forward-looking funding environment.

Investment in energy R&D directly supports the Government's Net Zero 2050 targets. With sufficient and sustained support, Australia can:

- Accelerate innovation and commercialisation, building on our solar and storage leadership to capture new global markets.

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<sup>8</sup> [Australia's Energy Transition Research Plan, ACOLA](#)

- Enhance energy affordability and reliability for households and businesses.
- Strengthen forecasting and planning, improving national preparedness.
- Lead in social, digital and market innovation, drawing on underutilised expertise.
- Build the next generation of energy leaders through education, training and industry collaboration.

Beyond decarbonising our domestic energy system, Australia's opportunity lies in becoming a global supplier of clean energy and low-emission technologies. Replacing fossil fuel exports with clean alternatives requires breakthroughs in areas such as production, storage, and transportation, which can be achieved only through sustained R&D investment. This will drive new export industries, boost national productivity, and position Australia as a regional leader in clean energy innovation.

## Unlocking skills and jobs

Investment in research is an investment in Australia's skilled workforce and long-term productivity. This is crucial given that the global energy workforce shortage has become a key barrier to Australia's productivity and is already a bottleneck for Australia's clean energy transition. This issue will only become more problematic with analysis suggesting that Australia's electricity workforce alone will need to double by 2030<sup>9</sup>.

As The Clean Energy Generation report<sup>10</sup> highlights, achieving net zero requires closer collaboration between universities, industry and training providers to keep pace with rapid change. Research-led training builds a new knowledge base and advanced capabilities that underpin our education and training systems. When partnered with investment in education, this results in highly skilled graduates ready to lead innovation, scale emerging technologies, and create high-value jobs that strengthen Australia's economy and global competitiveness.

## Recommendations

To close the gap and deliver on Australia's commitments, ERICA recommends the Government to:

1. Double the current public energy R&D investment as soon as feasible,
2. Commit to a staged increase reaching 0.06% of GDP by 2028, reversing the decline in energy R&D investment over the past decade, and
3. Recognise energy as a nationally significant R&D priority.

## Conclusion

Australia's clean energy transition is a nation-building opportunity. Targeted investment in energy R&D will reduce long-term system costs, generate export-ready technologies, and boost productivity and jobs.

ERICA and its member institutes stand ready to partner with the government to deliver the research, innovation and skills that will transform Australia's net zero future. We look forward to working with you on identifying and developing a research funding agenda that responds to this urgent need.

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<sup>9</sup> [The Australian Electricity Workforce for the 2024 Integrated System Plan: Projections to 2050](#)

<sup>10</sup> [The Clean Energy Generation: workforce needs for a net zero economy](#)