

# Energy: more, faster, cheaper

## Productivity pitches

July 2025





# Energy: more, faster, cheaper

Cheap scalable clean energy is central to managing one of Australia's biggest vulnerabilities – our exposure to economic and social damage from climate change – and to achieving one of our biggest opportunities – the growth of world-scale industries producing green energy intensive commodities. Our immediate transition challenge, to replace the energy services provided by ageing coal fired electricity generators, is large and urgent. Our opportunity in energy intensive industries is longer-term, but intimidatingly colossal. Greatly lifting productivity in the construction, delivery and use of energy can be a major contributor to Australian prosperity. This will require better planning, better processes and clearer priorities.

## Key recommendations

### i. **Streamline Environmental Approvals**

- a. Reform the EPBC Act so national standards are enforced by accredited states.
- b. Pursue approvals that are time limited, coordinated and outcomes-focussed.

### ii. **Improve Community Engagement**

Communicate the shared benefits of energy projects for affordability, reliability, and climate.

### iii. **Simplify Project Expectations**

- a. Focus on delivering clean energy faster and cheaper.
- b. Reassess and reduce cumulative burdens on developers.

### iv. **Embrace Automation and Smart Skills Planning**

- a. Promote robotics, assistive tech, and machine learning.
- b. Align project skills with available workforce capacity.

### v. **Advance Smart Electrification**

Use coordinated tools (such as price signals, standards, education) to ensure that smarter energy use and electrification lowers unit energy costs rather than raising them.

### vi. **Evolve Clearer Carbon Signals**

- a. Explore clearer market signals to govern generation emissions after the expected retirement of coal.
- b. Consider Border Carbon Adjustments to ensure climate policy does not cause carbon leakage.

### vii. **Design Efficient Gas Security Policies**

Allow supply- and demand-side options for gas suppliers to acquit potential forward-looking gas reservations.

# Why energy matters economically

Energy is important far out of proportion to its direct share of the Australian economy. Electricity supply accounts for just 1% of Australia's Gross Value Added (GVA). But it is an essential enabler of almost all economic activity; and the cost of electricity is central to the competitiveness of some activities, including transforming raw resources into useful materials. Meanwhile industry also needs process heat and feedstock, and buildings need hot water, space heating and cooking; natural gas is a major plank of these services, though networks for gas supply only directly account for less than 0.1% of GVA.

Australia's energy intensity (energy used per unit of Gross Domestic Product) has nearly halved since the early 1960s, as many activities have become more energy efficient and as low-energy-intensity activities like services have grown faster than high-energy-intensity activities like metals manufacturing. That means energy availability is more important than ever: we have much more to lose if energy supply does not meet demand.

Energy cost (supply price times needed consumption) matters most to makers of foundational materials including aluminium, cement, chemicals, glass, paper, steel and transport fuel. Production of and markets for these goods will evolve, but overall they will remain important; and some could grow enormously given Australia has enormous clean energy potential while major trade partners face serious constraints on low-cost domestic energy supply.

Australia's commitment to rapid emissions reductions and net zero emissions by 2050 will require the replacement of 22 gigawatts (GW) of coal generation and deep reductions in use of natural gas and oil-based fuels. The Australian Energy Market Operator (AEMO) expects electrification of transport and buildings to drive more than 80% growth in electricity demand over the next 30 years. If heavy industry both electrifies and grows to meet large Asian decarbonisation opportunities, electricity demand could grow much more – perhaps as much as 2,500% - to produce new exports worth hundreds of billions of dollars per year by the 2050s.

# Why productivity matters to energy

Maximising productivity is vital to ensure both competitive energy costs and adequate supply.

It seems very likely that the vast bulk of Australia's future energy supply will come from solar and wind generation. Since operating costs are very low, the cost of renewables is largely the cost of building and financing them, spread across the useful energy they supply. Australia's renewable resources are large and high quality, as long as they are allowed to be accessed, and that natural advantage is important.

Renewable technology costs are falling with learning driven by local and global deployment. Data from [the International Energy Agency and others](#) suggest that in recent years the levelised cost of energy from new wind and solar projects in Australia was very similar to China and India, considering resource quality and delivery cost. If we can keep project delivery costs under control while delivering many more projects, Australia can be as cheap a place to use energy as any in the world - and far more scalable than most.

Without low costs and high scalability, new green energy intensive industry growth will not take place in Australia. But even supplying Australia's current energy needs will be challenging without strong productivity improvements. The central scenario of the Integrated System Plan (ISP) for the National Electricity Market (NEM), with little green export growth, requires more than 160 GW of solar and wind to be deployed over the next 25 years, on top of 46GW today. That is an average of 6.6GW per year, and as much as 13.6GW in some years. Australia's fastest deployment so far was 6GW in 2019-20, and the rate has been less in recent years as post-Renewable Energy Target policies took time to devise and implement, existing transmission lines saturated, new transmission lines lagged, and approvals for many projects proved slow and difficult. Sustaining a much higher build rate is as possible as it is vital.

The consequences if we are unable to build faster, and without project cost inflation out of line with our peers, will be that coal generation stays for longer. In addition to higher emissions, that will mean higher fuel costs (tradable black coal remains well above its average price before the invasion of Ukraine), and some combination of declining reliability from age and higher costs for refurbishment to maintain reliability.

Australia is rich in capital, land and natural resources. But we have little time, stretched supply chains, specific skills constraints and a tight overall labour market with many other demands upon it. Maximising our ability to deliver energy projects is the essential counterpart to industrial and climate ambitions.

Energy supply is far from everything. The efficiency of energy use and quality of electrification can make a major difference to energy bills, the speed of energy transition and the required buildout. An electricity network where electric vehicles, distributed electrical and thermal storage, and electric appliances are poorly deployed and coordinated is one where peak demand will rise much faster than overall demand, requiring much more generation and network infrastructure. Smart deployment and use on the demand side could spread the high costs of network infrastructure over many more units of energy supplied, significantly reducing the final cost of the energy services that industry and households require. That is a large prize.

## Where we fall short

Significant policy attention is already going into solving problems of energy cost and adequacy. Particularly important strides have been made in reducing finance costs; for example the Capacity Investment Scheme reduces investor risks for the next wave of energy projects, and reforms to the NEM now under development are likely to deliver similar benefits over the longer term. Broad continuity of energy policy ambitions and frameworks minimises costly uncertainty.

There has also been attention to shortening the time and effort needed to secure planning and environmental approvals for energy projects, though progress is uneven and has much further to go. Victoria defined renewables projects as ‘significant economic development’ to simplify process and limit third party appeals. NSW has followed and announced an authority to accelerate major projects including in energy. Queensland has recently sent mixed signals, with several major wind projects approved; one recent approval subsequently revoked; and onerous new planning rules that expand scope for third party intervention and require renewable projects to negotiate community benefit agreements even before lodging a development application.

Energy developments are subject to many competing expectations and demands from governments, communities and other stakeholders, beyond their core function of providing energy for a sufficiently affordable, reliable and clean energy system. These can include maximising total employment, local employment, or employment of highly skilled workers such as electricians, apprentices, or under-represented groups; minimising demands on local infrastructure and housing markets; maximising project content from Australian, same-state or same-region suppliers; maximising provision of financial or other benefits to neighbours or host communities. These priorities cost time and money, and are often in tension with each other.

Energy system planning has improved significantly over the past decade, and the ISP plays a very positive role in corralling and informing public and private stakeholders. However energy plans are still an uncomfortable amalgam, bringing together least-cost or least-regrets modelled pathways in the face of important policy, market and technological uncertainties; political preferences on reliability than can be expensively risk-averse; and hard-to-value political decisions on narrow energy targets for particular technologies or locations. State plans appear to reflect excessive preference for in-state resources rather than trading energy.

Project delivery costs have risen, especially for electricity transmission and pumped hydro projects, compared to earlier estimates. While we are hopeful that re-based estimates will now be more accurate, and that costs can moderate with experience, differences in recent relative cost performance – of wind and solar, batteries and pumped hydro, distributed and centralised approaches – will need to be taken into account in the next iteration of the ISP.

The electricity system lacks a direct and comprehensive carbon policy or signal; substitutes are partial or proxies. This absence will grow more significant as coal exits the system and decisions on investment, operation and re-powering of gas peakers come into greater focus.

Finally, we are only just starting to remedy a low recent focus on demand side efficiency and quality in electrification. National efficiency policy has been a low priority with little resourcing or tools for well over a decade. While Australia has supported a global push to double the rate of energy efficiency improvement, we are far off this goal so far.



# How we can do better

Australia has many opportunities to substantially lift productivity in the energy space. An immediate priority is ambitious reform to the national Environment Protection and Biodiversity Conservation Act (EPBC). The status quo is slow decisions for industry and poor environmental protection. All stakeholders should see the merit in a faster, more certain, navigable process for needed projects, including in clean energy. The Samuel Review recommended nationally agreed environmental standards with application delegated to accredited states. That is sound. More effort is needed, including Federal encouragement and support to States, to achieve approvals processes that are more streamlined, time limited, coordinated and outcomes-focussed.

Governments and other stakeholders need to communicate better with communities about the core value of new energy projects and the common stake Australian have in their successful delivery. If new transmission, generation and storage projects cannot be built, or are built at avoidably high cost, everyone will pay higher bills; endure worse reliability and be exposed to more of the serious long term consequences of climate change.

Governments should prioritise the achievement of an advantage in affordable, scalable and clean energy in simplifying and limiting the web of asks and expectation on new projects, focussing in on the faster, cheaper and greater delivery of energy for a clean economy. Other asks should be rigorously re-evaluated and culled for their cumulative impact on the scope, speed and cost of energy projects that can be delivered.

Policy makers, industry, unions and other stakeholders should embrace and promote the use of automation, assistive robotics and machine learning in energy projects, and right-size project skills requirements, to maximise the amount of deployment that available human labour can deliver. Australia has a full employment economy and many needs. Our challenge is not to make work for people, but to deliver our needs with the people available.

Smart electrification needs to become an even higher priority, with the Federal Government and AEMO coordinating other stakeholders and processes to ensure that electrification lowers unit energy costs rather than raising them, using price signals; appliance standards and availability; energy user education; support services; obligations attached to assistance with energy upgrades; and other tools to minimise electricity system costs.

Australia can consider options for clearer long-term carbon signals in electricity, such as generation intensity baselines; coverage of Scope 2 emissions at existing Safeguard facilities; or otherwise. Carbon pricing and public revenue are not taboo, especially in the context of efficiency-raising tax reform, provided competitiveness is addressed. A well designed and non-discriminatory Border Carbon Adjustment can be an excellent tool to prevent carbon leakage.

Finally, as the Federal Government considers long term domestic gas security reforms, it should ensure that these incentivise efficient behaviour and use of resources. That may include, in the context of a possible national forward-looking domestic gas reservation, an option for gas suppliers to discharge the obligation by helping energy users reduce gas needs. Existing market mechanisms that credit gas reductions could be used, including the Safeguard Mechanism, Australian Carbon Credit Unit scheme, NSW Energy Security Safeguard, SA Retailer Energy Productivity Scheme and the Victorian Energy Upgrades scheme.

# About Australian Industry Group

Ai Group and partner organisations represent the interests of more than 60,000 businesses employing more than 1 million staff. Our membership includes businesses of all sizes, from large international companies operating in Australia and iconic Australian brands to family-run SMEs. Our members operate across a wide cross-section of the Australian economy and are linked to the broader economy through national and international supply chains.

Our purpose is to create a better Australia by empowering industry success. We offer our membership strong advocacy and an effective voice at all levels of government underpinned by our respected position of policy leadership and political non-partisanship.

With more than 250 staff and networks of relationships that extend beyond borders (domestic and international), we have the resources and expertise to meet the changing needs of our membership. We provide the practical information, advice and assistance you need to run your business. Our deep experience of industrial relations and workplace law positions Ai Group as Australia's leading industrial advocate.

We listen and we support our members by remaining at the cutting edge of policy debate and legislative change. We provide solution-driven advice to address business opportunities and risks.

## Australian Industry Group contact for this report

**Tennant Reed | Director, Climate Change and Energy**

The Australian Industry Group

T +61 (04) 18 337 930

© The Australian Industry Group, 2025

The copyright in this work is owned by the publisher, The Australian Industry Group, Level 5, 441 St Kilda Road, Melbourne VIC 3009. All rights reserved. No part of this work may be reproduced or copied in any form or by any means (graphic, electronic or mechanical) without the written permission of the publisher.



