Energy policy

Australia must set forward-looking energy policies that are economically rational and take account of technological change. In practice, this will benefit the environment too.

The energy debate needs rebooting

Economics favour new technologies

Nearly all leading investors agree

There will be many knock-on benefits

Energy is one of the most fundamental human needs. Sadly Australia's political debate on the economics of new energy technologies has been dreadful in its ignorance both technological development and what this means for changing economics.

To escape this vortex, Australian energy policy must be designed to allow competitive forces maximum freedom, whilst of course ensuring the stability of the overall energy system. In practice, as the Australian Energy Market Operator has confirmed, the latter is entirely manageable. So we can focus on how new technologies are changing the energy equation.

As context, remember that solar energy and wind power are nothing new. These technologies have been developing for many decades. Two million households already generate at least some of their household energy through solar PV, as do hundreds of thousands of boat and caravan owners.

The cost of generating energy from these sources has fallen by around 15% annually for many years. This is equivalent to about 80% every decade or so. Today, solar energy is *cheaper* to build and operate than coal-fired power stations, and prices will continue to fall as the technology continues to improve. In contrast, the cost of energy from coal and gas has continued to increase over the long term. This has happened because renewable energy sources continue to benefit from Moore's Law type efficiencies as technology improves, whereas century old technologies have more or less reached maximum possible efficiency.

This is not a religious view. It's simply science and economics. Forward-looking countries such as China are already well-advanced on this path.

Private sector investment flows reflect these views too – there is a massive amount of capital available to fund renewable energy projects, whereas most mainstream equity investors and bank lenders will no longer invest in coal-related projects.

The cost of storing energy is also falling rapidly too, for the same reason. This means that Australia is fast approaching the point for where it will be cheaper for some end users to invest in energy storage than it is to maintain the full reach of electricity distribution and transmission networks (let alone build new ones).

As with many technological changes, developments in one area can have a significant impact on the entire industry. Renewable energy can be generated cost-effectively at very small scale, including on domestic roof-tops.

As a result, where energy is used and where it is generated are changing, impacting the role and economics of the distribution grid. When the entire cost of providing energy (ie generation, transmission, distribution and storage) is taken into account, local renewable generation plus storage may soon be cheaper than the conventional approach – indeed in locations which necessitate greater investment in transmission and distribution, this is already the case.

Meanwhile, the fast-approaching transition to electric vehicles will significantly reduce overall household energy use (as petrol consumption will fall) but will moderately increase the amount of electricity consumed at home, adding an important dynamic to energy markets.

This transition offers a significant global advantage to Australia, as the country benefits from amongst the highest levels of solar energy per square metre of any country in the world. This means that we derive more energy from any given solar energy installation.

Australia can thus become a global leader in how to manage this renewal, in urban planning, community development and financial investment terms, just as it has been in infrastructure investment more broadly over the last couple of decades.

To manage this transition effectively, there are six policy areas that will help to ensure that competitive forces help to drive an outcome that is in the best long-term interests of Australia.

Abolish subsidies that distort decision-making

Provide support for regions impacted by industrial shifts

Provide Government support to remove economic friction

Encourage and plan for the shift towards electric vehicles

Police anti-competitive behaviour by incumbents aggressively

Work towards the right end-state network design from the outset

Abolish subsidies: To ensure a level competitive playing field, all subsidies for fossil fuels in any form should be abolished. At the minimum, any fossil fuel subsidies that are retained should be matched dollar for dollar by subsidies designed to encourage an accelerated transition to renewable energy and increased emphasis on household energy efficiency.

Remove economic friction: Given the huge amount of private sector capital available to support the transition to renewables, little if any Government investment should be required. Energy market structure must, however, change – and Government support can help to smooth this transition. One approach would be to create some form of central clearing house for power purchase agreements, to make it easier for new energy suppliers to secure long term power supply agreements from end-users.

Police anti-competitive behaviour: The restructuring of Australia's energy markets will create significant disruption for large, incumbent businesses. Regulators including the ACCC must watch the corporate sector closely, to ensure that anti-competitive behaviour does not undermine competitive market forces.

Support industrial restructuring: The changes in the energy sector will create many new employment opportunities but will also result in significant job losses in some communities, including those involved in fossil-fuel power generation. Australia will benefit materially from the transition to renewable energy, so it is important that a little of this upside is set aside to help those who bear the brunt of this once in a century transition by investing to support the development of new employment opportunities in these regions.

Encourage an early shift to electric vehicles. With one of the most urban populations in the world, Australia is ideally placed to benefit from this transition. Whilst range is often cited as a barrier to this shift, the average car in Australia travels just 225km to 275km a week. This is well within the range of the current crop of electric vehicles, even with a single weekly charge. This would be a further significant step that achieved an urban trifecta, benefiting the environment, improving overall national energy efficiency, and reducing emissions. Simply acknowledging this shift is all that is required from Government.

Build the network of the future: Over the next 20 years, Australia's energy system and power distribution networks will need to change significantly. To maximise efficiency, we must start immediately to ensure that all near-term investment decisions are guided by a clear understanding of what the end-state network will look like, taking into account where energy is generated and where and how it is used.

If this approach is adopted, Australians would be able to the country's Paris Agreement commitments as opportunities, not obligations. Not only will power become cheaper, but building our reputation as one of the cleanest nations on earth will benefit our massive exports of agriculture and tourism, and potential education exports too, given the positive implications for the quality of life that Australia offers. There should, of course, be no Government support for projects undermine this agenda. Why should inbound tourists heed advertising campaigns urging them to visit the Barrier Reef, if they think Australia cares more about coal exports than its marine environment?

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