

TAKING A TIME OUT IN TEXAS

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ABSTRACT

As a Fulbright Professional Scholar in 2009, I was fortunate to spend four months in Texas executing a comparative study on the impact of emissions reduction policies on the US and Australian electricity sectors. My professional base was the Center for International Energy & Environmental Policy at the University of Texas at Austin. Being in Texas, the focal point for energy policy in the world, was not a chance occurrence. It remains relevant today.



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BACKGROUND

The recent election in Australia of a government with more ambitious carbon reduction targets took me back to my Fulbright Professional Scholarship in 2009. That year, Fulbright enabled me to undertake a comparative study of the impact of emission reduction policies on the US and Australian generation sectors.

The timing could not have been better, coinciding with the early days of the Obama Administration which had pledged to take a leadership position on climate change.

Australia had a relatively new Labor Government in 2009 led by Kevin Rudd. At least when it came to action on climate change, his election had generated optimism that Australia would move from climate laggard to leader.

In both countries the new administrations were supportive of policy interventions to reduce carbon emissions. The US Congress was debating a Waxman-Markey Bill which sought to introduce an emissions trading scheme (ETS). The Rudd Government was also proposing an ETS for Australia. With fossil fuel intensive economies, the politics of pricing carbon in both the US and Australia were difficult.

Come 2010, the Democrats lost control of Congress and Waxman-Markey lapsed. Prime Minister Rudd decided to abandon Australia's ETS when it was clear bipartisanship could not be achieved. He was subsequently deposed as leader of his party.

In the intervening years energy and climate policy have remained a divisive topic in both countries. Now the stars may be aligning again with the Biden and Albanese Administrations committed to more ambitious climate action.

THE VIEW FROM TEXAS

Given its central role in the oil and gas industry and its Republican orientation, the Government of Texas and the state's representatives in Washington were vocal opponents of carbon pricing measures.

The State Capitol, Austin, was an exception to that rule. It was viewed with suspicion by much of the rest of Texas for its liberal politics, influenced somewhat by its university. Once every two years the Texas Congress brought the state's mostly Republican representatives to the city for 100 days of policy debate. If a bill was not passed by the end of the session, it lapsed. Fortunately for me, state Congress was in session in the first half of 2009.

While cynics said the 100-day limit on congressional sittings meant nothing was passed, one policy the Texas Congress had agreed on were generous incentives for renewable energy.

The Texas policymakers not only set a target for wind energy but sponsored the building of long transmission lines to bring it to the cities. The wind resource was strongest in the west of the state where designated Competitive Renewable Energy Zones (CREZ's) were established. Ranchers accepted the turbines and in return received a new income stream.

The CREZ's proved to be a successful example of the coexistence of agriculture and renewable energy. In many countries where support for climate action is strong, renewable energy faces significant community resistance.

On my return to Australia, I gave a series of presentations to Australia's energy regulators and policy makers about the apparent anomaly of Texas being the leader in wind generation in the US. With its vast distances, hot climate, and sprawling cities, Texas had physical similarities to Australia. The parallels went further than that.

AUSTRALIA AND TEXAS – A SHARED MODEL

The electricity grid run by the Electric Reliability Council of Texas (ERCOT) has a unique design feature shared by few markets, aside from Australia's National Electricity Market (NEM). I was aware of this similarity in 2009 and it influenced my location.

Few outside the electricity industry would understand the passion that a market design discussion engenders. The passion arises over competing views of what is best for consumers.

Generally, there are two designs. One a capacity market and the second, "energy only." ERCOT and the Australia's NEM, run by the Australian Energy Market Operator (AEMO) are in the energy only category. Under this design an electricity generator only gets paid if they are used to supply demand. This design establishes a merit order based on price.

For economists, this is seen as encouraging generators to keep the costs of generation low and their availability high. In economic theory it encourages productive efficiency.

In a capacity market, electricity generators are paid revenue to be available, even if they are not used. The shared electricity market design meant I came across quite a few Australians in both ERCOT and private industry. A few years after my return, a senior official in ERCOT took a similar role in AEMO and became a good friend.

In 2013 I returned to the University of Texas at Austin (UT) for a conference of Australian and UT academics about the shared electricity market challenges. The dialogue with some of those UT academics I maintain to this day.

TEXAS COMES TO NEW SOUTH WALES (NSW)

In 2018 I moved from industry into an energy policy role with the New South Wales (NSW) Government. As a state NSW relied on ageing coal power stations to deliver its electricity. These were being challenged by increasing levels of renewable energy, both at utility level and on rooftops.

Aside from its high emissions profile, coal is an inflexible form of generation that cannot ramp up or down when it is not required. Texas' wind had also displaced coal, but it had a much larger fleet of gas plants that respond to variations in price.

Frustrated by a perceived lack of action by the Federal Government, the NSW Government decided in 2020 to commit the state to underwriting new wind and solar generation in dedicated Renewable Energy Zones (REZ's).

The NSW Electricity Infrastructure Investment Act (2020), enacted by the NSW parliament, created five REZ's in the state where transmission and generation would be built.

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NEW SHARED CHALLENGES

What the Texas and Australian grid operators are now grappling with, is how to manage the increasing penetration of renewables in an energy only market. In a price sense, wind and solar are now the cheapest sources of electricity, but do not generate in response to a price signal, but weather conditions.

Storage of energy in batteries and pumped hydro will provide some of the answer. The question is how to ensure there is sufficient revenue in an energy only market for forms of generation that are dispatchable. That is, generation that can respond to a price and demand signal when renewable energy is either insufficient or unavailable.

This year, as an energy consultant, I was asked by an investor in the Texas market to write a paper on how the challenge of ensuring sufficient dispatchable generation was being managed in Australia.

Increasing people-to-people links, mean that Texas regulators are more likely to seek answers from Australia than other parts of the US. I would have liked to say we had the answer, but in truth the NEM is also grappling with how to retain an energy only market with high levels of renewables.

Whether energy only markets can survive, time will tell. As was apparent to me in 2009, there is much to be gained by a shared approach to the challenge of locating, transporting, and integrating renewable energy in Australia and Texas, and the US more broadly. That is surely what Fulbright is about.

NOTES

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BIOGRAPHY

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