

COAG ENERGY COUNCIL REFORM PRIORITIES

August 2016

The COAG Energy Council is meeting in the wake of recent serious price events in South Australia that have disrupted operations for some businesses and given many more reason to question their continued viability. Those events frame the reform priorities identified below by the Australian Industry Group.

While the South Australian events have many causes, observable trends in demand and renewables uptake suggest that similar pressures will become widespread across the market in coming years. Action is needed now to ensure the market can handle those pressures while delivering reliable, affordable and secure energy.

Those actions include

- Following through on the gas reform agenda, including on easing gas supply;
- Reinvigorating stalled efforts to encourage demand response;
- Accelerating planning for and deployment of energy storage, initially focusing on SA
- Improving planning and communication around vital interconnections;
- Taking a fresh look at rule changes to undergird competition;
- Re-examining the procurement of Frequency Control Ancillary Services and recruiting more providers; and
- Reviewing the electricity system, including market design, governance and supporting policies, for its fit with future needs – particularly the alignment of climate and energy policies.

SA events

Over the past year electricity prices have been rising sharply in South Australia, first through futures prices, then retail contracts, and in July through an extreme event in the wholesale market. There has been considerable argument over the causes of this, much of it dominated by ideological views for and against renewable energy. As far as industry can see, the growth of variable renewables without wider market reform has helped set the scene for these price issues. This is not necessarily due to their variability; instead, by taking greater volumes of the market and often depressing spot prices, renewables have helped induce the closure and mothballing of incumbent generation capacity - while having no equivalent ability to ramp up in response to price.

However, several other major factors have been at least as important in recent events. Work to upgrade the SA-Victoria Heywood Interconnector appears to have been managed without price impacts in mind. Price and supply issues in the gas market have bled through to electricity. There are weak incentives for demand to respond to price events. And SA's segment of the market has fewer competitive players and a long history of extreme price volatility.

In addition to the widely discussed wholesale market issues, SA has also been hit by serious events in the market for Frequency Control Ancillary Services (FCAS). FCAS stabilizes the grid by asking electricity suppliers to raise or lower their output very slightly; it is usually supplied very cheaply across the market. In October 2015 upgrade work to the Heywood Interconnector led the Australian Energy Market Operator (AEMO) to require FCAS for SA to be supplied within SA. Extreme bids from the small number of registered SA FCAS providers led prices to spike, costing energy users and generators around \$26 million before the constraint on the Interconnector was lifted. Further upgrade work has been scheduled

for August and September 2016, and in the early days of the constraint we have once again seen FCAS prices at extreme levels. If suppliers do not change their bidding behavior, we expect the latest set of events to cost around \$20 million.

Taken altogether these wholesale and FCAS events have been extremely damaging for industry in SA. Retail contract prices offered to businesses have been increasing sharply, often by 50% or more. Businesses put off by such prices have unappetizing alternatives: take on more exposure to wholesale prices, which are often very low but sometimes reach extreme levels; generate their own energy, which requires either serious upfront investment, high operating costs, or both; or reconsider their operations in SA.

Wider significance

SA is in some ways unique, lying at the end of the network, lightly interconnected, with relatively few suppliers. But it is also experiencing a more intense version of trends visible elsewhere: high penetration of variable renewables; the exit of incumbent generation; gas as the marginal generator and price setter; and a growing gap between minimum and maximum demand. The growing competitiveness of renewable energy at all scales, national ambitions to address climate change, and persistent weak demand for energy seem likely to intensify these trends everywhere. AEMO's recent 2016 Electricity Statement of Opportunities comes to a similar conclusion, finding that in the absence of further action and investment NSW and Victoria will breach reliability buffers in the coming decade.

Actions

Many steps are needed to address immediate challenges in SA, while setting us up for a more successful national market over the longer term. These are set out below.

Review

There is widespread agreement that it is time for a fresh and fundamental look at the electricity market – including its design, governance and supporting policies – in light of current trends and expected future demands. The alignment of energy policy and climate policy is particularly important to providing the direction and certainty needed for investment, since the transition to net zero emissions and adoption of renewables are closely connected. Wider discussion is needed to achieve agreement on the proper scope and process for a review. However, we emphasise that the need for a major review should not stop Ministers from initiating immediate actions to strengthen our energy markets.

Gas agenda

COAG already has a substantial reform agenda on gas supply, but the SA events highlight how important it is to ensure this agenda succeeds. Electricity prices were influenced by surging spot prices for the gas that fuels marginal generators. And gas was expensive in recent months because the market is extremely tight – demand is surging as the Queensland LNG terminals ramp up, but production has struggled to keep pace. Although renewables and storage are likely to predominate over the longer term, gas will play a critical role in supply and price of electricity in the medium term. Continued tight supply will see serious challenges to gas-intensive industry in manufacturing and mining, but also to all electricity users.

While the global woes of the oil and gas sector are a serious impediment to new production investment, Australia needs to do everything it can to foster adequate gas supply. The market reform agenda embodied in the reports of the Australian Competition and Consumer Commission and the Australian Energy Market Commission is positive and continued momentum is essential. But as well as competition and transparency, more gas supply

depends on the existence of regulatory regimes at the state level that manage environmental risks while facilitating gas production.

Australia will not be able to replace or supplement its current gas supplies without extensive use of 'unconventional' resources: coal seam gas, tight gas and shale gas. Multiple inquiries have demonstrated that modest but genuine risks from water use and management of produced water can be addressed with strong rules, firm enforcement and good engineering practice. But progress to address these has been far too slow. At present, blanket bans appear likely to spread and extend into the next decade. Meanwhile, major gas using businesses are considering their supply and viability beyond 2020 – and finding uncertainty so deep as to threaten their viability.

Demand management

The extreme prices experienced in SA could have been lower – or almost entirely avoided – if demand was as responsive to price as supply is. In a market with limited competition, 'negawatts' from large users and aggregated small users would act as a new source of discipline on market players. And as supply becomes increasingly variable, more flexible demand will help to stabilize the market.

At present most energy users are on tariffs that do not reflect actual demands on the market and network beyond a crude peak/off-peak structure. Meanwhile only the largest businesses are likely to have the opportunity to make agreements to curtail demand during extreme periods, and they can only do so with their retailer.

The COAG Energy Council has already identified two reforms to address this challenge – but both are stagnating.

Dynamic tariffs reflecting time of use, demand and constraints on the network have been identified for development, backed by smart meters that provide essential data and connectivity. But jurisdictions are proving extremely cautious about the rollout of smart meters and dynamic tariffs, leaving the former to an incremental advance and the latter to slow opt-in uptake – at best. The big-bang smart meter rollout in Victoria had genuine problems – but its greatest flaw was the failure to follow up the rollout with pricing reforms that would allow consumers to realise savings. Given the regulatory calendar and the need for an evidence base for regulators to take account of, go-slows on smart metering and dynamic tariffs also push back the possibility of making major savings through avoided network investment to at least 2025 and beyond.

In 2012 Ministers also endorsed the AEMC's proposal in the Power of Choice review for a Demand Response Mechanism (DRM) in the National Electricity Market (NEM). This would allow large or aggregated users to sell reductions in demand straight into the wholesale market, rather than through agreements with their retailers. Similar mechanisms are used successfully in many other markets around the world. However, over the past four years development and implementation has slowed and then halted in the face of supplier criticism of the model. It now appears that the DRM will not proceed in the absence of an entirely new proposal and multi-year rule change process.

The status quo on demand response is unacceptable. If jurisdictions are going to accelerate the transformation of the market through injection of more renewable energy, and if they hope to bring network costs under further control in coming years, they need to reinvigorate the demand side agenda. Jurisdictions should speed the deployment of smart meters and introduce opt-out time-of-use tariffs, alongside strong public education campaigns and assistance or exemptions for the most vulnerable consumers. Ministers also need either to

resuscitate the DRM proposal, or urgently develop another mechanism design for the same end: to make it easy and attractive for large volumes of demand to respond during peak and extreme peak price periods.

Storage

While gas generation will help balance the market in the medium term, it looks very likely that energy storage will play a growing role and transform the market in the longer term. Multiple technologies show promise, including pumped hydro and solar thermal, but battery storage may well dominate. Several positive initiatives are under way to explore technical and consumer aspects of integrating batteries into the grid, or develop relatively small projects. These are variously led by forward-thinking network and energy retail businesses, the Australian Renewable Energy Agency, and State governments.

It has become clear that these embryonic and incremental efforts are not enough: SA in particular urgently needs additional sources of dispatchable power to stabilize supply and prices, and the pace of change elsewhere is likely to make batteries essential much sooner than policy makers have previously assumed. SA energy stakeholders are considering all options to reinforce the market. This is a necessary discussion, but there are serious risks either of malinvestment or unsustainable band-aid solutions. Substantial storage projects in SA, whether at grid- commercial- or household-scale, should be a priority given the twin needs for a rapid response for SA and a buildup of experience for the wider market. Meanwhile, efforts should continue as a high priority to develop standards, infrastructure and market rules to facilitate and incentivise the take-up of battery storage and its integration with the market. Electric vehicles may be a large opportunity in this regard, but may also be more complex to integrate.

Interconnections

Interconnections between market regions will be ever more important as variable renewables grow and regional and seasonal variations in generation come to the fore. It is important to consider the case for additional and expanded interconnectors, and we note that SA has commissioned work along these lines. However, it is possible that the existing tests for such investments will not adequately reflect the challenges of market transformation or the impact on inadequate interconnection through extreme price volatility, which both impacts consumers and discourages investment in generation.

Beyond new builds there is a need for better management of existing assets. Energy users are deeply impacted when an interconnector is constrained or unavailable, both through supply security and price events. However, in planning around recent scheduled outages and constraints for the Heywood Interconnector, AEMO does not appear to have taken adequate account of these impacts, and has not communicated with users adequately. While the upgrade work to the interconnector is a high priority, we do not understand the decision to schedule a phase of it for July – when risk factors for a price event were serious. The decision to continue once a price event began was even more unwelcome to energy users. Delaying the work by weeks or a month would undoubtedly have incurred costs, but these would have been much less than those of the price event that ensued. Policies or incentives are needed to ensure that future planned works are scheduled to minimise costs for consumers. With energy users becoming more exposed to wholesale market movements, AEMO also needs to provide more specific and accessible notices of work and events that will impact the market.

Competition

Healthy competition plays a strong role in delivering good outcomes for energy users. The recommendations above would tend to increase competition and lessen the scope for strong players to dominate market segments. Nonetheless, many energy users are deeply concerned at the state of competition in the electricity market, and not just in SA. While they welcome a recent rule change to ensure good faith in late rebidding, the scope of this reform is limited (and its efficacy is yet to be established). Proposals such as the Major Energy Users' 2010 Potential Generator Market Power rule change should be reexamined to see whether the case for them has strengthened.

FCAS providers

FCAS prices in SA are surging to extreme levels because of the risks associated with the current interconnector upgrade work, and because there are very few registered providers of FCAS in SA. SA urgently needs more suppliers, and AEMO should make it a priority to recruit them. Wind, solar, storage and peaking gas plants are capable of providing FCAS services to some degree and over different timescales. The quantity of FCAS required and the terms and processes for acquiring it need urgent re-examination to ensure that SA energy users are not exposed to excessive costs.

Conclusion

The COAG Energy Council has an important opportunity to respond to urgent needs and long term imperatives by building on its existing agenda, biting the bullet on difficult reforms to gas production and demand management, and comprehensively reviewing our electricity system to ensure it meets our future needs. Ai Group and our members will work with you to ensure this opportunity does not slip by.