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*** Check against delivery***

There are two, seemingly contradictory, stories to tell about innovation in energy. To quote from Dickens' *A tale of two cities:* "*It was the best of times, it was the worst of times, it was the age of wisdom, it was the age of foolishness…"*

At the large scale generation level, we have seen substantial retirements in SA and Vic, much of it baseload with properties that help keep the power system stable or secure; and providing a source of hedge contracts which help support investment and manage risks.

However, new generation is entering the market underpinned by schemes such as the RET. And currently, the characteristics of this new generation are different from those associated with the exiting generation; particularly in terms of system stability and hedge contracts.

We are addressing the former.

Our security and reliability work involves the development of markets and other mechanisms to provide a whole suite of services to support the changing mix of generation. This work is being done in close co-operation with the other market bodies to deliver the required regulatory reforms.

But this will not address all of the gaps. The absence of certainty around emissions reduction policy is challenging for investment. This environment has caused Governments to feel increased pressure to step in to underwrite investment in some way, and we have seen recent examples of such action.

The other end of the supply chain tells a different story. The smaller scale generation/distribution end is vibrant, dynamic and multi-dimensional.

The flourishing of diverse energy services and products being offered to, and taken up by, consumers is building an emerging landscape of grid flexibility.

However, a note of caution, the unresolved gaps may threaten the progress being made, and the benefits that consumers may receive.

But my focus for today will be on our market design initiatives to support the smaller scale generation and distribution side. This work continues to deliver a greater focus on consumer outcomes through supporting:

- effective competition;
- efficient investment; and
- transparent price signals.

We can all see the difference in how we engage with services available through our mobile phones compared to when telephony was a copper wire land line service.

In the same way, energy service providers can give interested consumers more opportunities to engage and make choices about the energy services that suit them, i.e., consumers, best.

We are told that our car choices reflect our personality. I would suggest that in the not too distant future, our energy choices will do the same. Energy service providers understand that.

They are targeting their offers to reflect the way we want to access, use, generate and store electricity; and, increasingly how we, as consumers, want to feel about all of this.

Embedded networks offer an interesting case study into the new ways of providing basic energy services. Embedded networks are smaller, private networks within a larger network – traditionally a caravan park or shopping centre.

As a long term resident of Sydney, you'll forgive me for a real estate digression. Many new residential developments are embedded networks.

Increasingly, the marketing emphasis for these developments is less about the number of bedrooms, or Caesar stone kitchen bench tops, and more about the opportunity to be part of a community. The opportunity to choose a sustainable life style with water-recycling and renewable generation on site, sharing power, harnessing energy from the sun, and so on goes the marketing.

Ten years ago, we would not have imagined that a transaction as dry as electricity supply could be used as a key selling feature in real estate. It demonstrates why we design the market rules the way we do – so consumer choice and not the limits of our imaginations drive market development!

Consistent with my own observations, our report released this week on the level of competition in energy retail markets, found that new energy entrepreneurs are offering customers more varied products and better priced deals.

This is forcing traditional retailers to compete not just on price, but with more innovative products and services.

Energy consumers have more choices to manage their energy use and are looking to take up new technology options:

- 20% of consumers now have solar panels
- 21% are likely to adopt battery storage in the next two years
- 18% are likely to take up a home energy management system in the next two years.

And more consumers are more aware of the choices available.

So why would one in five of us say that they are going to make investments in these new technologies? What do they do?

Smart home products allow consumers to bundle products, control appliances remotely and monitor energy production and prices in real time.

New service providers aggregate the distributed energy resources (such as battery storage) from the community to feed back to the grid when it is valued the most.

These new products and services have the potential to help consumers manage their expenditure on energy. This is important at a time when prices are increasing. And Chairman Sims went through some of the causes for those increases earlier.

To quote one helpful article in The Australian on Tuesday morning:

> *"You can save money by reducing energy use. Smart home products by the likes of Telstra and Honeywell let you manage energy use by phone. Using meters that tell you power usage for each appliance can pinpoint where a power drain is"*

These new offerings are possible because of the foundations that have been laid in the energy market rules to enable consumer choice to lead the way.

I'm talking about rules to make it easier to:

- choose and switch retailers;
- access and understand consumption data; and
- receive and respond to price signals.

Rules commencing later this year, providing for competition in the provision of smart meters, will give consumers more information, and opportunities to take control of their energy use.

Smart meters are enablers – in many ways they are like airline points systems. They provide data on consumption patterns. This data can be used by energy service providers to reduce costs, increase efficiency, improve customer services and offer new services and tariffs targeted at specific segments of the market.

For consumers directly smart meters are a stepping stone to realising greater benefits from energy resources like rooftop solar, batteries, electric vehicles, smart energy appliances.

Smart meters will buttress the next big step in the rise of the prosumer.

So, what is our role in this changing landscape? Our job is to manage the regulatory frameworks and keep them up to date in accordance with the objectives set out for us under the law. We want new technologies deployed in a way that maintains reliability, security and affordability. So we can keep the lights on at the lowest possible cost to consumers.

We want to maximise consumer choices but not undermine a network's ability to manage its system. And this is where some interesting regulatory questions arise.

Technology is challenging our traditional notions of what constitutes a monopoly service. The line between what is provided by network businesses, and therefore economically regulated on the one hand, and what is provided by new service providers in contestable markets on the other, is becoming greyer. We are tackling some of these questions as part of rule changes at the moment.

Our Distribution Market Model project is also designed to promote dialogue on these issues by considering a future where investment in, and operation of, distributed energy resources is optimised to the greatest extent possible.

Our starting point is for consumers to get the most value out of their distributed energy resources - whether that's using the resources themselves, or selling them to a third party aggregator.

However, the reality is that distribution networks were not originally configured to deal with distributed energy resources. Most existing, small distributed energy resources have limited capability to provide services to anyone beyond the premises at which they are located.

In addition, there isn't much detailed analysis on the incremental impact for the network of these resources. We need to understand this better. Once understood, addressing the technical impacts of an increased uptake of distributed energy resources is critical for maintaining the safety, security and reliability of the networks.

To do this, market design and regulatory frameworks may need to be modified to provide consumers with clearer signals about the costs and benefits of their decisions, so that those decisions are as efficient as they can be. We are consulting on this at the moment.

And we also have a job in identifying consumers who need support to participate in, and benefit from, the delights of this new world.

In our retail competition review report we have identified a range of measures to support the increased involvement of consumers through information provision and campaigns – to build awareness of things like cost savings, concession schemes, comparison websites and other sources to help consumers choose the offer or product that is right for them.

We have suggested that there be targeted programmes to help vulnerable and disadvantaged consumers to be on the best deal they can. In the past we have recommended a detailed plan for how to do this.

We see that there is more work to do before going down the path of retail price regulation. Our work on the consumer protection issues and solutions associated with embedded networks will be the subject of advice to the COAG Energy Council later this year.

The unifying theme across all this work is that during periods of change and uncertainty, our focus remains on the end consumer.

We recognise that the energy market is transforming.

And as it does so, the non-negotiable end point for the Commission remains to deliver a secure and reliable energy system that keeps prices as low as possible for consumers.

We are working to have this remembered as an age of wisdom.

ENDS.