DEMAND RESPONSE CONFERENCE 2018

REMARKS BY SAL TRINGALI, HEAD OF NETWORK SOLUTIONS
ENERGYAUSTRALIA

ENERGYAUSTRALIA'S ROLE IN DEMAND RESPONSE

[TITLE SLIDE]

Good morning…

I'm Sal Tringali. I'm responsible for EnergyAustralia's Network Solutions; it compromises our embedded networks business and demand response.

[ENERGYAUSTRALIA AT A GLANCE]

EnergyAustralia is the country's third-largest energy retailer.

We are wholly-owned by CLP Group, one of the largest integrated energy businesses in the Asia-Pacific with around 18,000 MW of equity generation capacity and more than 7,500 employees.

In Australia we have around 2.6 million customer accounts; each one representing a family, a business or a large commercial or industrial operation.

We have a proud track record of bringing electricity and gas to market for our customers and our generation portfolio has a little bit of everything:

- We own and operate the 1400-MW Yallourn power station in the Latrobe Valley. It supplies around a fifth of Victoria's energy demand.
- Our Mount Piper power station here in NSW has the capacity to meet the energy needs of more than 1.1 million homes.
- We have nearly completed our $1.5 billion program to underpin 500 MW from new wind and solar energy projects in eastern Australia.
- We're assessing the feasibility of innovative clean energy projects, including pumped hydro using seawater in South Australia and energy recovery using non-recyclable waste in New South Wales.
- We own and operate the 400-MW Tallawarra gas-fired power station, also in New South Wales, one of the most thermally-efficient plants of its kind in Australia, and
- We own and operate the 200-MW Hallett gas-fired power station in South Australia.

[OUR PURPOSE]

Our heritage dates back decades.

That gives us deep experience in the Australian energy industry and a great platform for leading and accelerating the clean energy transformation – and making it accessible.

At EnergyAustralia we believe Australia's clean energy transformation must be for everyone, not just those that can afford it. It must balance reliability, affordability and lower emissions in a way that everyone in Australia is included.

That's why we're so excited about the potential benefits demand response can deliver to everyday energy consumers.

So today, I've been asked to talk about EnergyAustralia's role in demand response.

I thought I'd take a quick step back and address the problem we're solving for.

[THE ENERGY TRILEMMA]

As I've mentioned, success means delivering reliable, affordable and cleaner supplies of energy for everyone in Australia, no matter where they live or what they earn.

The trilemma.

To the everyday energy consumer, energy must seem awfully and unnecessarily complicated.

- When I flick a switch, I want the power to come on
- I want it to be cheap
- And I want a cleaner energy future.

Finding a balance is difficult; when we prioritise one thing over another, we get the situation we have now: high power prices and, in some states, the lights going out.

The challenge industry, government and consumer groups must solve together, is finding and agreeing on that balance.

If you were in charge, what would you do?

What would you prioritise?

How would you balance the trilemma?

Would you prioritise one over another? Reliability; Affordability; Cleaner energy?

[THE PROBLEM WE'RE SOLVING FOR]

Australia is making its generational transition from large, centralised generation based on coal to a new, modern energy system; one that is underpinned by a cost-effective mix of technologies.

Building new, cleaner generation capacity is just one side of the equation.

Managing demand – reducing strain on the system at peak times – is the other.

Here's why that's so important – the duck curve.

As you can see, the base position to the peak has grown considerably over the past 10 years and is forecast to continue.

The cost of energy during the shoulder periods here (direct on graph) is next to nothing; but in this peak here we need to be providing customers with reliable, affordable energy.

The only way to rapidly respond to demand in this peak period is through fast-start generation. So, coal-fired plants – cheap energy – does not solve this problem. These sites physically can't start fast enough.

The only technologies to contend here, are batteries, hydro or gas; fast start generation. But these are more expensive technologies, creating a net effect and higher prices overall.

Another example; we build and pay for poles and wires networks for their maximum capacity, so they can deliver the energy that's required at peak times.

That means at other times, during the middle of the day, these assets are underutilised.

The flatter the peak, the greater the optimisation of the assets.

So how do you solve for that? How do we make sure there's capacity in the system at peak times, even if those peak times might only be a handful of occasions each year, without increasing costs for customers or adversely impacting lifestyle?

Two things;

1. We move demand to meet supply, and

2. We reward changed behaviour.

Let me give you an example.

Think of the Pacific Highway here in Sydney. Between 5pm – 6.30pm, the highway is gridlocked. But at 2am, there's plenty of room.

So how do we solve for that short period? Do we build an extra lane for the 1.5 hours a day it might be needed, or do we shift the load by incentivising and rewarding drivers for travelling outside the peak times?

Now, most people travel to and from work during peak hour, so it's harder for them to change behaviour. But for energy, does it matter if your washing is done at 2pm in the afternoon or 6pm at night?

Does it matter if your home is cooled before the peak period, if when you get home, your house is at the temperature you want?

If lifestyle is not adversely compromised, that shift in behaviour shouldn't matter.

With the appropriate incentives, we have an opportunity to shift load from peak to shoulder periods.

That's the better solution to optimise the network and infrastructure.

This is where I think it gets interesting and where demand response can influence and reshape the market.

[OPPORTUNITY TO RESHAPE THE MARKET]

We can reshape the market by deciding whether we want these changes in behaviour to be flexible or elastic.

As you know, when something is elastic, you can change its shape, but it will go back to its original form.

When something is flexible, you can change its shape and that object will retain it.

Think about a rubber band – you can mould it into any shape, but it will always go back to its original form, versus a drinking straw for example, which when you bend the top, forms a new shape.

We have a choice; do we want the market to be elastic so that when we have a capacity problem, we can stretch and bend and change behaviour, but we go back to our normal shape?

This approach will solve for critical peak days, it doesn't require any more investment, but it also doesn't optimise what assets we've got.

Or do we try to be flexible and reshape our behaviour and help optimise the market in its entirety, which we believe will deliver a longer-term benefit to the market and customers?

Being flexible will create a flatter curve. Because it's a more consistent approach, it will deliver a more sustainable and longer lasting result.

[SO HOW DO WE MAKE DEMAND RESPONSE A REAL SOLUTION]

So how do we make demand response a real solution?

How do we get our customers to change their behaviour and engage with the market?

The answer is simple. By making demand response a consumer product.

The customer needs to get fair value in exchange for their participation.

In fact, for demand response to be sustainable, everyone in the supply chain needs to understand fair value. The network, the retailer and the customer.

We should learn from past mistakes. Demand response was around in the early 2000s.

Some participants identified value and negotiated a better deal - it was not uncommon for the percentage share of demand response to be part of the negotiation of the Energy Supply Contract, with some customers receiving 90 per cent of the spot price, if they were called upon.

The problem was, with only 10 per cent of value left for the energy traders, they didn't call on the contracts and the customers never benefited.

As a result, the market self-destructed.

So the challenge for the demand response market is understanding fair value, and specifically what's attractive for customers; it's knowing how to send the appropriate signals to the customer to create that flexibility, or at the very least, elasticity.

That's why at EnergyAustralia we are approaching demand response as a consumer product for energy; not an energy product for consumers.

It's a slight, but important nuance.

We shouldn't view demand response as solving for an energy issue, instead it's a consumer product that has value and benefit for the market.

In our view, customers don't want an energy solution – they want a solution for their lifestyle, one that relates to energy.

The challenge for us is how we engage with our customers to help them monetise their assets, while creating that flexibility in the market when we need it.

That's what we're focussing on.

[DEMAND RESPONSE A CONSUMER PRODUCT]

We need to understand the consumer.

To turn demand response into a consumer product, the questions we're answering right now are;

- How do we communicate with our customers?
- How often?
- What does this communication look like?
- How do we reward customers?
- Is it based on kilowatts? My guess is no, because customers don't care about kilowatts.

Over the next three years, our approach to demand response will be governed and driven by our customers.

They will guide us as to how we interact with them; what platforms we should use and how they should be rewarded.

In fact, we recognise the need to be technology agonistic; our customers can bring their own technology - we will accommodate them all.

Consumers don't think when they're making a purchasing decision between an Alexa or Nest; "oh my energy retailer can't accommodate this…".

Instead they think; "I like the shape of this, I look the look of that, I prefer this voice."

We should be able to interact with these technologies and accommodate them accordingly.

Understanding the answers and making demand response a consumer product for energy, is what will make it sustainable and long lasting, and create that flexibility.

[OUR PARTICIPATION IN THE DEMAND RESPONSE TRIAL]

So what is EnergyAustralia doing to develop demand response?

We've secured 38 MW of demand response for this summer as part of ARENA and AEMO's trial; this will increase to 50 MW by the end of this year.

Through the trial, we'll work with a range of customers across New South Wales, South Australia and Victoria, and test a mix of technologies and approaches.

Our focus will start with commercial and industrial customers and over the three years, transition to a residential load profile.

Specifically we'll be trialling;

- A mass market SMS alert campaign in which retail and business customers would agree to reduce or moderate their energy demand in response to a real-time notification that system capacity is tight.
- Installing Wattwatchers monitoring and remote-control capability in residences and small businesses, allowing appliances (such as air-conditioners, pool pumps, machinery or other loads) to be curtailed remotely.
- Converting diesel generators at large customer sites to run on Australian made biofuel, which is derived from ethically sourced feedstock such as recycled cooking oils.
- Working with large customers and energy exchange technology company Greensync on load shifting, so, for example, businesses can schedule pre-cooling and heating activities to times of the day which minimise consumption.
- Aggregating "smart" Redback solar battery storage systems across multiple sites to secure a reliable source of reserve for use during extreme peak periods or emergencies.

Let's consider this last approach in more detail.

Owners of a Redback battery system could be rewarded for the stored energy in their device during peak periods or emergencies; with advance notice and the customer's consent, EnergyAustralia could remotely control the Redback system to either switch the premise to solar and cease drawing from the grid, or discharge excess electricity into the market.

The more customers using the Redback system the greater the potential for group load shifting.

[WHAT HAVE WE DONE SO FAR]

Now demand response is not a new concept for our commercial and industrial customers, but it is for residential consumers.

As I mentioned earlier, we've secured 38 MW of demand capacity for this summer.

And since the trial started on 1 December, we've run one test which saw a successful curtailment from our C&I participants of around 22 MW of capacity.

We were able to use different technology platforms to successfully monitor in real-time the curtailment of one customer, as well as test our retail automation communication platform and load monitor.

And so while it's all very positive and we've started off strongly, we recognise we are at the start of a long and exciting journey with lots to test and lots to learn.

That's why we're so grateful to be a part of ARENA and AEMO's trial; to have these opportunities.

And while we're just starting, we think we have the basics right.

We think building demand response as a consumer product, one which offers customers fair value for their willingness to change behaviour is the right approach.

This will lead to the right outcomes and make demand response a sustainable technology well into the future, part of a new, modern energy system.

[THANK YOU]

Thank you.