ENERGY EFFICIENCY SUMMIT 2022 – LEADERS PANEL

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6 OCTOBER 2022

1:25PM – 2:05PM

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Check against delivery:

Energy prices matter to many of my members. But energy reliability is a business continuity issue for all my members.

The closer you look at our energy reliability outlook the more worrying it is. And action on the demand side can greatly ease that worry.

AEMO's annual electricity outlook this year was an exercise in whiplash.

First, be alarmed! We're headed for a breach of the reliability standard in almost every region of the National Electricity Market this decade – there's not enough supply, given imminent coal retirements.

But second: wait, calm down! If we count *anticipated* new supply projects, that are significantly advanced but don't yet have final regulatory or investment decisions, the reliability problems are pushed back to the end of the decade or beyond.

And finally: no, get alarmed again! Because we might not actually build those anticipated projects in time. Some are controversial, like HumeLink [connects Snowy 2.0, runs through national parks]. Many face delays from regulatory processes and woes with skills and supply chains.

Governments are trying to speed up regulatory processes, but today it remains a gruelling grind to get a new powerline built. There's a good reason for that: customers are going to pay for it more or less forever, so they want to be confident it offers value for money.

So, we are going to have to get our skates on to deliver the supply-side projects that AEMO thinks can save the day.

And the situation could turn out worse than that. This past winter, one quarter of our old coal fleet was out of action at the same time. Stuff broke. Mines flooded. Coal couldn't be sourced or moved.

That could happen again – or worse. The generators aren't getting any younger. The climate isn't getting any more stable.

So, while we move heaven and earth to get new supply side assets built to deal with the coal exits of the 2020s – and the mega-retirements recently announced for the 2030s – we need to move at the same time on the demand side.

Overall electricity demand will get a boost this decade from electrification. But the more we can moderate that boost through energy efficiency, the easier our job on the supply side will be. Upgrading homes, offices and factories across the country will be a big job. But it is light relief compared with the task of persuading regional communities to accept the mega-developments we are also going to need.

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AEMO's latest gas outlook expects gas demand to start significantly exceeding committed and anticipated gas supply from 2030, with risks of brief shortfalls on cold days in the next few winters.

That is actually not so worrying. The job of these forecasts is to point out the limits of existing investment and where new investments are needed.

What's more worrying is the underlying story for how AEMO thinks the gas market balances *this decade*.

Today's Eastern domestic gas demand is about 500 petajoules. If you dig into the projections, they are saying:

- About a fifth of that local demand disappears through efficiency and electrification – the famous 101 petajoules.
- About a third of what remains is met through LNG imports – imports! – 129 petajoules.
- The Narrabri gasfield goes ahead – about 50 petajoules.

The problem is there are question marks over all these things.

- We don't yet have the policies that achieve that level of demand reduction.
- We will have to outbid Europe for any LNG regasification ships and for any gas we bring into them.
- Narrabri is a significant project but it has plenty of opponents and Santos won't take a final investment decision until 2023.

If any of these things don't happen, we will need a lot more of something else to fill the gap.

Forcibly limiting gas exports, not as a one-off emergency measure but year after year, would be controversial to say the least – especially given the economic and security situation confronting our allies and trading partners.

The consequences of not acting would see local prices often rise above export parity. Every winter would be a nailbiter. Gas problems would turn into electricity problems, as we saw this winter. Industry would suffer, and so would everyone else.

To avoid this, of course we will need to work on all our supply options, unappetising as they may be.

But it is very clear that we desperately need to achieve at least the 101 petajoules of demand reduction already built in to Australia's energy forecasts. And the more we can achieve in gas substitution, the easier our supply-side choices will get.

The demand side is just as important as the supply side for gas security.

Will the Gas Heads of Agreement solve gas supply?

Not for long. the Government and exporters feel like 2023 is solved, because the uncontracted gas the exporters would otherwise sell overseas will be available for domestic users willing to pay export parity pricing.

Setting aside how people feel about export parity pricing, we see ongoing worsening of the supply-demand balance through this decade unless there is gas substitution, imports, and more local supply.

Export limits can substitute for those options only partially, temporarily and at a cost to someone.

The Heads of Agreement confirms that up to 157 petajoules of uncontracted gas will be offered to the domestic market. Assume that the exporters' production and contracts hold steady this decade. Redirecting every bit of that locally and permanently would cover only about half the gap if we don't have gas substitution, imports and Narrabri.

Re gas substitution:

Gas substitution is not one-size-fits-all. Gas users are diverse today and the solutions they need are going to be equally diverse.

There's a lot of fans of electrification at this Summit, and frankly we are too.

High temperature heat pumps are a new frontier for Australian industry but they could dramatically change how we supply a lot of industrial heat.

Electric furnaces, industrial microwaves and new forms of electrolysis will be great in different contexts.

But electrification won't be the best answer to everything.

Some processes need extremely high temperatures. Chemical processes need a feedstock. A lot of capital equipment is set up for using methane today.

So, we think there are going to be places for biogas and, increasingly, hydrogen, as well as for electrification.

Biogas has limitations; there's only so much sustainably harvestable biomass, and too many good things to do with it.

Hydrogen takes a lot of electricity to produce and needs capital upgrades to adopt. And it is still expensive in most contexts – though not compared with gas at post-Ukraine prices.

We're prepared to let all solutions compete. But we need a big push to get a lot done!