

# COMMENTARY ON THE 2022 RELIABILITY ASSESSMENT OF THE AEMO Integrated System Plan

James Taylor  
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## The biggest problem hidden from view

AEMO and CSIRO are two of the institutions at the heart of the matter, doing the bidding of politicians, most of whom are totally captured by the catastrophism delusion emanating from the climate change mass movement. Both major parties are affected. Bowen claims that they are having to fix the problems left behind from the Coalition's 9 years in power. He is right of course, but fails to mention that the Labor Party constantly criticised the Coalition for not going fast enough into renewables, which is the principal driver of the mess we now face.

AEMO was comprehensively taken over by the green left with the appointment of American Audrey Zibelman in 2017. Most power systems engineers must have left AEMO because its ISP is totally bereft of any technical competence. This made the way for politicians and activists to become power grid designers, using nothing more than subsidies, regulations and narratives loaded with mistruths.

Zibelman left in 2020 well, before her 5 year term ended, to take a position with Alphabet's X company. This is Google's moonshot company, intended to solve the world's problems. As VP of Project Tapestry according to its website last year, Audrey is tasked to develop the software which will control 100% renewable energy networks. Thousands of solar and wind generators creating wild grid voltage instabilities and intermittency writ large require big brother AI to control both the generators and the customers – think Demand Side Participation (DSP).

DSP has never been properly described to Australians, despite the ISP stating it requires 'social licence' to implement. Instead the technical specs for home equipment such as solar panel inverters were quietly changed a few years ago. The documents make it clear that future home appliances such as air con/heaters, water heaters, pool pumps and EV chargers will also incorporate wifi connections to allow residential energy demands to be shut down in an Orwellian 1984 system of state control.

In case one is doubtful that this is happening, just look at ads for new home solar installations (connected to VPP – Virtual Private Networks), complete with a battery and a wifi enabled inverter, which will allow big brother to disconnect your solar panels from the grid at mid day when tremendous oversupply occurs (goodbye to solar feed-in tariffs, which reduce your energy bill). But when the grid falls into major deficit of supply, it will drain your battery into the grid, shut off your heater/aircon and if your EV is being charged, it will drain that battery as well. As Chris Kenny stated last year, we are being asked to support a robust national grid by not using it. But we are now being conned into meekly accepting an authoritarian system of state control over our own homes.

As Fergis Ellis stated in his article 31 August, "The suggestion that Australians may have to ration out their electricity use was something Mr Bowen believes has always been a recommendation and will continue under this government." So there you have it. No big announcement just a quiet admission

that rationing will be needed.

This bombshell reality will strike most Australians in the coming years once they realise they are trapped into subservience to AI software. Even more alarming is that despite the DSP plans identifying the risk of cyber attack, DSP is going ahead anyway with no concerns evident. Note that China manufactures 60% of all solar inverters, most solar panels and wind turbines, most EVs and most of our home appliances, which will all be internet connected. We are transitioning from a safe, reliable energy system to one which is extremely vulnerable to cyber attacks.

### **AEMO's Integrated System Plan**

The wholesale capture of AEMO by the climate change mass movement is a crowning achievement by activists. An institution for both planning and operating the national grid, AEMO is largely unaccountable due to its complex engineering subject matter, which is incomprehensible to most people inside and outside of government.

Yes, the Coalition set up AEMC, AER and ESB entities to help regulate the NEM. My interactions with them reveal their non-technical staff are capable of neither understanding power systems engineering nor assessing AEMO's ISP. Instead, their legal staff are solely interested in process. 'AEMO publishes its draft ISP for community review, so it must be doing its job properly.' CSIRO has no mandate to assess the ISP.

One might think the energy industry might provide the scepticism needed to ensure a rational outcome. Their initial reservations completely gave way once it became obvious that governments were absolutely committed to establishing an artificial energy market. Joining the illusion allows them to make more money in a system with grossly inflated costs.

Most politicians, likewise, are fully onboard. Public posturing, virtue signaling and intimidation are hallmarks. With some notable exceptions, politicians have no understanding of energy science and technology nor of the economic criticality of the NEM.

Clearly, the only part of society that is able and willing to hold governments to account for energy policy are independent citizens; engineers and scientists with the requisite training and experience. Even then, many are afraid to speak out for fear of retribution, loss of jobs, denigration and even legal repercussions. Many who do speak out are retired professionals.

However, the last year has seen an awakening of interest in energy policy by the media as energy costs rise inexorably and warnings of the inevitable collapse in NEM reliability are heard.

### **Claire's article has touched on several key points.**

The first AEMO claim that Claire mentions, that recent media reports on its ISP have got it wrong, is just plain silly. If only the media was fully informed of the full scope of ISP failings, coverage would be scathing.

The second claim that the ISP is "whole-of-system" is simply ludicrous. Our submissions since Feb 2022 on behalf of 'independent engineers and scientists' have repeatedly hammered home the complete lack

of whole-of-system and whole-of-life grid design information in the ISP. It looks like AEMO staff may have been listening – but their response seems limited to turning it around for use as a catch-phrase.

Their third claim that the ISP demonstrates that new renewables are the lowest cost of electricity generation is equally risible. The ISP contains no costs for anything except installing more transmission lines. Is that 'whole-of-system'? No, the ISP relies on the CSIRO GenCost reports which are heavily criticised by independent engineers, scientists and economists. In fact, the published ISP in June 2022 did not even include a reference to the GenCost report, unlike the draft ISP. Instead, the entire ISP is prefaced with assumptions that net zero is essential, that renewable wind and solar are the lowest cost solutions and introduce no emissions. All these points are completely false.

The fact that the ISP contains no discussion whatsoever of any alternatives other than wind and solar is evidence enough of their single minded obsession with renewable energy.

It should be noted that CSIRO's GenCost reports contain a well hidden disclaimer buried deep inside. They essentially note (around pages 54) that their analysis is limited to examining each form of generation separately without fully modelling the entire system.

Claire has done an excellent bit of sleuthing to identify the omission of distribution network upgrades in ISP reports. The focus is almost entirely on high voltage, long distance transmission lines. But the low voltage distribution networks that deliver power to homes and businesses are ignored. Dr Robert Barr, who has spent a lifetime in power grid design, reckons that distribution network costs are easily of a similar magnitude to transmission line costs in order to move power from home systems into the wider grid system.

### **The ISP is completely deficient**

The submissions of independent engineers and scientists to AEMO, AEMC, AER, ESB, CSIRO, the Energy Minister and others, have pointed out the gross deficiencies of the ISP. The political imperative is to design a power grid that delivers reliable power at reasonable cost and lower emissions to all Australians. The AEMO ISP fails on all three counts, not by a little but massively.

Rafe, the second document you attached is the full report of the group's submission updated to last November. It provides a full examination of the reliability implications of the ISP.

The ISP data was used to construct a simple top-level power budget. Demand data, which was not provided in the ISP, was found on AEMO's website in a spreadsheet labelled draft ISP Demand Data and later confirmed by the August 2022 ESOO report.

This whole-of-system power budget, which inherently assumed all interconnectors are in place, revealed that:

- The planned generation is insufficient to power the grid once coal plants are removed.
- The planned amounts of energy storage are minute compared to what is required to back up renewables. (subsequent analysis of the cost of batteries for large scale grid back of the NEM indicated costs exceeding several trillion dollars and requiring replacement every 10 years.)
- The positive dispatchable generation reserve margin, which has kept our NEM reliable, falls well below zero as soon as 2030.

- The obvious conclusion is that the ISP is designed to create widespread blackouts. Or is completely incompetent. Rationing is inevitable.
- Once full whole-of-life, whole-of-system costs and emissions are properly accounted for in the ISP, it will be obvious that AEMO's ISP is not fit-for-purpose and will be the highest cost alternative with no significant reductions in emissions.

How this situation has been allowed to proceed this far is an astounding failure of political leadership and, quite frankly, common sense.

Furthermore, it is a plan to transition our country from a safe, independent, cost effective and reliable NEM to one that exposes us to almost complete dependency on China for equipment supply and the risk of cyber attack. One cannot imagine a worse outcome.

The competency of AEMO and CSIRO's complicity in this fraud needs urgent investigation. An independent royal commission composed of technical and economic experts is needed to impose accountability. The scale of economic damage already being imposed on all Australians is immense and growing.

NOTE: ANY REFERENCES TO OUR SUBMISSIONS SHOULD REFER TO INDEPENDENT ENGINEERS and SCIENTISTS