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The (expensive) brave new world of 'clean energy'

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The market was working pretty well 20 years ago and is not expected to be much larger by 2030. It involved a capital asset base in terms of transmission at about \$22 billion and for the electricity energy itself, in today's dollars about \$100 billion.

We now have two national plans for the future: Rewiring the Nation, which the ALP took to the last election, and the Australian Energy Market Operator's (AEMO) Integrated System Plan (ISP), which focuses on the

transmission needed to support its view of future production and consumption patterns. Both plans seek to replace coal by renewables on rooftops and through wind and solar farms. By 2030 coal is to be reduced from two-thirds of supply to 21 per cent with wind/solar lifting their share from 25 per cent to an astonishing 78 per cent.

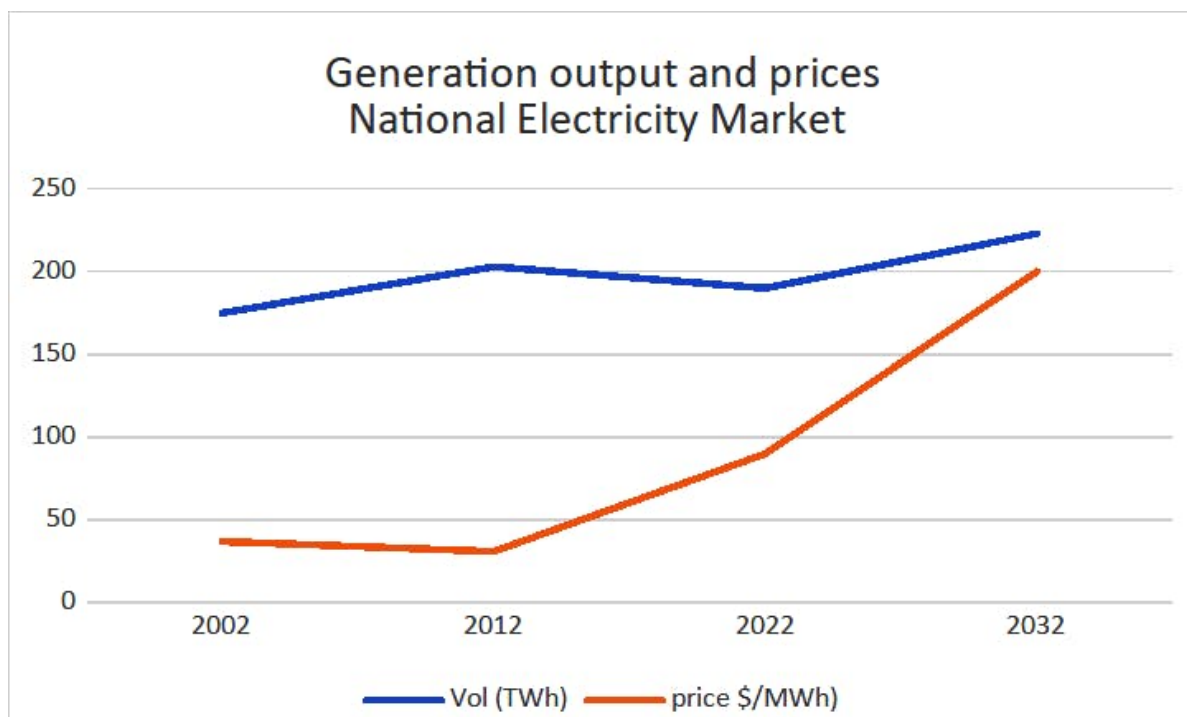
AEMO's Plan was developed by regulators who owe their positions to having views broadly in line with those of the politicians who actually control the market. That said, the ISP had to be adapted to incorporate ministerial demands. These include an insistence on Renewable Energy Zones in New South Wales and Queensland, measures that complicate the viability of other planned transmission lines, and a hostility to using coal and even gas for firming up the unreliable renewables.

Both plans contain implausibilities but there are some critical differences between the two. AEMO does not try to explain these but says:

- 'The Commonwealth Government intends to enable and support delivery of transmission investment needed for this transition with its Rewiring the Nation policy.' But AEMO's rewiring policy involves a cost of \$12.7 billion, while that of the government is costed at \$20 billion in direct taxpayer-funded costs and a further \$58 billion in costs incurred by the private sector.
- 'Governments could further support the transition through a range of potential mechanisms such as changes to the regulatory framework, financial mechanisms to better align benefits with costs and the timing of their imposition, and improved recognition of the impact on landholders and communities hosting the required infrastructure.' AEMO realises its blueprint requires additional, unquantified renewable energy subsidies.

AEMO avoids specifying the total costs involved. But, from an interview with Daniel Westerman, the head of AEMO, the *Australian Financial Review* construed it at \$320 billion (about \$12 billion a year) to 2050. This excludes the cost of the distribution system – 40 per cent of the total costs – which will require massive augmentations if the electric vehicle aspirations are to be met.

The planned new system brings much higher prices. Compared with under \$40 per MWh prior to 2016, spot prices are now running at over \$200 per MWh. That's over twice what any of the experts hired by the regulators predicted. This is the historical and forward picture.



To replace coal, AEMO's scheme requires nine-fold the current grid scale wind/solar and fivefold current rooftop solar capacity. Because renewables operate at only about a quarter of their maximum capacity, rather than 90 per cent in the case of coal, three to four times current generating capacity is required. The new generation involves costs of some \$200 billion.

But there is a need to ‘firm-up’ the renewal capacity because it is not always available and there can be days on end when there is very little sun and no wind. To do this, AEMO envisages installing 47 GW of dispatchable power in the form of battery and pumped hydro plus another 10 GW in gas. Even at AEMO’s estimated costs of \$1.3 million per MW (half that incurred in building recent facilities), this means a total cost well in excess of \$60 billion.

Below, the costs of the current system are compared with those of the ALP and AEMO plans.

Investment cost (\$B)	Current system	ALP Planned	AEMO Planned
Generators	100	200	200
Transmission	22	80	13
Firming	–	60	60
Total	122	340	273

Allowing for inflation, a coal-based system supported by hydro and some gas would offer us prices ex-generator at about \$60 per megawatt hour. Having undermined that system with renewable subsidies, the price has been increased five-fold. Though blame is attributed to the Ukraine War, nobody is any longer talking about us returning to the previous prices. And yet, with Australia’s easily recoverable almost infinite supply of coal this readily achievable.

So, the Brave New World of ‘clean energy’ will involve us paying a capital cost of some \$340 billion (under the ALP plan) or \$273 billion (under AEMO’s plan). These sums compare to the system which they are to replace, which has a cost of some \$120 billion.

The system we are planning will, even if everything goes right, deliver electricity to the local network at about four times the cost of the coal-based system it is to replace. And hand-in-hand with this is a reduced level of reliability and a planned higher level of disconnections.

In addition, there are many hidden costs associated with the planned new system. Among these is the infringements of property rights involved in the new transmission lines – rights that will be fought over in the courts. There is also a considerable, not yet identified, costs of disposing the toxic waste rich waste of decommissioned windmills and solar farms.

Maybe the crunch will come with the higher costs these plans involve. On current prices, people can expect their electricity bills to double this year. This is already happening in Europe and, together with other costs that higher energy prices entail, has led to considerable industrial relations unease. But, as in Europe, Australian governments will blame ‘legacy’ coal plants and foreign wars – anything rather than admit current outcomes stem from their own meddling, which has undermined the previously low-cost reliable electricity supply that provided cheap power for households and industry alike.

The soap opera that was the demise of Boris Johnson has little apparent bearing on the UK government’s climate policies. Other than one outsider, Steven Baker, none of the front-running aspirants for the job have been vocal in questioning ‘Net Zero’, and the otherwise highly capable Sajid Javid pioneered the goal. The outcome of these policies in lower living standards and a consequent wave of industrial unrest is however a key reason behind the dissatisfaction with Boris Johnson.

This is even more evident in the **Netherlands**, a small country that is the world’s fifth largest food exporter. In pursuit of ‘Net Zero’, the Dutch Government foreshadowed a closure of a third of its agriculture with high

cost increases imposed on the rest. Farmers and other workers have blocked ports and borders – the protests have also involved spraying manure on public service offices and even the seizure of a military jet. Needless to say, the Paris-based **International Energy Agency** has heaped praise on the Netherlands's 'notable progress on its transition to a carbon-neutral economy'. This will not stop the government from falling.