

Labor's 'renewables are cheapest' lie exploded

Prime Minister Anthony Albanese and Energy Minister Chris Bowen's mantra that "firmed renewables" are the cheapest pathway to a so-called net-zero greenhouse gas economy, and that the alternative zero-emissions technology, nuclear, is the most expensive, is based upon blatantly deceptive modelling that hides the overall costs of the former and exaggerates those of the latter. Independent analysis by physicist and data analyst Aidan Morrison shows that the annual "GenCost" report produced by national science agency the Commonwealth Scientific and Industrial Research Organisation's (CSIRO) and gas and electricity systems overseer the Australian Energy Market Operator (AEMO), to which Bowen habitually refers as proof that "renewables" are cheapest *at present*, in fact projects that they will *eventually become cheapest after 2030*; and it does so by writing off the enormous upfront expense of all the major projects which must be completed before then as "sunk costs". For current "full system costs", the CSIRO passes the buck to the AEMO's Integrated System Plan (ISP). That report, however, does not properly account for the full cost of renewables either, and does not examine the costs of nuclear at all. It would seem that in energy as in so many other policy areas, at best Labor is simply not up to the job, and at worst is deliberately deceiving the Australian public.

The 24
January
*Australian
Financial
Review*
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Renewables are not 'the cheapest', Mr Bowen! A Chris Bowen tweet from 11 July 2022.

Albanese were "hiding behind the cost argument" to conceal their ideological opposition to nuclear power, "Mr Bowen said the latest CSIRO GenCost report showed nuclear energy was by far the most expensive form of energy in Australia. 'Even if Australia started working on a nuclear energy industry now, it wouldn't be operational by the end of the decade, with nothing to help reduce energy costs for Australian households and businesses in the meantime', he said. 'The same GenCost report shows *firmed renewables, with transmission and storage, are the cheapest form of energy, and getting cheaper every day*. That's why the Albanese government has made huge investments in renewable energy, like Marinus Link in Tasmania and VNI West Link in Victoria. These projects will open up Australia's renewable energy capacity ... while putting downward pressure on power prices.'" (Emphasis added.)

There is no ambiguity here: Firmed renewables, *with transmission and storage*, "are" the cheapest, Bowen says. In the present tense, meaning now, today. But not only does the 2022-23 GenCost report say no such thing, in fact it explicitly excludes the costs of all "transmission and storage" infrastructure that has yet been built, or will be in the next 17 years. As the report's lead author, CSIRO Chief Energy Economist Paul Graham, acknowledged in a 29 July letter to the editor of the *Australian* newspaper: "LCOE [the levelised cost of electricity] is a simple metric [used in the report] for non-modellers to understand the relative costs of energy from different generation technologies. The method essentially calculates the cost per MWh [megawatt-hour] that would have to be recovered for a new electricity generation investment to break even *if it were to take place in a given year such as 2030*. The report does not provide the cumulative cost of all investments up to 2030.... All existing generation, storage and transmission capacity up to 2030 is treated as sunk costs since they are not relevant to new-build costs in that year." (Emphasis added.)

Again, there is no ambiguity here. If Bowen is not simply lying outright, then he has either not read, or perhaps has read but not understood, the report on whose basis he peddles falsehoods to the people of Australia.

Designed to deceive?

Arguing in favour of the latter, is that the GenCost report seems tailored to bamboozle. In its executive summary— mayhap the only part of such a document that Bowen would bother to read, however crucial a complete understanding of its subject matter might be to his portfolio responsibilities— the report states that "The LCOE is estimated on a common basis for all technologies. However, an additional process is undertaken to calculate the integration costs of variable renewables. The required amount of additional investment depends on the amount or share of variable renewable energy (VRE) generated. ... When added to variable renewable generation costs and compared to other technology options, these estimates indicate that onshore wind and solar PV remain the lowest cost new-build technologies." The blunt admission that all investments that have

been and will be needed up to 2030 have been dismissed as “sunk costs” and not factored in, however, is buried in a footnote on the 85th of the report’s 97 pages.

What makes this so misleading, Aidan Morrison explains in an [analysis published 23 July](#) at economist Dr Cameron Murray’s “Fresh Economic Thinking” blog, is that integration costs per MWh of renewables over the course of the “transition” are nowhere near as constant or uniform as the GenCost report seemingly seeks to imply. “The supporting infrastructure comes in big, lumpy projects, highly specific to the geography and meteorology of a grid”, Morrison wrote. And by 2030, by which time we are supposed to have surpassed 50 per cent renewables, almost all such projects will need already to have been built. “We can see this on page 52 of the report, which describes their ‘Business As Usual’ scenario, i.e. all the projects which are specifically *excluded* from the incremental costs of integrating new solar and wind”, Morrison noted (emphasis in original). “It’s packed full of mega-projects, massive storage, transmission, and firming generation capacity”. The list includes the Snowy 2.0 pumped-hydro scheme, “initially priced at \$2 billion, that now looks like it [might reach \\$10 billion](#)”; and the similarly sized “[Battery of the Nation](#)” pumped-hydro scheme planned for Tasmania. At present the latter exists only as a “concept study” with no official price tag, but “It’ll be billions. You’ll need both hands”, wrote Morrison. Also included, he continued, are “‘various transmission expansion projects already flagged by the ISP process to be necessary before 2030’. So VNI West, Marinus Link, HumeLink, Sydney Ring... I’m losing count of the billions...”. And not to forget the “peaking” gas plants at Kurri-Kurri and Illawarra, costing roughly \$1 billion between them; and approximately 16 gigawatt-hours of storage (presumably batteries), which at current prices would cost almost \$16 billion, and at least \$8 billion in the best-case scenario.

Morrison asked rhetorically, “So what on earth did they actually include when assessing the cost of supporting infrastructure? Basically, not the mega-projects. Just some tiny, constant amount of transmission within and between existing Renewable Energy Zones, where wind and solar are mostly located, and a minuscule amount of storage.”

Nuclear nobbled

In his above-cited letter to the *Australian*, the CSIRO’s Graham justified GenCost’s “sunk cost” deception with the claim that it “the cumulative cost of all investments up to 2030 ... is addressed in a separate project called the Integrated System Plan of which GenCost is one of many inputs.” But it isn’t. As Morrison wrote in response, in a 2 August [Twitter thread](#): “there isn’t a single number giving a dollar price per MWh in the entire document. At any stage.” Instead, the ISP includes a so-called “market benefit analysis” comparing the costs of the government’s chosen “transition” pathway based on onshore wind and solar (without disclosing the actual figures or how they are calculated) with a hypothetical “counterfactual” alternative comprising offshore wind, by far the most expensive renewable power source; and carbon capture and storage, a technology so impractical and expensive in its current and prospective forms that the government has dumped it as unworkable. Which only proves, as Morrison puts it, that “the transmission [infrastructure] saves money, compared to an even worse path without it”. No kidding! “What ISP definitely, clearly, *does not do*”, he continues (emphasis in original), “is run multiple counterfactuals that actually contrast the full system costs of alternative technology pathways”, such as transitioning from coal to gas, or—most importantly—from coal and/or gas to nuclear.

In a 7 August [statement](#) objecting to Morrison’s and others’ criticisms of the ISP (none of which it actually refutes), the AEMO said nuclear had been omitted because it “does not model technologies that are not allowable under existing laws”, and passed the buck back to GenCost, which it claimed “shows that nuclear generation is higher cost and has a longer lead time than renewables backed by storage and transmission”. But again, this is only the case because the “sunk cost” deception hides most of the true cost of renewables, while nuclear is saddled with its full (and apparently arbitrarily high) assumed capital cost from 2030 onwards. “Nuclear SMR [small modular reactor] *current costs* are not reported since there is no prospect of a plant being deployed in Australia before 2030”, it asserts (emphasis added). How then can Bowen proclaim nuclear the most expensive way to generate electricity, when neither of the reports he cites have fairly compared even its hypothetical future cost with that of his preferred “renewables”; and their respective *current* costs, not at all?

In the real world, once all the relevant factors included in the equation, nuclear is actually the cheapest source of energy. A [study](#) published in June 2021 by a group of engineers, scientists and economists at the University of Queensland showed that estimates of the total investment needed to replace current generation capacity by 2050 are “in the order of \$150 billion, varying from \$75 to \$350 billion, regardless of the configuration of the generation-transmission-storage system”. But contrary to Bowen et al.’s assertions, “A well-delivered SMR fleet of 20 GW [gigawatts] ... would leverage existing physical capital such as sites and network assets, securing the system at the *lower end of the range of total system costs*” (emphasis added). And it would do so for a minimum, depending on reactor type, of between 60 and 80 years, while windmills and solar panels need tearing down and replacing every 15-20.

Belatedly, after dithering on nuclear for almost a decade in government, the Liberal Party has at last begun to recognise these facts, with Opposition Leader Peter Dutton in a 7 July speech to the Institute of Public Affairs nominating the recently decommissioned Liddell Power Station, in the Hunter Valley in New South Wales, as one such potential SMR site. Corroborating the UQ report, Opposition Energy

Spokesman Ted O'Brien MP noted in a column for the 9 August Australian that "According to a September 2022 study for the US Department of Energy, using infrastructure of an existing coal plant can reduce a nuclear plant's capital costs by up to 35 per cent.

"It's not just about the economics, however, but also the environment", O'Brien wrote. "Replacing just one of Australia's 50 coal generators with nuclear would remove around 1.6 million tonnes of CO₂ annually, equivalent to the emissions created by nearly 900,000 cars running on petrol"— and all without making energy more expensive or less reliable as wind and solar have done, here and around the world, nor bulldozing more bushland or chopping up native birds.

The question Bowen needs to answer, as Dutton identified in his speech cited above, is this: If nuclear is so economically inferior to renewables, why are "more than 50 countries exploring or investing in SMRs"? One of which, as O'Brien points out, is the United States, whose coal-rich state of Wyoming is in the process of switching over to locally developed thorium-fuelled molten salt reactors (T-MSRs), the first of which is planned to come online in 2030. The UQ report bases its modelling on a pressurised-water SMR designed by US company NuScale, which has secured US regulatory approval and is currently gearing up for mass production in collaboration with South Korean heavy industrial manufacturer Doosan; the first power station utilising them, in the state of Idaho, is planned to commence operations in 2029.

So much for the ISP's assertion that there is "no prospect" of SMRs being deployed by 2030. But in fact, there is no need to wait that long—provided, that is, we could get over certain geopolitical hangups. China connected its first SMR, a high-temperature, liquid helium-cooled "pebble bed" reactor (which cannot melt down and requires no water for cooling), to its power grid last August, and mass production is due to commence within the next few years. Russia's first "floating nuclear power plant", comprising two 35 megawatt SMRs mounted in a 144 metre-long ship displacing 21,560 tonnes, began commercial operations in 2020, and it is now taking orders for exports; and its first land-based SMR complex, with reactors adapted from a proven design used to power icebreakers, commenced construction in April this year.

By Richard Bardon, Australian Alert Service, 16 August 2023