

In this newsletter, we examine twenty renewables' costs that need to be considered when making financial comparisons between renewables and nuclear. These cost effect energy bills, add to household costs, and energy incentives that taxpayers eventually need to repay through higher taxes. Critically do these costs create a pathway to a less productive Australia?



Figure 1 – Sources of renewable energy costs to households and taxpayers

Renewable electricity - 20 things that cost households money



Our electricity bills only address one of many issues that contribute to the cost of energy. Government expenditure on energy systems, subsidies, loans, other incentives, together with household costs for renewables, batteries and household conversions from gas to electric appliances all add to cost of our energy transition. Together, they need to be considered in terms of their overall impact on the Australian economy, interest rates, exchange rates and debt. Here are 20 renewable energy items, that may cause a renewables cost blowout.

1. Energy bills – a promised \$275 reduction in electricity bills has changed into a 37% increase, and as a result Australian’s pay some of the highest electricity prices in the world. This has been attributed to the premature closure of baseload coal power stations, and the higher cost of renewable generation and transmission systems [1].
2. Solar panels – the cost of solar panel installations varies depending on panel capacity, the number of panels, the quality of the solar panels, roof mounting issues, the installation of wiring, inverters and other components, and grid or battery connections. The following chart Figure 2 shows prices for a range of solar system capacities, for instance a 10kW solar system costs between \$8,000 and \$20,000 Solar Quotes, October 2024 [2].



Figure 2 – Solar System Sizes and Costs in Australia Oct 2025 [2]

3. Solar panel rebates – some of these costs are refunded through solar rebates or subsidized through government zero interest loans. None of these rebates and loans are free, they all need to be eventually repaid by Australian taxpayers [3].
4. Solar panel cleaning, maintenance and repairs - Solar panels need to be maintained regularly and replaced in 10 to 20 years. Eventual replacement will be a huge cost to some 5 million households across Australia, and there is no indication of whether this will be subsidized in the future. These costs are born by households [4].

5. Household batteries – solar battery prices vary depending on the supplier and the battery capacity. For instance, in Figure 3 the 10kW SolarEdge costs \$13,400, refer to Solar Quotes, October 2024 [5]

Battery System	Capacity	Approx. Installed Cost [October 2024]	Cost per kWh	Warranty
BYD*	13.8 kWh	\$12,200	\$880	10yrs, 60%
Tesla Powerwall 2	13.5 kWh	\$15,500	\$1,150	10yrs, 70%
Sungrow*	12.8 kWh	\$11,400	\$890	10yrs, 60%
SolarEdge*	10 kWh	\$13,400	\$1,340	10yrs, 70%
Enphase	5 kWh	\$10,300	\$2,060	15yrs, 60%
Jinko*	6.9 kWh	\$9,800	\$1,420	10yrs, 60%

Figure 3 – Solar Battery Costs in Australia Oct 2025 [5]

6. Household battery rebates – some of these costs are refunded through battery rebates or subsidized through government zero interest loans. None of these rebates and loans are free, they all need to be eventually repaid by Australian taxpayers [6].
7. Electricity to gas conversions to households – this involves replacing stoves, hot water systems, heating and the removal of gas pipework. Then the cost of upgrading switchboards, wiring and new stoves, hot water systems, heat pumps and reverse cycle air-conditioning. These are paid for by home owners [7].
8. Electricity to gas conversion rebates – rebates are provided on a state-by-state basis to cover some of the costs of converting a house or apartment from gas to all electric. These rebates using government funds need to be repaid by us through our taxes [8].
9. EV charging and other conversion rebates – incentives are provided at a state level for some states where there are both EV purchase rebates and EV home charging station rebates. Again these rebates from government are an added cost to taxpayers [9].
10. Gas to electric conversion of public buildings – the conversion of local, state and federally owned buildings, includes schools and hospitals. In this case the conversion from gas to electrical wiring and appliances is paid for by taxpayers through council rates, together with state and federal taxes. This is being rolled out separately for all levels of government, an example can be found for the ACT in their project electrification program [10].
11. Land acquisition for transmission lines is managed separately by each state and territory, and is planned to involve 10,000km of transmission lines, for the 100% renewables pathway. An example of a land easement for transmission towers and power lines is shown in Figure 4. [11]

Development exclusion zones

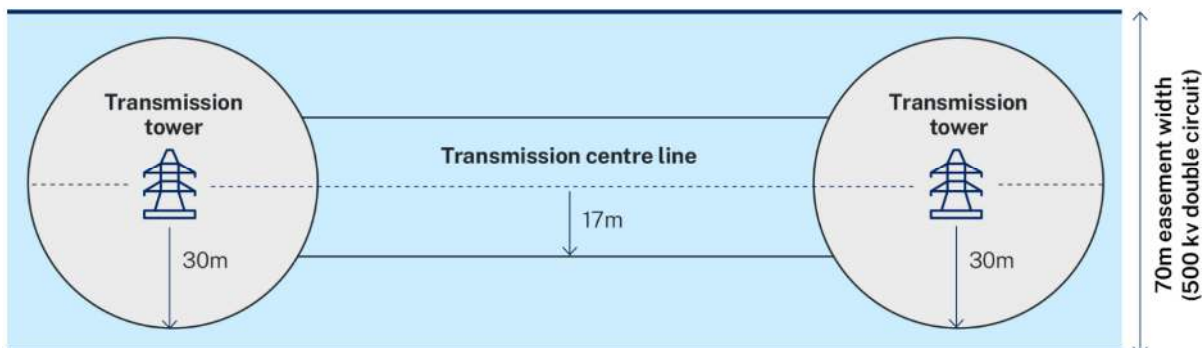


Figure 4 – NSW transmission line easement that requires land acquisition [11]

12. Compensation to nearby landowners – in addition to the costs for sighting transmission towers and for paying for easements as outlined above, funds are also being allocated to nearby owners, whose property views, and land values have been adversely affected by new transmission lines. Again, this is another government cost [12].
13. Road and port infrastructure are having to be modified to accommodate Over Size, Over Mass (OSOM) transportation requirements for wind turbine blades. This involves building larger port facilities, road widening, increasing road load capacities, and realigning roads and intersections to accommodate vehicle turning limits. All of this is at a substantial cost to governments and an eventual cost burden to taxpayers [13].
14. Transmission line contracts involve substantial risks from changes to costs of materials and labour, to delays in getting approvals from government, local landowners and working through indigenous land rights issues. The Government have a \$20 billion re-wiring the nation fund, that is helping to finance already distressed projects. This is of course being funded by taxpayers [14].
15. Energy generator payments through the Capacity Investment Scheme (CIS) are derived using a Contract for Difference model, in which the Government underwrites the risk associated with no wind for instance by having to pay the operator at a lower a floor price. There are two problems for the government, firstly if there is a delay to connections due to delayed transmission line projects, the government must compensate the operator. In addition, if the wind farm is poorly sited and doesn't generate enough electricity, the government still needs to compensate the operator for a minimum amount. Capacity factors may be well below what was assumed in the CIS, which represents a significant government and taxpayer risk [15].

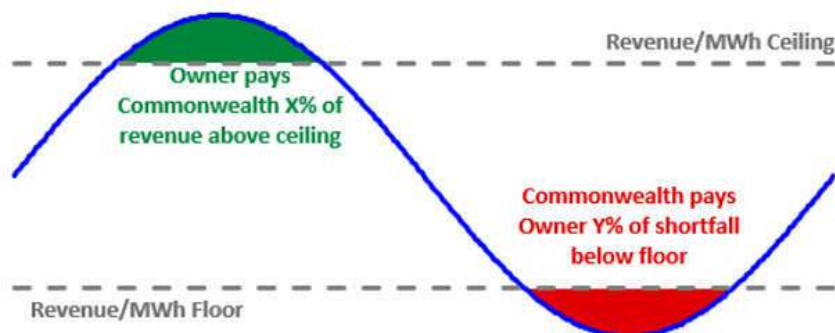


Figure 5 – Energy Generator Pricing Mechanism [15]

16. Renewables subsidies and zero interest loans - Australian taxpayers and electricity customers have paid more than \$29 billion in subsidies to producers of renewable electricity through federal government schemes [16].
17. Community batteries – Australian Renewable Energy Agency (ARENA) is administering \$171 million of grants for community batteries through two rounds. Round 1 conditionally approved \$143 million to support up to 370 batteries across Australia. ARENA then launched Round 2 of at least \$28 million in late 2024. This is at a cost to Australian taxpayers and may only benefit households in a limited number of locations [17].
18. The Clean Energy Finance Corporation (CEFC) made a new asset finance commitment with backing for a \$300 million co-finance program with National Australia Bank (NAB). Manufacturers, businesses and farmers can apply for discounted loans to help them invest in processes targeted at Australia reaching net-zero by 2050 [18]
19. Hydrogen Headstart program – The Australian Government is investing \$4 billion in the program, providing funds to support large-scale renewable hydrogen projects, through competitive hydrogen production contracts [19].
20. Administration costs of all the energy initiatives at 3 levels of government is difficult to comprehend as it effects so many areas of government including: energy, construction, roads, transportation, social housing, government buildings, indigenous affairs, environmental and land management. The size of the public sector has exploded, but no information is available regarding staffing and resources allocated to renewables transition projects, including the ones outlined above [20].

This list is not exhaustive, there are likely to be other hidden costs associated with land acquisition, access road construction and maintenance, environmental rehabilitation, discarding obsolete generation, transmission and distribution systems, and subsidies to upgrade distribution networks to accommodate electric vehicle charging.

What is most concerning is we don't know what the overall cost will be, and the impacts of all these renewables projects and incentives for Australian households and tax payers.

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