Good morning,

AEMO ISP Draft 2026 is guilty of leaving out many cost items using “sunk costs” in a similar vein to CSIRO Gencost and by using a 7% discount rate, the total cost of the transition to VRE/RE to 82% by 2030 and Net Zero by 2050 is underestimated. What follows are more realistic figures without a political bias and is pointing out the many cost items which were ignored in the Draft:

VRE/RE energy capital cost calculation by 2030/2050 with present capital costs and using ISP 2026 figures, Copilot figures and remarks by authors Midrange and Peter666 from site Whirlpool (Economics of the Transition):

Pumped Storage: SH 2.0, 2.2GW/240GWh, $12bn so far and rising, existing PH taken as sunk cost,

Existing Hydro: Copilot 7.8GW, AEMO estimate of $2bn/GW, 16bn, sorry, not dropping it as sunk costs,

LS Batteries from Midrange: “We only need 16GW/50GWh batteries coz by 2030 we still have 9 – 14GW of 24/7 coal (Copilot 8 – 12GW), anything 24/7 reduces storage needs. ARENA recent projects: $0.64bn/GWh ➔ 50GWh x 0.64 = $32bn.

My Kwinana battery figure, 500MW for $1.6bn, 16GW == $51bn. Midrange prefers GWhrs.

Peter’s figures: Broken Hill 50MW/50MWh (Copilot) @ $41m or $41bn (!) for 50GWh, Used Midrange’s $32bn by 2030.

New Grid: AEMO mentions 6,000km by 2050 = 1,200km by 2030? AEMO $2 - $5/km, estimate 1,200km x $3.5m/km or $4.2bn. BUT

Copilot: “Australia needs 850km by 2030, Hume Link 360km $4bn, Marinus 250km > $5bn, VNI West 240km $7.6bn - $11.4bn with a combined investment now exceeding $17bn.” Used $17bn in total.

ISP On-Shore Wind: 35GW @ $2bn/GW = $70bn. Confirmed via MacIntyre cost.

ISP LS Solar: ARENA cost $1.39/GW, Copilot $1.2bn - $1.5bn, used ARENA cost for 55GW == $76bn. Costs will approach $1bn/GW.

Gas Firming: 16GW by 2030, Kurri Kurri $1bn for 750MW = $21bn. We already have 11.5G, so the needed $4.5GW will cost $6bn.

Private PV Cost: Four million PV roof tops @ $4,000 = $16bn, upped that figure from $3k as earlier installation would have been much more expensive. Peter confirms 3.76m installs @ 35.6GW.

Private PV STCs: Four million private PVs @ $3,000 like mine = $12bn.

LS STCs – total cost is unknown.

Compensations to landowners for the new grid, battery/PV/mill fields. Papers mention figures like $50,000 offered to get access for survey, $10,000/km compensation for grid, one state offers lump sums, other state offers yearly payments - totals unknown to 2030/2050.

On-going federal and state subsidies, cost-of-living adjustments partly due to higher power prices, ARENA grants ($35m to Forrest), cost of industry curtailments – total unknown.

Capacity Investment Scheme (CIS) and National Reconstruction Fund – totals unknown.

Due to slow uptake of PV, wind, new grid and batteries, coal must be kept running leading to an indirect cost of the transition to VRE/RE for, e.g., Eraring at $240M/year for the next two years or $480M – other totals are unknown.

Total present capital cost to achieve 65% VRE/RE (82% - 27% private PV) by 2030 comes to >> $257bn. Page 14 of ISP 2024 states a present value of $138bn. Interesting, as the 35GW wind @ $70bn and 55GW of PV @ $76bn in present cost alone make $146bn?

By 2030 we need to get rid of another 10GW of coal from the original 20-22GW, so that by 2035-2038 we have little coal left. If the replacement of 10GW of coal costs >>$257bn, getting rid of 20/22GW of old coal may cost ~~>>$500bn, which is just the same as the AEMO 2050 model cost.

Adding in the $250bn Administration cost plus the $80bn Environmental cost given in the Draft, we are looking at ~~>>$830bn in the present capital and operating costs of the transition by 2050.

BTW, WITH 8 – 12 GW (Copilot) OF COAL OPERATING IN 2030, ARE YOU SURE IT GIVES 83% VRE?”