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[Wallaroo Solar Farm | Planning Portal - Department of Planning and Environment \(nsw.gov.au\)](http://www.planningportal.nsw.gov.au/major-projects)

From: saveoursurroundings@outlook.com

Dear Nestor Tsambos, Contact Planner

SOS objects to SSD-9261283 Wallaroo Solar and BESS Works

Please refer on the online DPE portal to such projects as this by their official description of "xxx Electricity Generating Works" and if they include a BESS then add "with BESS" .

Save Our Surroundings (SOS) objects to the 100MWac Wallaroo Solar works with 45MW/90MWh BESS because it will not achieve its own stated objectives of:

- Generate renewable energy and improve network stability
- Minimise environmental impacts
- Minimise social impacts and maximise social benefits.

In addition, which DPE should be well aware of by now, these claims by the Proponent have been proven to be false, based on actual results from jurisdictions that have substantially introduced renewables into their and our electricity system:

- "... address urgent climate change impacts on our environment and economy."
- "... meaningfully transitions to emissions free electricity."
- "... improve the capacity and security of the electricity grid and placing downward pressure on electricity prices for consumers."

Addressing just the above falsehoods:

1. The solar and BESS works are" renewable" to the extent that they have to be replaced much more frequently compared to the lives of coal-fired, gas-fired and nuclear power plants. The batteries and inverters in the BESS have very short lives of 8 - 12 years.
2. The AEMO has emergency powers it uses to avoid grid instability (e.g. blackouts). It now uses those powers much more frequently now that a substantial part of the NEM capacity is made up of wind and solar electricity generation. The AEMO, AER and others have warned of the serious likelihood of blackouts in 2023-24.
3. What does minimising environmental impacts mean? The planet has been greening as CO2 is plant food, record volumes of crops grown globally year after year, deaths from weather-related events are down to 1% of century ago, cold-related deaths have fallen across the world. Do we really want a project that will contribute to taking away these Australian and global benefits?

4. As table 1 and the land resource graph the Appendix show, renewables are a massive drain on the earth's resources over their yet to be proven operational lifespan when compared to other forms of electricity generation. The increased mining, toxic processing, polluting manufacturing, huge shipping and road transport distances, land clearing, use of steel and concrete, and end-of-life waste generation certainly do not minimise the environmental impacts but will continue to significantly add to them.
5. Renewables are actually dividing communities, city vs country, family members vs family members, neighbour vs neighbour, host land holders vs non-hosts, and members of local communities in disagreement. It is the regions that are carrying the burden of the disruption of the massive proliferating industrial scale projects. Apart from enduring higher electricity costs and more frequent brownouts and blackouts the city dwellers do not have their local environments transformed into unimaginable industrial estates spanning hundreds of km² starting just a couple of kilometres from their towns. It is the specific food producing and bushland regions that get impacted by hundreds of 250 -280 metre high and up to 200m wide wind towers and hundreds of hectares of solar panels, destruction of lakes for pumped hydro, kilometres of new transmissions towers, hectares of industrial battery installations, and all sorts of other infrastructure.
6. At a global level, renewables may, and probably do, facilitate modern slavery, such as artisanal miners , including tens of thousands of children, of cobalt and copper in the DRC for use in a BESS and Uyghur slaves in China involved in solar panel manufacture. This social impact should be eliminated not just "minimised".
7. How much is the social benefit worth to the Proponent? The RET scheme provides subsidies valued at least at the government guaranteed surrender price of \$40/MWh per free certificate. This proposed project could be entitled to over \$10,000,000 every year, regardless as to when it actually generates electricity. In addition, the NSW government has guaranteed a minimum wholesale price for the development. Taxpayers and consumers pay for these benefits. A \$150,000 Community Benefit Fund for some of the people of Yass is a small return on the taxpayers/consumers contribution to the project?
8. While this project will not make any difference to the climate when operational, it will however be the cause of substantial immediate increases in greenhouse emissions, especially CO₂, due to the enormous amount of embedded CO₂ in all the components and materials used and the transport involved. Further increases in CO₂ will result during operations and end of life disposals. CO₂ stays in the atmosphere for 100 years. How much CO₂ will this proposed project have to offset by its claimed CO₂ savings? Some studies suggest a decade or more just for the solar panels.
9. It is unclear how the project will "... improve the capacity ... of the electricity grid." The project would only produce electricity some of the time, about 28% on average over a year. The BESS, which is needed for solar output stabilisation and running air-conditioners to keep the battery packs below 30C, will use 20% more electricity to be charged than it can deliver to the grid for 2 hours. Both the solar panels and the batteries lose efficiency year by year so that total output to the grid will fall even if the amount of sunshine each year is the same, which will not be the case. At best then, the project will deliver about 8 hours of variable electricity (sometimes nil). So the 48,000 homes the Proponent claimed it would supply are left without power on average 16 hours a day. As all wind and solar projects suffer these deficiencies, the Proponent needs to justify their claim, which appears to be

the opposite to actual reality, both overseas and in Australia.

10. It is unclear how the project will "... improve the ... security of the electricity grid."
Renewables, especially solar works with BESS works are weather vulnerable, with several examples in Australia already of solar works being damaged by fire, lightning, heavy rain, wind, hail, and, in addition, component failures and BESS fires. As most of Australia's solar and BESS components are imported from China there is reduced security resulting from potential supply chain disruption, as happened to Europe when Russian gas supplies were cut. As all renewables projects suffer these security deficiencies, the Proponent needs to fully justify their claim, which appears to ignore reality.
11. The iron ore and coal resources going overseas, especially to China from where most of Australia's renewables are imported, provide the Australian economy with hundreds of billions of dollars in royalties each year. However, intermittent and unreliable renewables force up the system cost of Australia's electricity grids. South Australia has the most renewables capacity and biggest BESS, but has the highest electricity price at 36.1cents/kwh of any state or territory in Australia. The Australian Capital Territory boasts that it is 100% renewable energy yet it has the next highest electricity price at 34.5c/KWh. Compare these with the USA 22.6c/KWh, the UK 30.8c/KWh and China and India at about A\$0.125/KWh). Nowhere in the world have countries with over 30% of wind and solar in their electricity generation capacity achieved lower electricity costs for consumers. This project will not place "downward pressure on electricity prices for consumers." but will continue to increase electricity prices to the further detriment of the Australian economy.
12. It is unclear how the project will "... improve the capacity and security of the electricity grid." The project would only produce electricity some of the time, about 28% on average over a year. The BESS, which is needed for solar output stabilisation and running air-conditioners to keep the battery packs below 30C, will use 20% more electricity to be charged than it can deliver to the grid for 2 hours. Both the solar panels and the batteries lose efficiency year by year so that total output to the grid will fall even if the amount of sunshine each year is the same, which will not be the case. At best then, the project will deliver about 8 hours of variable electricity (sometimes nil). So the 48,000 homes the Proponent claimed it would supply are left without power on average 16 hours a day.

Conclusion

The most fundamental claims and justifications by the Proponent of this proposed project are not based on facts and already historic reality. Massive increases in CO2 resulting from the project are ignored. Electricity prices to consumers have not ever reduced when solar and wind works are a significant proportion of a system's installed capacity. A BESS is a net consumer of electricity and therefore creates demand and adds cost to the grid. Not only is the security of our electricity system put at risk, but so is our sovereign security if our energy components supply chains are disrupted.

The proposed solar and BESS works project fails to meet its own justifications for the project and should therefore not be recommended for approval by the DPE.

Yours sincerely

Save Our Surroundings (SOS)

Save Our Surroundings (SOS) and SOS-CW are part of a network of community groups across multiple states that share their experiences about, and research into, industrial wind, solar, BESS and pumped hydro proposed and developed projects and their impacts on affected individuals and regional communities.

Appendix

Table 1. Comparison of 400MW capacity Generation Types

Generator	Land Req't	Capacity	Output	Availability	Tonnes Material	Expected	Energy out/in	Materials Over
Type	Hectares *	Factor %	MWh/year		Requirement	Life yrs	Payback %	80 years MT
Stubbo Solar	1772	25.2	883,008	Daylight Hrs #	74,200##	30	60	218,666###
Industrial Solar (no BESS) ave	1280	25.5	893,520	Daylight Hrs	67,745	25	60	216,784
Rooftop Solar (no batteries)	0	24.5	858,480	Daylight Hrs	13,550	25	>60	43,360
Wind (no BESS) ave	10,160	30.1	1,054,704	Wind dependent	164,212	20	290	656,848
HELE	30	82.3	2,915,328	24hrs/7days	< 108,550	60	3,000	<144,733
CCGT-CCS	146	90	3,153,600	24hrs/7days	< 108,550	25	3,000	NA
Nuclear	169	91.3	3,199,152	24hrs/7days	108,550	80	7,400	108,550

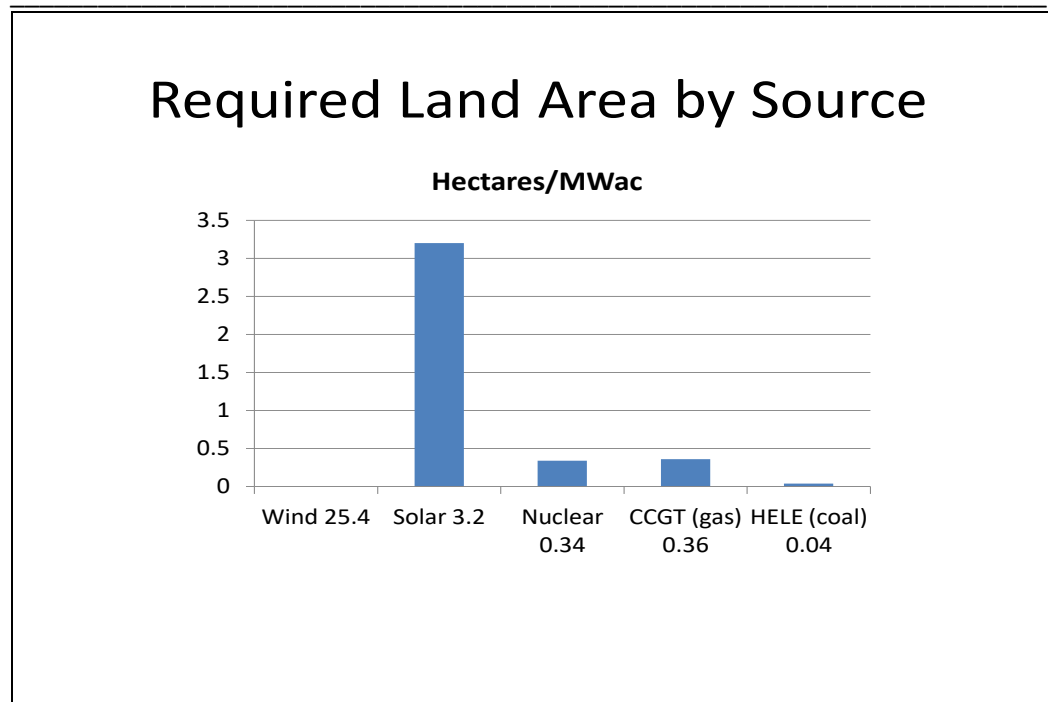
* Ratios used to bring to all types to 400MW capacity level, except nuclear, used 50% for 1000MW plant

plus up to one hour from BESS

Stubbo estimated by SOS: 4,800T batteries, 16,000T (20kg x 800,000) solar panels, 53,400T steel (40kg/m x 5m lengths X 133,500 piles plus 133,500 cross members) but no allowance for concrete, inverters, wiring, etc.

Batteries replaced 7 times, rest of system 2.67 times (80yrs/30 yrs)

[ref: Average hectares based on developers' published figures for Beryl, Gulgong, Stubbo and Wellington solar works; materials from sciencedirect.com "global environmental change Vol 60 Article 102028 table 1"]



Created by SOS: Wind removed as it distorts the relativity of solar to the other sources