

Battery Baloney.

By Viv Forbes

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<http://carbon-sense.com/wp-content/uploads/2017/03/snakes-and-ladders.pdf>

Every day some green energy promoter or a battery salesman tells us how green energy with battery backup will supply Australia's future electricity needs.

A battery stores energy. Energy can be stored using lead-acid, nickel/cadmium, lithium, molten salt, pumped hydro, hydrogen, flywheels, compressed air or some other smart gizmo. But NOT ONE battery produces new energy – they simply store and discharge energy produced by other means. They all deliver less energy than they consume. Moreover, to manufacture, charge, use and dispose of batteries consumes energy and resources.

The idea of producing reliable grid power from intermittent green energy backed up by batteries looks possible in green doodle-diagrams, but would be absurdly inefficient and expensive.

Solar works a Six hour day

Consider a solar panel which is rated to collect say 100 units of energy per day at full capacity, in full mid-day sunlight, with a clean panel, properly aligned to face the sun. No solar energy arrives overnight and only minimal amounts arrive during the three hours after dawn or before dusk. That means that solar energy can only be collected for about 6 hours per day, providing it is not cloudy, raining or snowing. No amount of research or regulation will change this – the solar energy union only works a six-hour day and takes quite a few sickies. So instead of feeding 100 units of energy per day into the grid, at best, the panel supplies just 25 units.

Can the addition of batteries give us 24/7 power from solar?

To deliver 100 units of energy in 24 hours will require an extra 75 units of energy to be collected, stored and delivered by the batteries every sunny day. This will require another three solar units devoted solely to re-charging batteries in just 6 sunny hours.

Cloudy/wet days are what really expose the problems of solar plus batteries. (This is why isolated green power systems must have a diesel generator in the shed.)

To insure against, say, 7 days of cloudy weather would require a solar/battery system capable of collecting and storing 700 units of energy while still delivering 100 units to consumers every day. However if several consecutive weeks of sunny weather then occur, this bloated system is capable of delivering 7 times more power than needed, causing power prices to plunge, driving reliable generators out of business and wasting the life of solar panels producing unwanted electricity.

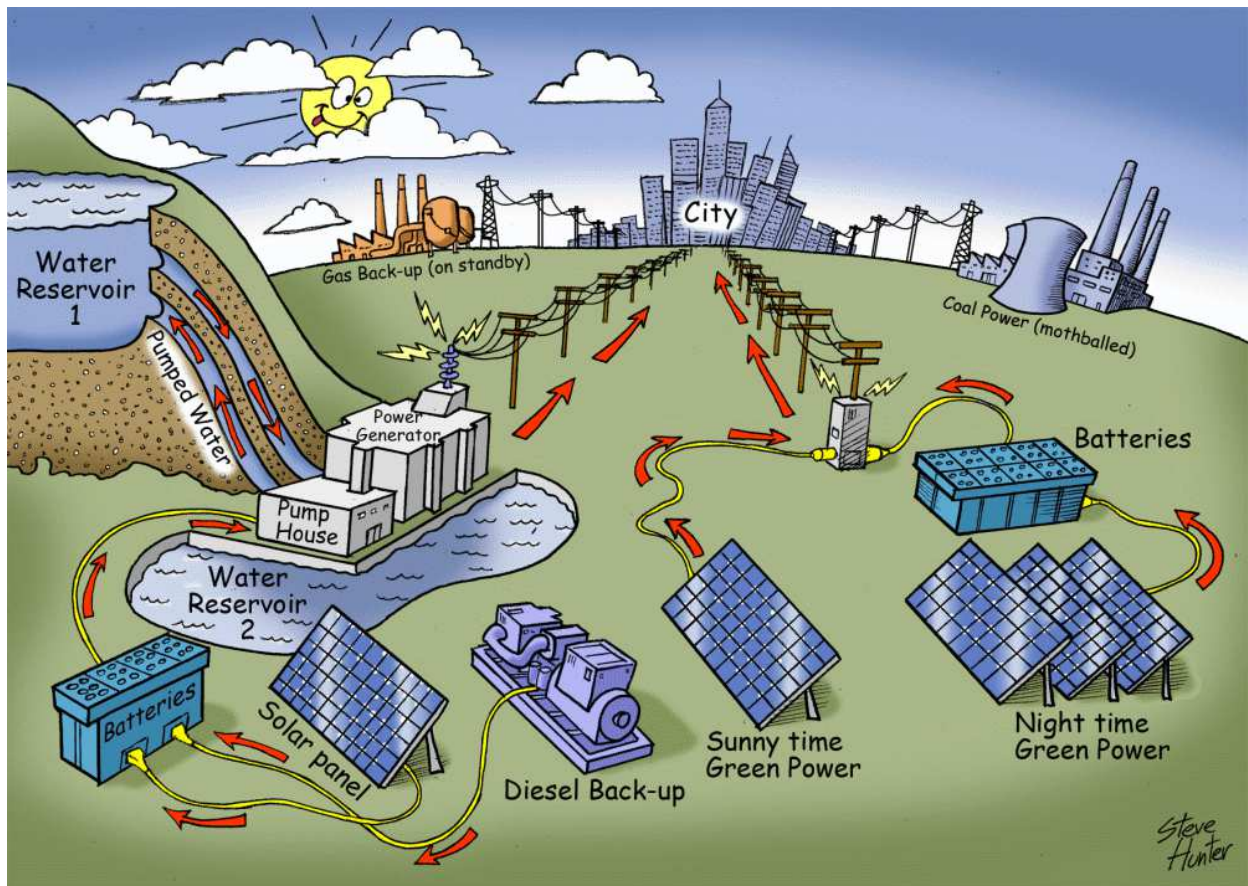
Solar energy obviously does best in sunny equatorial deserts, but that is not where most people live. And the huge Desertec Solar Power Dream for the northern Sahara has failed.

The report card on wind energy is different, but equally depressing.

When Australia had reliable, predictable coal-gas-hydro power in every state, the need for heavy interstate transmission was minimal. But green power will require robust and costly interstate transmission facilities to send large amounts of power at short notice from sunny coal-rich Queensland to cloudy Victoria, windless South Australia or droughted Tasmania.

Playing Snakes and Ladders with Australia's Electricity Supply.

We are told that wind/solar plus pumped water storage will provide adequate grid power. Unfortunately those huge hydro-pumps need steady continuous power – something not provided by intermittent green energy. So are politicians planning to install huge chemical batteries or diesel motors to steadily re-charge the elevated water storages in order to get back less energy than was consumed by the pumps?



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Image credit: www.carbon-sense.com

Both wind and solar are unpredictable, unreliable, intermittent and weather-dependent energy sources. They require large collection areas with a cob-web of access roads and transmission lines. Their output can change suddenly and cannot be managed easily to meet demand fluctuations. They need flexible backup power able to swing in quickly to maintain stability and supply.

Gas provides the easiest back-up for green energy, but gas exploration is banned in many areas of NSW, SAust and the whole of gas-rich Victoria. Canny residents of the green states are now investing in diesel generators.

The Perfect Solar Battery

Mother Earth has already given us the perfect solar battery for long-term storage of energy: it is called “Coal”. Solar power from sunlight is converted by photosynthesis into wood, and thence into coal for high-density long-term solar energy storage. The downside to this system is that it has tied up large quantities of carbon that is therefore unavailable to the natural world. The upside is that releasing the energy from coal also releases life-giving CO₂ back into the biosphere, where it belongs.

Our growing energy crisis was caused by political interference – Australian politicians have not learned last century’s lessons of central planning in the comrade societies.

Robert Gottlieb writing in “The Australian” 21/3/2017 puts it succinctly:

“The looming crisis is much worse than I expected. Three state governments, Victoria, NSW and South Australia, have vandalised our total energy system. The Premiers of each state clearly had no idea what they were doing. . .”

He also wrote:

“My information from the best possible sources is that if Victoria’s Hazelwood power station is shut on April 2, there is a 75% chance of blackouts in NSW and Victoria next summer.”

The best solution would be to cease all government force-feeding of intermittent green energy, get politicians out of the energy business and allow the construction of any gas/coal/nuclear or hydro plants that stack up for energy companies, investors and consumers. This will eliminate all the land-loss, materials and labour involved in building, running and maintaining an unreliable, unpredictable, uneconomic, intermittent and absurdly expensive solar/wind/battery/hydro/diesel monstrosity?”

Intermittent energy with batteries or back-up should be used and paid for by those who find them useful. They should not be subsidised or forced onto power grids or reluctant consumers.

Society has better things to do with community cash than squandering it on massive green energy toys and battery baloney.

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Viv Forbes has formal qualifications in Applied Science and Investment Analysis and long experience at analysing industries and projects.

Further Reading:

Solar Power Realities:

<http://carbon-sense.com/wp-content/uploads/2009/07/solar-realities.pdf>

Japan building 45 coal power plants as “renewables” fail:
<https://www.cfact.org/author/drothbard/>

The 53 year old Hazelwood Coal-fired power station makes more electricity than Australia’s entire wind industry:
<http://joannenova.com.au/2017/03/hazelwood-countdown-53-years-old-and-making-more-electricity-than-australias-entire-wind-industry/>

Hazelwood is vital to Australia’s power supply:
<http://www.newsweekly.com.au/article.php?id=57624>

Australia must Keep Hazelwood Power station open:
<https://www.theguardian.com/australia-news/2017/mar/24/emergency-intervention-urged-to-keep-open-hazelwood-power-plant>

Lifetime audit: offshore wind generation remains uncompetitive with gas and coal which are half the cost:
<https://wattsupwiththat.com/2017/03/22/by-the-numbers-lifetime-performance-of-worlds-first-offshore-wind-farm/>

Desertec Sahara Solar Project Fails:
<http://www.natureasia.com/en/nmiddleeast/article/10.1038/nmiddleeast.2015.4>

Study finds that trying to store green energy in a battery does more environmental harm than good:
<http://www.houstonchronicle.com/business/columnists/tomlinson/article/Study-storing-solar-power-is-a-bad-idea-10900007.php>

Britain needs to come clean on the costs of renewable energy:
<http://us4.campaign-archive2.com/?u=c920274f2a364603849bbb505&id=53b44af288&e=e1638e04a2>