

Submission: Using Solar and Wind to become an "Energy Superpower" will Destroy Rural Communities.

Inquiry into Australia's transition to a green energy superpower

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Introduction

Rural communities derive much of their financial support from 3 prime rural activities: agriculture, mining and tourism. Each of these activities will be negatively impacted by the further growth of solar and wind power. This submission will describe some of these impacts and recommends an effective response which is urgently needed.

Electricity Price

The first negative impact is the projected increase in power prices. This is anticipated to be 50% by the end of 2023. In fact, there is a rather good correlation between grid percent renewables and electricity price, in various countries. For instance, Denmark has the most expensive electricity in Europe. It uses 64% renewables, mostly wind. Finland has the cheapest electricity in Europe, putting a lie to Minister Bowen's claims about nuclear being expensive; Finland's largest source of electricity is nuclear. It also has 31% renewables, but this consists mostly of using forest products as fuel. An Australian example, South Australia, has our highest electricity prices and the highest percent of renewables.

As we head for a world-first 80% renewables, we can be confident prices will keep rising. This will make industrial processes supporting mining and agriculture, increasingly less viable. It will raise the cost of everything and reduce the dollars people have left to spend on tourism. It will make Australia a less attractive investment choice for all these activities. We will be competing in a world where few if any of our competitors will have similarly burdened themselves. That of course shows why our entire trillion dollar effort is completely without value, since it cannot have a measurable effect on climate due to Australia's small proportion of world CO2 output.

Infrastructure Requirement

The next imposition on regions is the massive infrastructure investment required. This is to provide a network to connect the remotely sited generation assets for wind and solar. Yes, jobs will be involved. But this investment and these jobs are already needed to build better roads, improved rail links, more houses and much-needed dams to store the rain that was never going to fall-but just did. Not to mention dealing with the flood damage and the need for relocation of houses that should never have been built in their present location. This network enhancement would be unnecessary if we built power plants using any convention fuel for electricity generation - coal, gas or nuclear.

As we proceed along the journey toward higher renewables, there will be many disruptions to individuals and communities. Who wants high voltage power lines near their house? Or worse, bird- and bat-killing noisy windmills. How many tourist attractions will be damaged by spinning blades intruding into the natural view? These are impositions on lives caused entirely by a determination by 30% of our population (labour voters) who see this transition as useful. Ironically, the proportion of voters for labour and the greens, who promote renewables, is largest in the inner-city areas, whilst the negative impacts are greatest in the regions.

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Clearly this huge misallocation of infrastructure investment directly damages rural communities and their economy.

Land Requirement

Using these natural power sources requires siting at remote locations and uses up large areas of land that might better be used for prime activities. Another detriment to farming not incurred if we use conventional power generation.

Grid Reliability

Hand-in-hand with the massive infrastructure build, goes the inevitability of interruptions to our power supply. Will there be enough, firmed, power 24/7? Based on current UK experience, probably not. In the UK there are warnings to stock up with emergency supplies and use the car radio to listen to emergency information. And one can only guess how the authorities will ration the scarce resource of electricity. Those on a rural block, without electricity, will have no pumped water and no sewerage. If anything is destined to create community anger, it is blackouts while the government makes electricity more expensive. And an especially serious issue if your business involves perishables. This is obviously a direct blow to communities as well as a serious economic impact on small businesses especially tourism.

Environmental Costs

Another huge impact on our regions, is the environmental damage and waste disposal requirements.

First, here is some data about windmills, from the US. (Reference 1)

From US data, an average wind farm contains about 150 turbines. Each wind turbine needs 300 L of a PAO synthetic oil based on crude oil. 45,000L of it for 150 turbines, and that oil needs to be replaced once a year. Not to mention the fact that the large equipment needed to build these wind farms runs on petroleum, as does the equipment required for installation, service, maintenance, and eventual removal. And just exactly how eco-friendly is wind energy anyway?

Each turbine requires a footprint of 3/4 hectares, so a wind farm of 150 turbines needs 112 hectares. All of which has to be clear-cut land because trees create a barrier and turbulence that interferes with the 20mph sustained wind velocity necessary for the turbine to work properly.

Let's now talk about disposal. The lifespan of a modern, top-quality, highly efficient wind turbine is 20 years. After that, what happens to those gigantic fiber composite blades? They cannot be economically reused, refurbished, reduced, repurposed, or recycled. So, it's off to special landfills they go. Those blades are anywhere from 35m to over 60m long, and there are 3 per turbine. And, in the US they are already running out of these special landfill spaces for the used blades that have already exceeded their usefulness. And that's with only 3% to 7% of the nation currently being supplied with wind energy.

In the US, about 500,000 birds are killed each year from wind turbine blade collisions, many of which are endangered hawks, falcons, owls, geese, ducks, and eagles. Apparently, smaller birds are more agile and able to dart and dodge out of the way of the spinning blades, whereas the larger soaring birds aren't so lucky.

Here's another problem with windmills. The generator and switching equipment operate at high power and voltage. Everything in the windmill nacelle is compact due to limited space, so there's a

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danger of arcs and electrical fires. This is prevented by putting all the electrical equipment in a pressure vessel filled with sulfur hexafluoride (SF6), a synthetic gas that has dielectric properties which suppress arcs and fires. However, windmills leak this gas, something around a pound each per year. SF6 has an atmospheric lifetime of 3,200 years and is 22,800 times more effective as a greenhouse gas than carbon dioxide.

Second, let's study the following on solar panels from US data. (Reference 2)

The official line is that panels should last 30 years. In practice, European data suggests 15 years is more realistic. What about recycling? It's not worth the expense. While panels contain small amounts of valuable materials such as silver, they are mostly made of glass, an extremely low-value material. As a result, it costs 10 to 30 times more to recycle than to send panels to the landfill.

The problem is the sheer quantity of the hazardous waste, which far exceeds the waste produced by iPhones, laptops, and other electronics. The volume of waste expected from the solar industry, found a team of Indian researchers in 2020, was far higher than from other electronics.

The totality of these unforeseen costs could crush industry competitiveness. If we plot future US installations according to a logistic growth curve capped at 700 GW by 2050 (NREL's estimated ceiling for the U.S. residential market) alongside the early replacement curve, we see the volume of waste surpassing that of new installations by the year 2031.

But the toxic nature of solar panels makes their environmental impacts worse than just the quantity of waste. Solar panels are delicate and break easily. When they do, they instantly become hazardous, and classified as such, due to their heavy metal contents. Hence, they are classified as hazardous waste. The authors note that this classification carries with it a string of expensive restrictions — hazardous waste can only be transported at designated times and via select routes, etc.

We see there are many hidden environmental costs as well as operating costs associated with the not-very-renewable replacement cycle of solar and wind electricity generation. The key industries will struggle with this burden. Tourism may be particularly damaged as huge waste dumps are created to bury our net zero power waste. And communities will no doubt resent their countryside being further destroyed in the name of saving our planet.

Carbon Credit Farming

In support of the green dream of net zero, Australian farms are being used to build lucrative carbon credits by not grazing animals. Of course, the ultimate effect of these is to make life more expensive. Along the way, according to many reports in South-West Queensland, especially in Paroo Shire, farms are destocked and absentee owners earn a living by allowing nature to take over. Weeds and feral animals are of no concern so neighbouring farms have a hard time. This is government sponsored destruction of both environment and community. Instead of an economy creating value for Australia in the form of farm exports, this economy creates costs for consumers of energy everywhere. No useful product is created.

Summary

This submission has detailed how more expensive, less reliable electricity, missed infrastructure opportunities, environmental damage, waste disposal issues, especially the hazardous waste, and lost productivity and community due to Carbon Credit farming, all take their toll on communities

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both directly and through their damage to the 3 prime economic engines of our regions: agriculture, mining and tourism.

Recommendations

In the light of the negative impacts described above due to the continual increase of the percent of renewables in our electrical grid, and the carbon credits that support it, this submission recommends we immediately cease installation of solar and wind power generation. Remove all relevant subsidies, taxes and preferences. As a matter of urgency, restore maintenance of existing coal fired power stations. Force states like Victoria to allow their gas resources to be accessed and used for power generation. Over the medium future, begin installation of modular nuclear stations especially at grid points where older coal fired stations have been decommissioned. And gradually reduce solar and wind to 20% of our grid, replacing them with modular nuclear power stations as well as coal or gas fired stations.

Net zero as a goal should be replaced by providing economical and reliable energy and food production to prepare us to look after Australians in an increasingly dangerous world. The thousands of bureaucrats and technicians involved in attempting to change our climate by tinkering with our electrical grid should be let free to create goods and services of value to our people.

In parallel, a serious cost-benefit study should be done into the impact on climate of man-made greenhouse gases. The predicted effect of man-made CO₂ on the world's climate should be the subject of a vigorous scientific debate where all sides have a say. The outcome must be a statement of what range of temperatures are predicted for the rest of our century, including probabilities. This should be done outside the authority of the biased IPCC. The failed models of climate which have never made accurate predictions, should be ignored. Once the temperature possibilities are understood, only then can the appropriate response if any, be assigned using rational economics.

References

1. Windmill Facts, 28 March, 2022, Dan Nebert, Physicist
2. Forbes Magazine, June 21, 2021, Michael Shellenberger, Contributor