

ENERGY JUSTICE: Fix Australia's broken NEM.

Get back to basics: the physical reality of the product we all buy.

EXECUTIVE SUMMARY:

- **“Mains power” (electric energy) is an invisible product with accurately measurable/quantifiable physical characteristics, which impact on its merchantability and fitness for purpose. Uncosted CO₂ pollution which threatens the biosphere means that at present NEM's electricity is unfit for purpose. So-called “essential services” which threaten the livelihoods and lives of 7.5 billion people cannot be deemed to be “essential” in a sane world. To decarbonise the NEM and stop the ripoffs, these five measures are feasible and doable, but leadership is in short supply:**
- **Govts must set tariffs:** immediately abolish cheaper electricity sales at night.
- **Govts must force distributors to slash suburban voltages** as low as regulations^[1] presently permit: *“Two hundred and twenty is plenty”*. Smart meter data can help achieve this safely.
- **Don't introduce another new govt-owned #fake retailer** into a broken marketplace where market (economic/commercial) power is being abused by for-profit private monopolists. Just **renationalize the grid** one suburban zone-substation at a time, in easily digestible bites.
- Short of renationalization, an alternate achievable scenario is to **abolish all energy retailers except one, the local distribution company**, with government setting firm price controls for their energy sales, each distribution company to become the sole vendor of electricity in each supply zone (suburb). Periodic price determinations will be based on the actual cost of generation, transmission and distribution. The modest profit margin will be set consistent with the low risk investment in relation to a captive customer base.
- Overseeing the entire Australian electricity industry, COAG members must implement an **immediate and total ban on the use of carbon offsets, “zero net emissions”, “carbon neutrality”, “carbon trading”** in relation to electricity production and consumption because these inventions are unconscionably being used to fudge the physical reality of when and how the dirty electricity is being generated in real-time, each moment of each day, throughout the seasons, year on year. It's greenwash on steroids.

DETAILS:

1. The ACCC won a Federal Court case against the Electricity Supply Association of Australia (ESAA) in 1999. The judge's decision, based on the evidence presented, was that **electricity is a product (i.e. “goods”,** and not a “service” as ESAA had claimed in the court action that they initiated). The product's physical characteristics and fitness for purpose are almost entirely under the control of each local monopolist poles/wires distribution company (*“Distribution Network Service Provider”, DNSP*). After Justice Finn handed down his judgement in 2000, unfortunately the ACCC's pro-neoliberal “competition” bias, aided and abetted by strenuous industry lobbying,

1 AS/NZS 60038-2000 is the applicable Australian standard, allowing a very wide and exploitable LV mains voltage range of 216.2 volts to 253.0 volts, single phase. The same LV range -6% to +10% applies to three phase: approximately 375-400-440 volts.

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meant that the ACCC did not proceed to the *next logical step*, which would be to phase out all so-called “competition” through the natural monopoly supply conduit.

2. So retail competition through privately owned, for-profit DNSPs is an ideologically based fabrication with no basis in the physical reality of electric energy. We have been lied to, brainwashed and deceived by neoliberal ideologues, and now we are paying the price, suffering grossly inflated energy bills as electricity retailers and distributors abuse their market power, in the context of ongoing fragmentation of what used to be an efficient vertically integrated industry under public ownership and control.

3. Recently announced Victorian Greens policy for a not-for-profit electricity retailer seems fraught with technical problems, and complex regulatory issues.

4. A much better solution than yet another fake retailer entering the unreal twilight zone of “competition-within-a-monopoly-market” is to **set mandatory power quality benchmarks that put climate change and emissions reduction as the highest urgent priority**. This is a huge public interest issue which is totally ignored by regulators, governments, and by political parties in receipt of corporate donations and lobbying by vested interests in the stationary energy sector. The *public interest* in fast-tracking emission reductions closely aligns with short-term *consumer interest*, given the demonstrable fact that consistently lowering supply voltage to customers delivers lower power bills, extended appliance lifetimes and lesser quantities of toxic eWaste going to landfill.

5. URGENT ACTION BLUEPRINT: The Australian public desperately needs STEM-literate independent expert voices putting a strong case across the political divides to argue for radical fresh ideas firmly grounded in the physical reality that electricity is a commodity (“goods”):

- **PUBLIC DEMONSTRATION of the efficacy of Conservation Voltage Reduction (CVR):** Govt, having enacted climate emergency powers, will take total control of voltage at one substation such as West Brunswick. Customer voltages at the perimeter of the supply area will be kept at 220 volts 24/7 by dynamic modulation of voltage control equipment at the local suburban zone substation. This will be achieved by monitoring real-time voltage data from customers’ smart meters. Industry has already admitted publicly that this is easy to do.^[2] When the results are in, and published, it is expected we will see at least a 10% saving off energy bills and appliance replacement costs as a direct result of a 9% drop in average voltage in that suburb (245 volts down to 220 volts).
- CVR “all night, every night” will show a significant and sustained reduction in electricity consumption at night: the government’s demonstration project will confirm the results of many other independent CVR studies done worldwide over many decades, and once again provide hard empirical evidence that persistently lowering supply voltage all across Victoria can and will reduce the market share of baseload coal power, and thus meet a key objective of climate emergency legislation/regulations: **fast and deep cuts in Victoria’s CO₂ emissions**.

2 <http://www.ecogeneration.com.au/demand-response-voltage-solution-keeps-the-power-on/> --- which describes using demand management (DM) specifically for rare operational reasons e.g. when a large ageing unreliable coal-fired generator unexpectedly trips offline, or during a heatwave when demand is very high and coal-fired power stations are derated. It is technically easier to routinely use this DM technique, called **Conservation Voltage Reduction (CVR)** to achieve emissions reduction objectives, than what that article proposes; using it during unscheduled generator trips for the (legitimate) operational purpose of minimizing or avoiding rolling blackouts (“load shedding”), by quickly cutting customers’ voltage across a whole zone (suburb) to suddenly drop system demand significantly.

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- **No surprise here:** The sun does not shine at night and the wind speed typically slows quite a lot. These very obvious **day-night cyclical rhythms of renewable energy availability** mean that all across the NEM, electricity consumed at night is significantly dirtier than power consumed in the daytime. So why does the industry persist with cheap tariffs at night, other than to throw a lifeline to dirty old baseload coal-fired power stations? **Cheap off-peak tariffs which encourage more power use at night are utterly perverse in the context of “our eighty percent coal-fired” power grid steaming merrily ahead in the midst of a climate crisis...**
- **TARIFF REFORM is an essential adjunct:** Because NEM's electricity is consistently more carbon intensive at night than by day, government will use climate emergency powers to force energy retailers to immediately eliminate cheap off-peak electricity sales at night, sales which clearly serve to maintain an inflated carbon emissions profile in Victoria, and more widely across the NEM.
- The final important techno-fix is to **admit that we have been conned: carbon neutral accounting is a huge unmitigated #SmokeAndMirrorsTrick** that was put in place by the incumbents, the self-styled “greenhouse mafia” who knew for sure it would delay the death of dirty fossil fuel combustion. They don't want to see their business models prematurely trashed or their “assets” stranded, so they have been fighting and they will keep on fighting to perpetuate these offsets scams. We have become captured too!: we have become totally ensnared at the household level as unwitting participants in these many scams, e.g. (i) subsidised PV installations (the subsidies are funded by renewable energy certificates which are tradeable in the carbon trading market); (ii) once the PVs are installed and generating power in the middle of a sunny day, many householders think “*it's absolutely fine to charge my EV on a windless night because, over time, the electricity I use is “net zero” thanks to me exporting more to the grid each year, than the coal power my EV consumes so voraciously at night.*” This all-too-common rationalisation is why the world's CO₂ emissions continue to rise inexorably when instead they could and should be plummeting. Emissions trading historically was “negotiated” by the US bullying, lying to and brainwashing the other parties at IPCC negotiations because it suited the US's corporate lobbyists.
- We will never keep Planet Earth below the 2 degrees Celsius tipping point if we do not acknowledge that **carbon offsets applied to electricity production and consumption worldwide are a massive US-inspired scam** and that **they must be smashed ASAP**, in favour of real deep and urgent cuts in the actual emissions attributable in real time to coal and petromethane (“natural gas”) combustion..
Ref: [Robbie Watt's PhD thesis on the moral economy of carbon offsets](#) ^[3].

End note: **Low-income renters' power bills are actually inflated by their home-owning neighbour's PVs on sunny days!** It is a known fact that when people install the permitted wattage of solar panels on their roof, and go off to work, barely consuming any power at home while absent, the electric power they feed into the local network inevitably increases the supply voltage in their street by a few volts. So the low-income renters nearby in that street or suburb get inflated power bills as a direct consequence of the solar-enabled home owners nearby. Sunny days 9am to 3pm are the most unfair, but even on cloudy days there will be some effect. That socially divisive effect is yet another good reason why I went off-grid, to not be part of the problem, namely grid-feed PV's demonstrable effect of raising local voltage on sunny days.

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