

What is the **Parish Principle** **?**

The Parish Principle is the reason why intermittent forms of electricity generation, like wind and photovoltaic solar, are **worse than useless** in supporting electricity grids' attempts to reach net zero, except in the rare places on Earth where dam hydro is very, very plentiful.

Wind or solar is worse than useless? Yes, that's right. Although a small amount of intermittent generation can take us a tiny part of the way towards the fossil CO₂ reductions we need to achieve, it makes it more difficult and expensive to get the whole way. So it is actually counterproductive. Here's why....

The grid needs adequate electricity generation all the time, enough to satisfy its consumers' demand. So the shortfall in generation from intermittent generation has to be filled in. At present this is done by burning gas to generate the extra electricity needed. This practice is economically suitable because the gas-burning plant is cheap and the gas fuel is expensive, so the electricity contribution from wind or solar does avoid spending some money on gas and it does reduce CO₂ emissions. But we will obviously never get anywhere near net zero by burning lots of fossil gas. So what can we do instead? Well, the only reliable and affordable low-carbon generation is nuclear, so we could use that to fill in the shortfall, instead of gas, right? The answer is that we could, but doing so

would mean we wouldn't then have any use for the wind or photovoltaic solar generation. Why? Because, exactly the opposite of generation from gas, generation from nuclear has rather expensive plant and very cheap nuclear fuel. Once a nuclear generating plant is operational, no money can be saved nor can any resources be saved by turning down its output. Any nuclear plant that can fill in the gaps left by wind and solar will also always be producing enough electricity **all the time** to completely replace the wind and solar, at no extra cost or penalty. And indeed, nuclear is the only way we can generate grid electricity without impossible expense or devastating CO₂ emissions. So there is no point in having wind or solar generation contributing to the grid, because it costs money and has environmental impact but achieves absolutely nothing. This is the Parish Principle.

Trying to get to net zero using wind or photovoltaic solar to supply the grid instead of using entirely nuclear (or nuclear and dam hydro) is like trying to get to the moon by building a ladder instead of a rocket. It seems to be working well at first, but will never get you all the way to where you need to go. Eventually, you have to acknowledge reality and start again by doing it right. By then, all the money and precious time you have already spent has been wasted.