Addenda #87 – August 2025
Re: Ch. 8, 2050 Net-Zero Emissions; Impossible!!
SDG 7 – Ensure access to affordable, reliable, sustainable and modern energy for all

In Addenda #31 – January 2024, I explained that electricity produced by wind farms is measured in two ways; rated or installed capacity (what all wind turbines are rated to produce at full output) and average capacity factor. According to The Crown Estate Offshore Wind Report 2024, the UK has an installed capacity of 15.9 GW, capable of powering more than half of all UK homes.
GW = 1 gigawatt = 1 billion watts / MW = 1 megawatt = 1 million watts / 15.9 GW = 15,900 MW

But "clean green" wind power is not a *reliable* source of energy; it must be supplemented with reliable energy sources that can be brought online almost instantaneously. The graph below shows the total electricity generated by all of the Uks offshore wind turbines over a 30-day period from July 19 to August 18. Remember, the total installed *capacity* of all offshore wind turbines in the UK is 15.9 GW, or 15,900 MW. On Monday, August 4th at 5 pm, total *output* reached a peak of 11,822 MW or 11.822 GW. This output equals 74% of total installed capacity, so the wind was blowing pretty strongly to produce this much energy. Six days prior to this peak, at 9 am on July 29th, total output was just 412 MW. That's just 3% of installed capacity. Eight days after the peak, at 7 am on August 12, total output was 622 MW, just 4% of installed capacity.
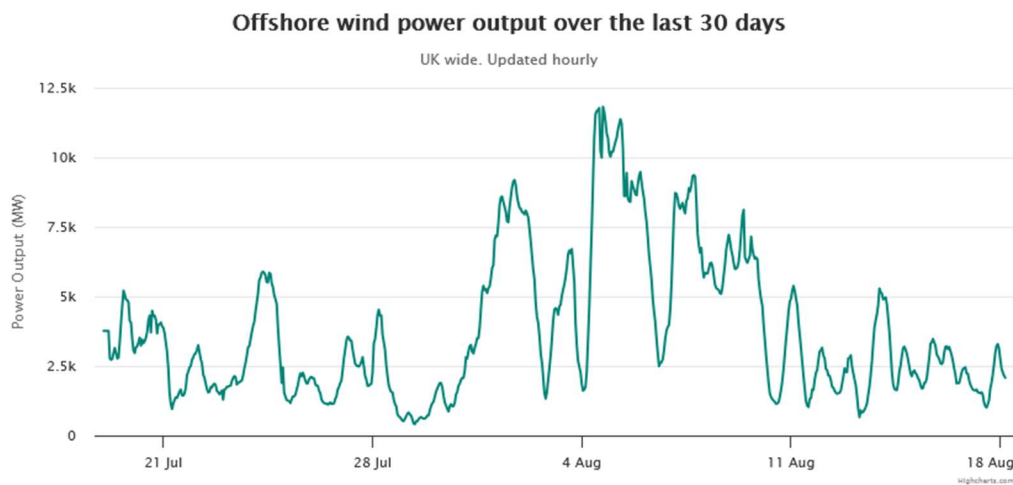
Source:
The Crown Estate
Our business:
 Marine
  Offshore wind

Consider; The installed capacity of all offshore wind turbines is capable of powering "more than half" of all UK homes (lets assume more than half means 52%) The other 48% of homes are powered by fossil fuel sources in this "best case" scenario.

I don't know of any better way to prove that renewable energy is <u>not</u> a <u>reliable</u> power source, and cannot fulfill Sustainable Development Goal #7, *Ensure access to affordable, reliable, sustainable and modern energy for all*, than to look at this graph.