

# Electrical Supply



This has probably been the biggest success story so far in terms of CO<sub>2</sub> emission reductions. The reduction in use of fossil fuels in this area has primarily been achieved by investing in:-

- Offshore & Onshore Wind Turbines
- Solar Farms
- Nuclear
- Biomass
- Hydroelectricity
- Geothermal

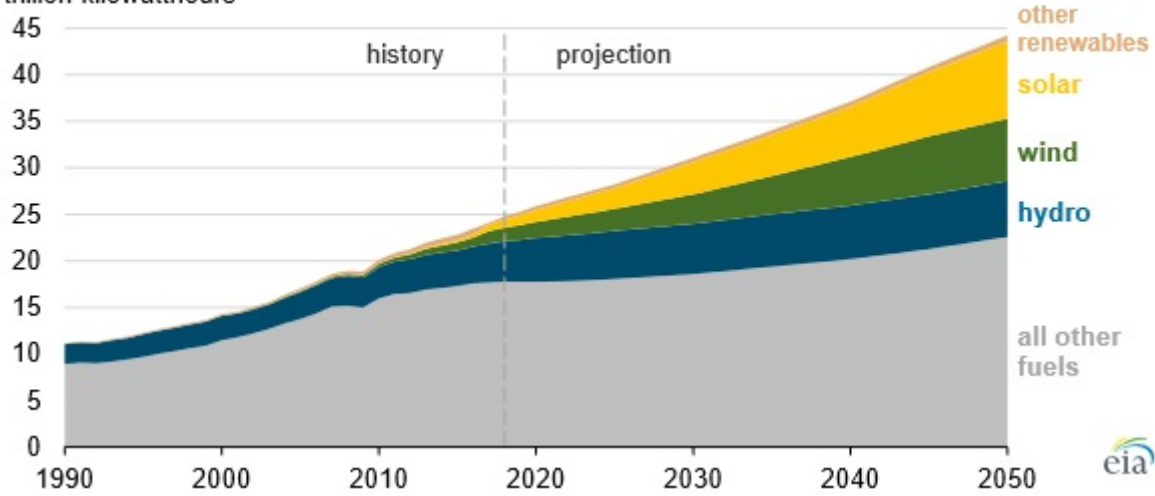
Every country has a different challenge and different solutions here.

The challenge varies dependent on a country's access to renewable resources and its population i.e. it's much easier for a country like New Zealand to move to zero carbon than it would be for the Netherlands

In north western Europe, Onshore Wind has proved to be the most cost-effective solution. In southern Europe, Solar farms are the better option. In Iceland, Geothermal supplies most of their energy.

The use of renewables for electrical supply continues to increase as a percentage, but the pie is getting bigger. We need renewables to start to encroach on fossil fuel energy demand, and not just prevent further increase as is the current situation.

**World net electricity generation, IEO2019 Reference case (1990-2050)**  
trillion kilowatthours



In the UK, onshore Wind has been the standout solution for [electrical power supply but on any given day](#), the mixture of energy sources can vary. Improvements are underway to provide a 'Smart [National Grid](#)' to allow microgenerators e.g. domestic solar to boost renewable use, whereas this extra power often goes to waste currently due to the grid being less able to cope with spikes in supply.