Welcome to Climate Solutions

Summary: Covers the areas where climate solutions are required and explains some of the current challenges that will need to be addressed

International Shipping
0.75-1.5 GtCO$_2$e

Offshore Wind
0.65-3.50 GtCO$_2$e

Dietary Shifts
0.3-1.06 GtCO$_2$e

Domestic Shipping
0.15-0.3 GtCO$_2$e

Mangroves
0.10-0.29 GtCO$_2$e

Aquaculture
0.0-.04 GtCO$_2$e

Salt Marshes
0.05-0.10 GtCO$_2$e

Seaweed Farming
0.05-0.29 GtCO$_2$e

Seagrasses 0.05-0.22 GtCO$_2$e

Ocean Energy
0.11-1.90 GtCO$_2$e

Wild Capture Fisheries
0-0.14 GtCO$_2$e

Seabed Storage of Carbon
0.5-2.0 GtCO$_2$e

Background

The impact of the burning of fossil fuels is very well known by now, and the EU, the UK & China have committed to taking steps to reduce their CO2 emissions to net zero by 2050/60.

In order to meet those goals, new technical solutions will be required.

Surprisingly, the world's use of fossil fuels really took off fairly recently - after the Second World War:-

Global direct primary energy consumption

Direct primary energy consumption does not take account of inefficiencies in fossil fuel production.

Legend (top to bottom): Modern biofuels, Other renewables, Solar, Wind, Hydropower, Nuclear, Gas, Oil, Coal, Traditional biomass

Y-axis: 140,000 TWh, 120,000 TWh, 100,000 TWh, 80,000 TWh, 60,000 TWh, 40,000 TWh, 20,000 TWh, 0 TWh

X-axis: 1800, 1850, 1900, 1950, 2000, 2019

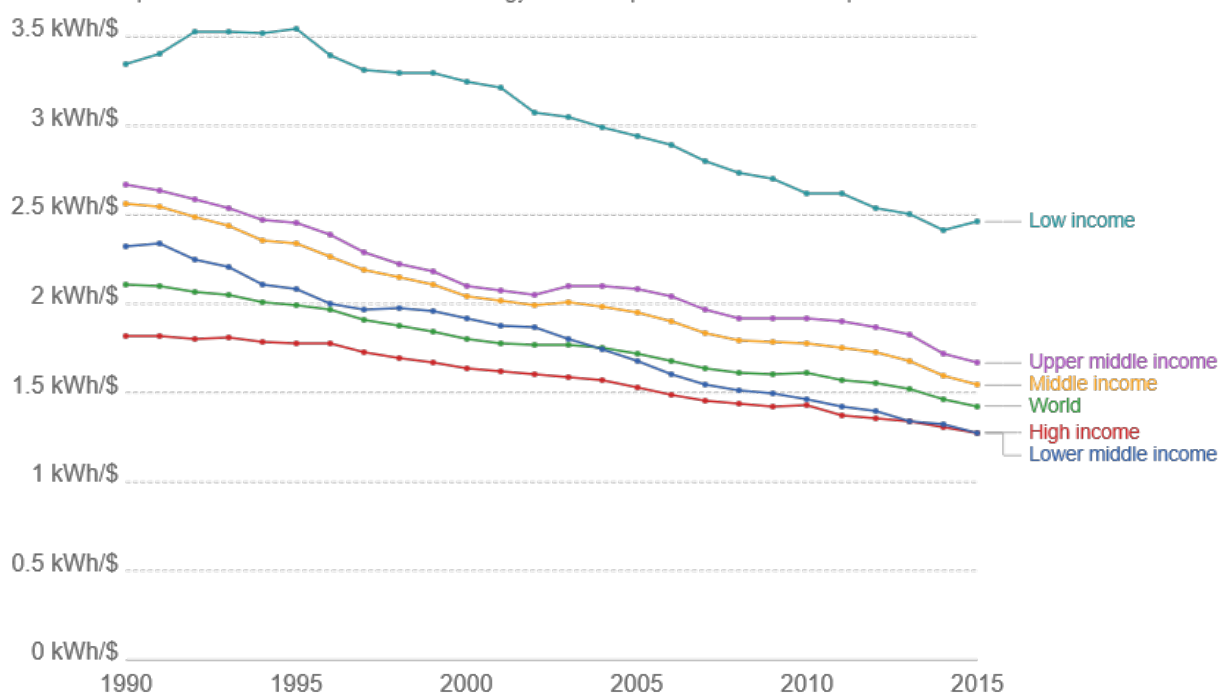Source: Vaclav Smil (2017) and BP Statistical Review of World Energy

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The good news is that the whole world has become much more energy efficient in last 25 to 30 years:-

Energy intensity of economies

Energy intensity level of primary energy is the ratio between energy supply and gross domestic product measured at purchasing power parity. Energy intensity is an indication of how much energy is used to produce one unit of economic output. Lower ratio indicates that less energy is used to produce one unit of output.

Y-axis: 3.5 kWh/$, 3 kWh/$, 2.5 kWh/$, 2 kWh/$, 1.5 kWh/$, 1 kWh/$, 0.5 kWh/$, 0 kWh/$

X-axis: 1990, 1995, 2000, 2005, 2010, 2015

Legend: Low income, Upper middle income, Middle income, World, High income, Lower middle income

Source: World Bank, Sustainable Energy for All (SE4ALL)

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The questions now are:- * [Will fossil fuels ever end?](#) * Can more be achieved? * What's available now? * what will be available in the future and by when.

Rather than focusing on negative stories, this website intends to highlight solutions to get us to a zero carbon future.

In order to achieve zero carbon emissions, the following areas will need to be addressed

- [Heating and cooling of buildings](#)
- [Transport](#)
- [Electrical Power Supply](#)
- [Battery Storage](#)
- [Agriculture](#)
- [Carbon Cleaning](#)
- [Carbon Credits](#)

Click through to see the answers to the questions for each area of UK life

And start off by doing the really [simple solutions](#) that anybody can achieve.