

Global power supply sources and energy injustice

Electricity is not like other energy sources: It enables everything from efficient lighting to lengthen the working day, to the use of complex electrical devices to enable communications and the spreading of information and education.

As a measure of human development, therefore, access to electricity is a far better indicator of human 'technological development' than the use of all other energy sources.

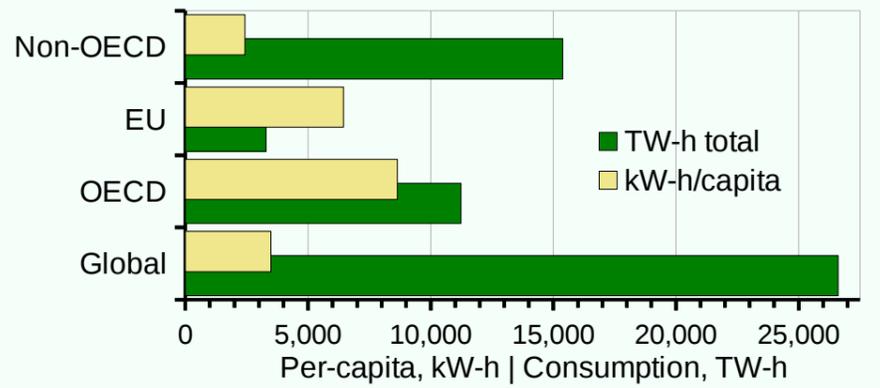
The media and campaign groups in Western states talk about climate change, and of the urgent need to replace fossil fuels with non-fossil alternatives.

In the West especially, the debate over renewable energy is primarily about electricity-producing sources – despite the fact, as shown in the chart below, that only a quarter to a third of the energy the world consumes is in the form of electricity.

The problem with this debate is that it rarely reflects the differences in consumption and development around the world. It assumes that the world can electrify to solve the climate problem – without first examining the resource limitations which restrict the viability of that idea.

In reality, the data gives us a different message.

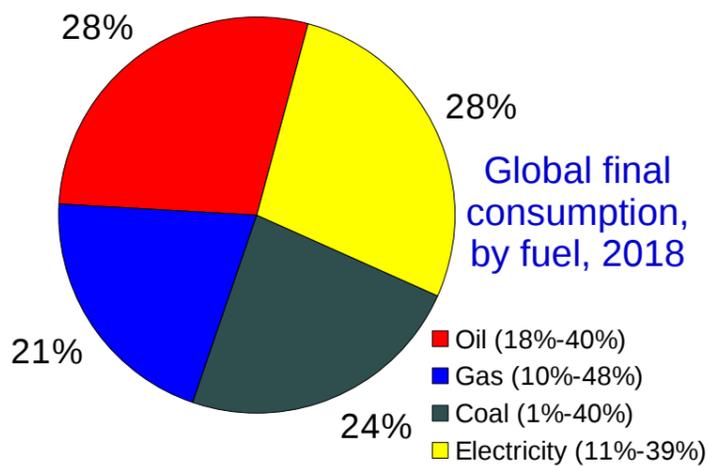
Total versus per-capita power consumption



OECD states: Australia, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Israel, Japan, Italy, Latvia, Luxembourg, Mexico, Netherlands, New Zealand, Norway, Poland, Portugal, Slovakia, Slovenia, South Korea, Spain, Sweden, Switzerland, Turkey, United Kingdom, USA.

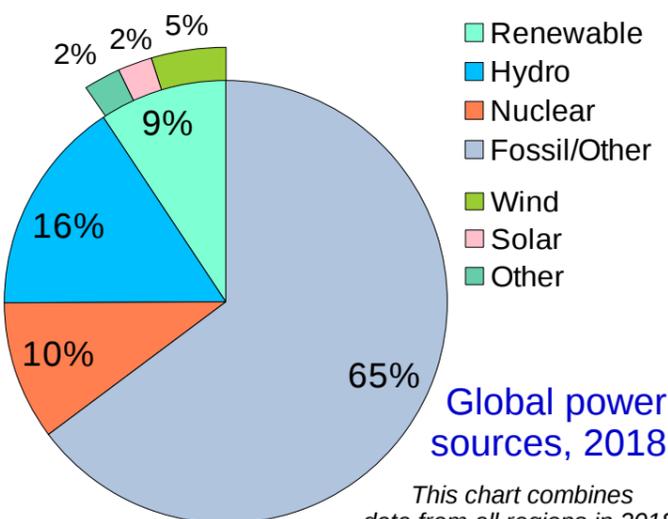
This chart shows power consumption based upon economic regions – both total power, and, divided by population, the power consumption per person in each region.

OECD consumption – the 35 richest nations comprising 17% of the world's population – is less than the other countries of the world combined. However, per person, an average OECD state citizen consumes 3½ times the power of a non-OECD state citizen. By comparison the EU states (7% of world population) consume a quarter less than the OECD average, but still over 2½ times the non-OECD average.



The chart above shows the proportion of electricity within the total world power consumption.

Most electricity is created by burning other fuels – driving engines or steam turbines to produce power. The sources of energy used to create electricity globally are shown below.



This chart combines data from all regions in 2018, shown in the chart on the right

The chart below-right shows how power consumption has grown over the last three decades – by over 150%; but its distribution was not spread evenly across the globe.

As outlined in the box above, the per-capita consumption of electricity around the globe varies widely, with the most developed states consuming the most per-person.

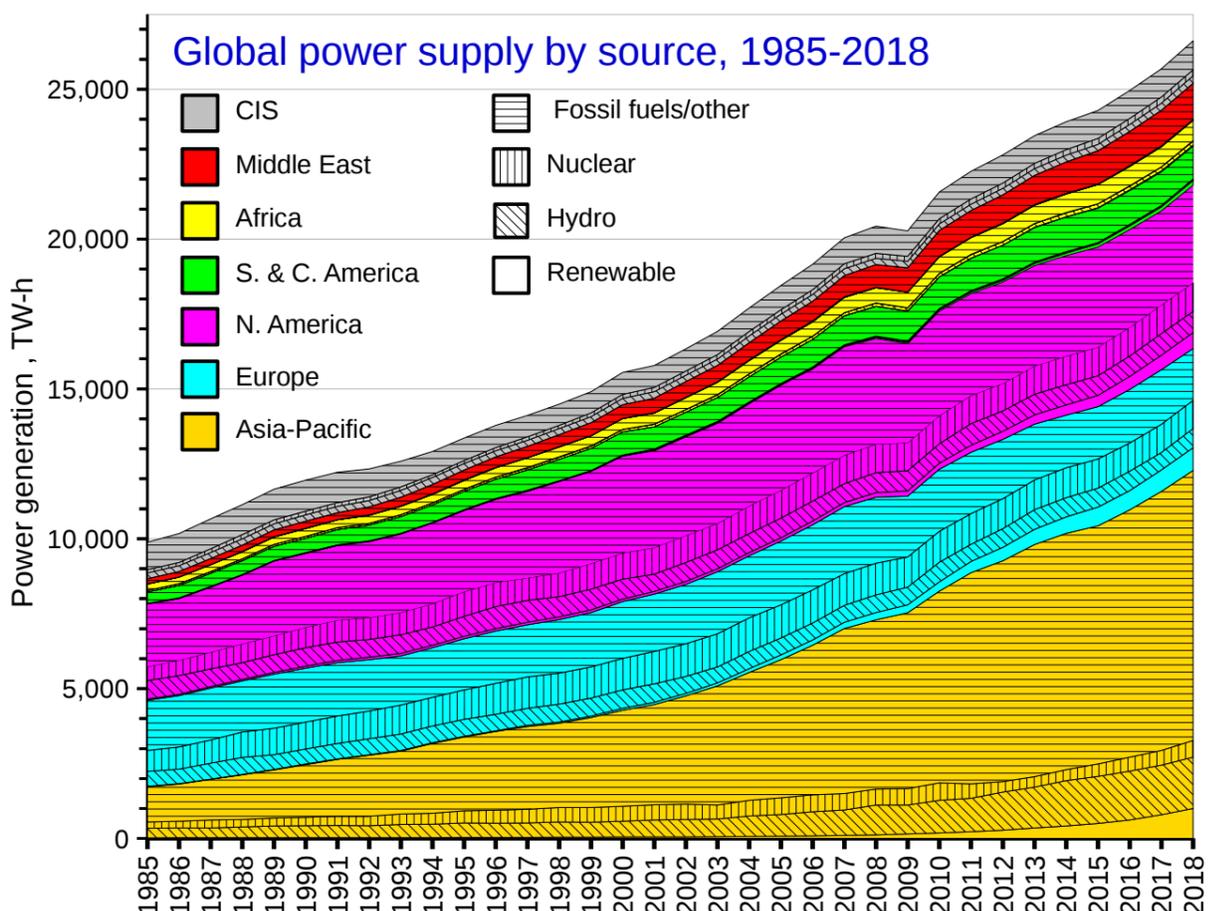
As shown below, most growth was in Asia, while the developed state's consumption has held largely static – the result of the exporting of mass manufacturing from the West to Asia over the last three decades.

It is right to talk of the options to solve climate change. The problem is that ideas such as the 'Green

New Deal' reinforce existing inequalities in global consumption. Worse still, the mineral resources required to produce the renewable technologies for the Green New Deal are located in the poorest states – who, as in the recent Asian industrialisation, will bear the burden of the pollution to produce the minerals required.

Solving climate change with technology is not 'radical'. It entrenches existing global inequalities in order to preserve the affluence of consumers in the most developed states.

What we need instead is a solution 'for the world' – one which begins by cutting the consumption of the most affluent to 'make space' for the poorest to improve their lifestyles.



Source data: All the statistics used in this poster were taken from the BP Statistical Review of World Energy 2019.

Global Power Supply & Injustice (working draft)

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http://www.fraw.org.uk/frn/2019/global_power.html

