Clean Energy

"By 2030, 193 Heads of State and Governments agree to provide universal access to affordable, reliable, sustainable and modern energy for all + to increase substantially the share of renewable energy, double energy efficiency rates, promote investment in clean energy technology and expand energy infrastructure in least-developed countries"

UN Sustainable Development Goal 7

Good News: The UN has seen the number of people with access to electricity rise from 49% of the world's population in 1970 to 89% today.

Bad News: The world's biggest oil companies are set to spend $5 Trillion dollars on seeking new sources of oil – which scientists tell us must stay in the ground if the world is to avoid catastrophic climate change.

Every time there is a power cut, we are reminded of how much our lives are dependent on energy. The dazzling economic growth of the last two centuries has all been powered by oil, coal and gas + the spread of electrical connections. But the use of fossil fuels must decline – 1) because they are finite; 2) because using them causes global heating & climate change. So access to safe, affordable and clean energy is integral to achieving any of these sustainable development goals going forward. and distribute sanitation technology globally. Progress has been made in extending access to fresh water, but water stress is an increasing problem: if wars in the 20th century were fought over land, 21st Century wars will be fought over water.

Balance Sheet

Achievements	Work Left to Do
In 2017, the number of people with access to electricity reached 89% of the global population - the number of people without electricity has fallen to below one billion. (2)	This leaves around 840 million people without this access, mostly in rural areas of developing countries. (2017) As the population continues to grow, so will demand for electricity. (3)
Renewable energies (excluding traditional, inefficient biomass) made up 17.5% of the total energy consumption in 2017. Since 2010, consumption of renewable energy has increased by 18%. (3)	The electricity sector has seen the most growth in renewable energies, but heat and transport make up 80% of all energy use globally, and these have seen much smaller expansions of renewables. (3)
The cost of renewable energies continues to fall. The cost of solar photovoltaic cells has fallen by more than 100-fold since the 1970s, for example. (4)	Although 61% of people have access to safe and clean cooking fuel and equipment, over 3 billion people are reliant on inefficient and environmentally harmful cooking systems such as kerosene. (3)
In 2017, the renewable energy industry employed over 10 million people and recent estimates suggest that up to 18 million more jobs could be created. (1)	In 2015, only 55% of the renewable energy share came from modern forms of renewable energy - i.e. not traditional biofuels.

Achievements	Work Left to Do
Improving existing energy efficiency is making some progress - the annual rate of improvement between 2010 and 2016 was 2.3%, meaning the total energy supply per unit GDP decreased. (2)	The SDG target is a 2.7% improvement, which is yet to be attained. If energy standards were made as efficient as outlined in SDG7, electricity consumption would decrease by 14%. (2)
From 2004 to 2015, there was a 600% increase in global investment in renewable energies. Total expenditure in 2015 was over $280 billion USD and 2.3 million people are now employed in the sector. (4)	However, when investment was expressed as a percentage of each country's GDP, most countries invested less than 1% of total GDP into renewables. The US invested only 0.2% of its GDP, despite being one of the largest absolute contributors. (4)
California has passed a law to phase out gasoline-powered cars by 2045; the UK and France have legislated to do this by 2040. Many cities have promised to do it sooner.	So far, these are just empty promises. Trump has vowed to over-rule the California promise. In 2009, the G-20 promised to phase out fossil fuel subsidies: in 2019, it was found that G-20 coal subsidies have tripled.
$18 billion USD to support developing countries' renewable energy supplies. Wind, geothermal and solar energy all saw substantial increases in funding commitments. (3)	Fossil fuel subsidies were found by the International Monetary Fund to be over $4 trillion USD globally in 2015 - these are an incentive to continue making use of polluting and unsustainable energy. Subsidies need to be shifted towards renewable energies instead. (5)

Sources

1. UNDP - SDG7
2. SDGs Knowledge Platform - Goal 7
3. SDGs Report 2019 - Section 7
4. Our World in Data - Renewable Energy
5. IMF Working Paper - Global Fossil Fuel Subsidies
6. The 2030 Agenda

Points to Ponder

- At what point should governments criminalise the use of fossil fuels (oil, coal and natural gas)? If production and consumption of these energy sources is a clear and present danger to the planet's survival (which they are – through climate change) – surely governments' responsibility to protect their citizens, born and un-born, require that they take steps to criminalize individuals and companies that produce, or consume, fossil fuel products?
- What would it take for you / your family – to stop taking holiday (- or business) flights? To bury your car(s) six feet under? To live a zero carbon life-style?
- How can governments- and politics-as-usual legislate to stop oil companies investing trillions of dollars in prospecting for oil and gas that they can never use if we are to prevent catastrophic climate change – when those companies have the biggest political lobbying budgets of all companies?
- How can we the people stop governments subsidising the fossil fuel companies with trillions of dollars – when that money should be being used on investments in green energy? (Governments give $5.2 trillion dollars in fossil fuel subsidies; Source: IMF)

Take Action

- Check out – and promote – the UN's Sustainable Energy for All initiative;
- Pester your family to use busses and trains – and get an electric car
- Get a smart meter – and reduce your family's gas and electricity use;
- Install solar panels – and start generating your own sustainable FREE energy.