

#REenergise

RENEWABLE ENERGY FAST FACTS FOR COP21

(Source: IRENA's *REthinking Energy 2015* report www.irena.org/rethinking - unless cited otherwise)

The energy sector accounts for more than two thirds of global greenhouse gas emissions. As such, energy must be our priority in bringing down CO₂ emissions.

- Countries accounting for **90%** of global CO₂ emissions have submitted their climate plans (INDCs) in advance of the Paris negotiations later this year.
- There is a gap (15-17 gigatonnes) between what countries have promised to do, and the emissions reductions needed to peak emissions by 2020 and stay on the 2° C trajectory. Even if all INDCs are fully implemented, the temperature will rise roughly **2.7°C** by the end of the century.
- Renewable energy and energy efficiency are the most effective way to close that gap for **two reasons**:
 - Renewable energy can deliver **half** of all emission reductions needed to keep temperature rise below 2°C. Energy efficiency measures can deliver the rest.
 - Renewables and efficiency are the **only** technologies that can be deployed fast enough and at sufficient scale to close this gap in time.

A world powered by renewable energy is not only possible, it is inevitable.

- Renewable power capacity has accounted for **more than half** of capacity additions in the global power sector since 2011. (Source: *REN21 Global Status Report*)
- Renewable energy already accounts for **more than 22%** of total global electricity generation – reducing total power sector emissions by **20%**.
- Many countries are already well on their way to meeting “100% renewables” objectives, as are a number of leading businesses. They are doing this because renewable energy is not only good for the climate, it's good for communities, it's good for the economy, it's good for job creation and it's good for business.
 - In just the last three years, the world added more than **100 gigawatts** of new renewable energy capacity every year – a number equivalent to the total installed generation capacity of Brazil. (Source: *REN21 Global Status Report*)
 - **164 countries** now have RE targets, up from 43 countries in 2005 (Source: *IRENA – Renewable Energy Target Setting report*)
 - As of October 2015, **133 countries** have expressed support for the long-term goal of decarbonisation, net zero emissions, or carbon neutrality. (Source: *Track 0*)

Renewables are now – not in some utopian future, but today – the most affordable source of power in many parts of the world, a trend that will continue to grow.

(Source: IRENA's *Renewable Power Generation Costs in 2014* report)

- Solar PV module costs have fallen as much as **80%** since 2009.
- Wind turbine prices have fallen by almost **a third** since 2009.

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- Residential solar PV systems are now as much as **65%** cheaper than in 2008.
- Onshore wind is now one of the most competitive sources of electricity available with some projects now delivering electricity for as little as **US 4 cents/kWh**
- Biomass, geothermal, hydropower and onshore wind are all competitive or cheaper in comparison with coal, oil and gas-fired power stations, even without financial support and despite falling oil prices.

Renewable energy technologies are creating more jobs on average than fossil fuel technologies and are therefore beneficial for society and the economy.

- **7.7 million** people work in the renewable energy sector (excluding large hydro), an 18% increase from the previous year. If a share of 36% renewable energy is achieved, employment levels could exceed **24 million** jobs by 2030.
- Solar PV creates **more than twice** the number of jobs per unit of electricity than coal or natural gas. China employs more than 3.4 million people in its renewable energy sector, which represents around 20% of the total workforce in the country's energy sector, and is significantly more than the number of job in the oil and gas sectors combined (2.6 million).

We are on the right path but more action is needed.

- Based on current policies and those under consideration the share of renewable energy in total final energy consumption will increase to only **21%** by 2030, causing an increase in global emissions.
- Reaching a 36% share (enough to remain on a 2°C trajectory) would require the rate of renewable energy uptake to rise by around 1% per year until 2030, a **six-fold increase** from current levels.
- To realise the emissions-reducing potential of renewables by 2030, global annual investment in renewable energy would need to double from current levels to reach over **USD 500 billion** by 2020, and would need to be further scaled up to an annual average of **USD 900 billion** between 2021 and 2030.
 - End-use sectors would account for roughly one third of investments, with the major part of investments (about two thirds) continuing to remain in the power sector.

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