CLIMATE ACTION

FAST FACTS

Renewable Energy

1. Renewable energy comes from abundant and continuously replenished sources like sunlight, wind, and water. It reduces pollution and greenhouse gases, helping make the world safer, cleaner and more sustainable.

2. Fossil fuels - coal, oil and gas - on the other hand, are non-renewable resources that take hundreds of millions of years to form. Fossil fuels, when burned to produce energy, cause harmful greenhouse gas emissions, such as carbon dioxide.

3. Renewable energy is fast gaining ground. In 2024, renewables collectively accounted for one-third of electricity generation, led by hydropower (14 per cent of total electricity generation), wind (8 per cent), solar (7 per cent) and bioenergy and waste (3 per cent).

4. Over the next five years, several renewable energy milestones are expected to be reached. In 2025, renewables-based electricity generation is set to overtake coal-fired generation. In 2026, wind and solar power generation are each poised to surpass power generation from nuclear. Then, in 2029, electricity generation from solar PV is set to surpass hydropower, becoming the largest renewable power source globally – with wind-based generation expected to surpass hydropower in 2030.

5. 2024 saw the largest increase in renewable energy capacity to date – with the addition of 585 gigawatts (GW) of renewables – expanding the stock of renewable power by 15.1 per cent. Renewables accounted for a record 92.5 per cent of global power additions, largely due to significant growth in solar and wind power.

6. In 2024, investments in renewable energy grew by 8 per cent, hitting $728 billion, which includes investment in wind (both on- and offshore), solar, biofuels, biomass and waste, marine, geothermal and small hydro.

7. Over half of all renewable energy capacity is in Asia (53.6 per cent), followed by Europe with 19.1 per cent, North America with 12.9 per cent, and South America with 7 per cent of the global capacity.

8. In 2023, 16.2 million people were employed in the renewable energy sector, up from 13.7 million in 2022. China alone accounts for 46 per cent of the global total jobs in the renewable sector.

9. The photovoltaic energy sector has the biggest share of employment in the renewable energy sector, providing 7.1 million jobs, followed by 2.3 million in hydropower, 2.8 million in biofuels, and 1.5 million in wind energy.

10. Every dollar of investment in renewables creates three times more jobs than in the fossil fuel industry. The transition towards net-zero emissions is expected to lead to an overall increase in energy sector jobs - while about 5 million jobs in fossil fuel production could be lost by 2030, an estimated 14 million new jobs would be created in clean energy, resulting in a net gain of 9 million jobs.

11. Prices for renewable energy technologies are dropping rapidly. In 2023, 81 per cent of renewable additions had lower costs than their fossil fuel-fired alternatives. Solar photovoltaics' global costs in 2023 were 56 per cent lower than fossil fuel and nuclear options. Overall, the renewable power deployed globally since 2000 has saved up to $409 billion in fuel costs in the power sector.

12. Annual investments in clean energy need to triple to $4 trillion by 2030 to put the world on a net-zero emissions trajectory by 2050.

13. Global renewable electricity generation is forecast to climb to over 17,000 terawatt-hours (TWh) by the end of this decade, an increase of almost 90 per cent from 2023. It is estimated that 90 per cent of the world's electricity can and should come from renewable energy by 2050.

Sources: UNECE (1), UNDP (1, 2), IEA (3), IEA (4), IEA (3, 12), IRENA (5, 7), BloombergNEF (6), IRENA (8, 9), IEA (10), IRENA (11), IEA (12), IMF (12), World Bank (12), IRENA (13)