

## UNEA-2 FACT SHEET: CLIMATE CHANGE

### Why fighting climate change matters

The latest assessment by the UNEP and World Meteorological Organization-supported Intergovernmental Panel on Climate Change (IPCC) concluded that climate change is already affecting many communities, with far greater impacts to come. This changing climate will affect sustainable development in many different ways, from impacts on economic growth to food security. Shifting weather patterns, for example, threaten food production through increased unpredictability of rainfall, rising sea levels will have a range of impacts on coastal environments and infrastructure, and extreme weather events, predicted to become more frequent and severe, can cause devastation. Only by limiting climate change can we ensure a fair, equitable future for all.

### The state of play

- Each of the past several decades has been warmer than the previous one, and **2011–2015 was the hottest period on record**. Compared with the 20th-century average, March 2016 was **1.07°C hotter** across the globe.
- Concentrations of carbon dioxide in the global atmosphere reached **403.28 parts per million** in February 2016, the maximum Arctic sea ice extent, recorded in March 2016, was the **lowest on record for the second straight year**, and a devastating coral bleaching event worsened in 2016 because of record sea surface temperatures.
- Since 1990, our planet has lost **1.3 million square kilometres of forests**, releasing stored carbon into the atmosphere.
- Floods, droughts and windstorms are the most frequently occurring natural disaster events; they account for almost 90 per cent of the 1,000 most disastrous events since 1990. As the impacts of climate change widen, disasters are expected to become more common.
- A global rise in temperature of between 1.1 and 3.1°C would **increase the mean sea level by .36-.73 meters by 2100**, with adverse impacts on coasts and low-lying areas such as submergence, flooding, erosion, and saltwater intrusion.
- Cautious estimates indicate that **250,000 additional deaths could occur** each year between 2030 and 2050 as a result of climate change—including through the impacts of desertification and shifting disease vectors.
- The impacts of climate change on global food security could be devastating – for example, 10 per cent of the projected impacts on food security under a 2°C warming scenario show **crop yield losses of more than 25 per cent** for the period 2030-2049.

### The benefits of action

- The Paris Agreement commits nations to working toward limiting temperature rise to below 2°C this century, while recognizing the importance of pursuing 1.5°C, which will head off the worst impacts of climate change and protect vulnerable developing nations.

- The cost of adapting to climate change in developing countries could rise as high as **\$500 billion per year** by 2050 if the Paris Agreement is not implemented. The current amount of finance flowing to adaptation is only **\$23-26 billion**. Limiting climate change will therefore save billions of dollars.
- Efforts to tackle climate change, including those taken before the Paris agreement and full implementation of the current Paris pledges, could **cut up to 11 gigatonnes of CO<sub>2</sub> equivalent** (GtCO<sub>2</sub>e) from projected emissions in 2030. This is however around half of the total required to reach the global emission level of 42 GtCO<sub>2</sub>e in 2030 consistent with having a likely chance (>66 percent) of staying below the 2°C target in 2100.
- Halving deforestation rates by 2030 would reduce global greenhouse gas emissions by **1.5-2.7 gigatonnes** of CO<sub>2</sub> equivalent per year; restoring 150 million hectares of degraded forest could remove 1 additional GtCO<sub>2</sub>e per year from the atmosphere, avoiding damages from climate change estimated at more than **\$5 trillion**.

### Change across the globe

- Last year, for the first time, renewables accounted for a majority of new electricity-generating capacity added around the world, at an **investment of \$286 billion**.
- Institutional investors have so far pledged to decarbonize over **\$600 billion** under the UNEP Finance Initiative's Portfolio Decarbonization Coalition.
- At the Paris Climate Conference, countries pledged to invest **\$10 billion** in the Africa Renewable Energy Initiative.
- Under the UNEP-hosted Montreal Protocol, the world phased out chemicals that were depleting the ozone layer. This has saved emissions of 135 billion tonnes of CO<sub>2</sub> equivalent. Further action to phase out hydrofluorocarbons under the 'Dubai Pathway' would avoid further emissions of up to 105 gigatonnes of CO<sub>2</sub> equivalent by 2050, and up to **0.4°C of global warming** by the end of the century.
- Over 100 partners in the Climate and Clean Air Coalition are acting to improve climate change and human health by reducing Short-Lived Climate Pollutants (SLCPs) such as black carbon and methane. Implementing measures to reduce emissions of SLCPs can **reduce the rate of near-term global warming by up to 0.6°C** by 2050.
- 38 countries have completed national efficient lighting strategies, with the support of the UNEP-Global Environment Facility [en.lighten](#) initiative.
- The Global Fuel Efficiency Initiative is aiming to **halve CO<sub>2</sub> emissions from the global car fleet by 2050**, which is entirely possible using existing technologies.
- The United Nations Programme on Reducing Emissions from Deforestation and Forest Degradation (UN-REDD) is working with **64 countries to halve the rate of deforestation by 2020** through creating a financial value for carbon stored in forests and promoting the role of conservation, sustainable management of forests and enhancement of forest carbon stocks.
- The UNEP and UN Industrial Development Organization-hosted Climate Technology Centre and Network (CTCN) is facilitating over 100 technology transfer projects at the request of developing countries. By connecting them to a global network of experts, in sectors ranging from agriculture to waste management, countries are accessing tailored, cost-free assistance to achieve their low-carbon and climate-resilient development goals.
- UNEP is supporting 20 countries shift to climate resilient development pathways through the incorporation of Ecosystem-based Adaptation into key sectoral and development plans.

- UNEP is currently assisting 19 countries get access to international climate finance for adaptation.
- UNEP working with its partners to Least Developed Countries and other Developing countries in their national adaptation planning processes.

**Sources:** *IPCC Fourth Assessment Report (2014), UNEP Adaptation Finance Gap Report (2016), World Meteorological Organization, United Nations Environment Programme, World Bank, UN-REDD, NASA.*