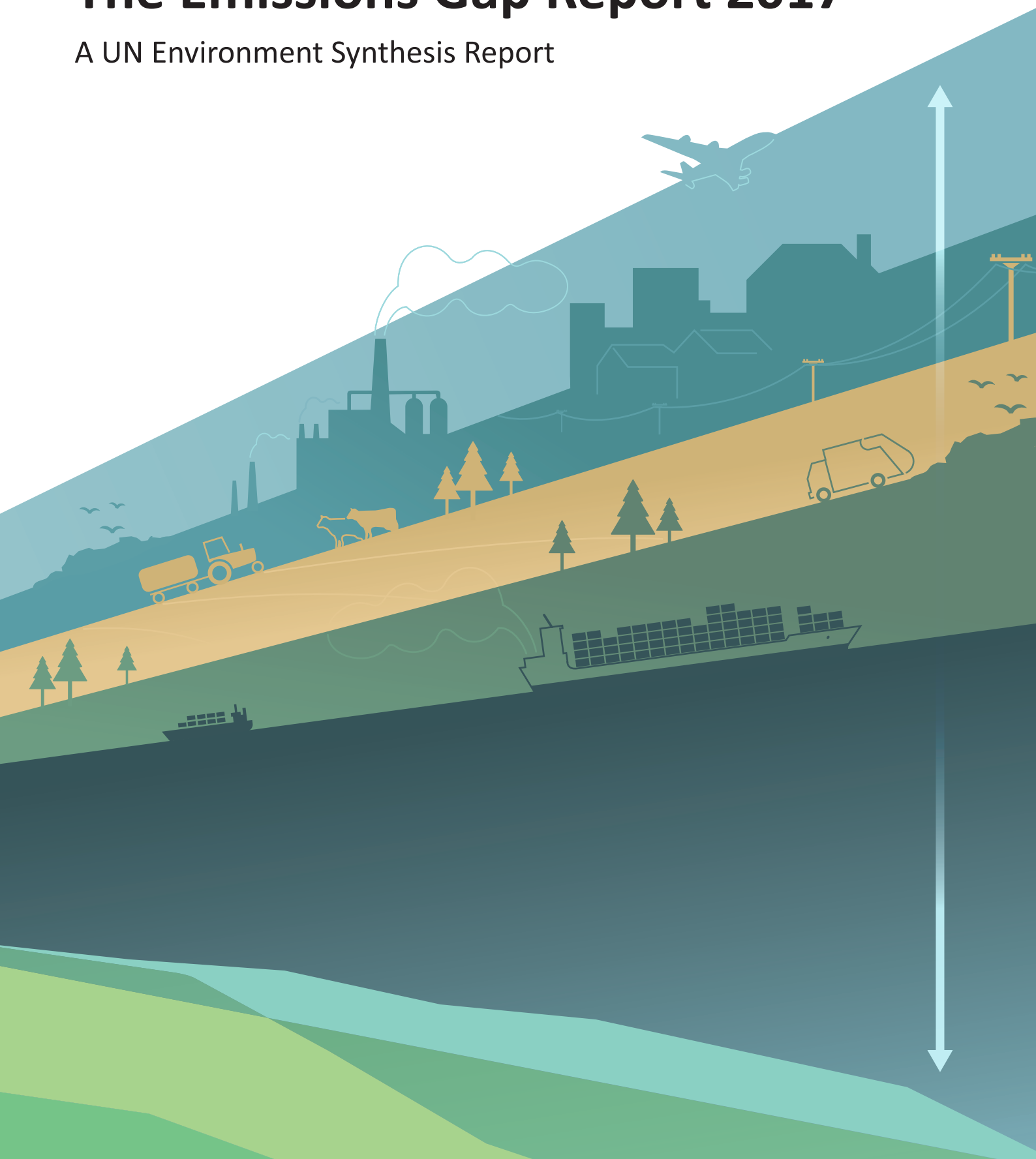


# The Emissions Gap Report 2017

A UN Environment Synthesis Report



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# Glossary

*This glossary is compiled by the lead authors of the report, drawing on glossaries and other resources available on the websites of the following organizations, networks and projects: Intergovernmental Panel on Climate Change, Non-State Actor Zone for Climate Action, United Nations Environment, United Nations Framework Convention on Climate Change and World Resources Institute.*

**Afforestation:** Planting of new forests on lands that historically have not contained forests.

**Agroforestry:** Farming management practice characterized by the deliberate inclusion of woody perennials on farms, which usually leads to significant economic and/or ecological benefits between woody and non-woody system components. In most documented cases of successful agroforestry, tree-based systems are more productive, more sustainable and more attuned to people's cultural or material needs than treeless alternatives. Agroforestry also provides significant mitigation benefits by sequestering carbon from the atmosphere in the tree biomass.

**Baseline/reference:** The state against which change is measured. In the context of transformation pathways, the term 'baseline scenarios' refers to scenarios that are based on the assumption that no mitigation policies or measures will be implemented beyond those that are already in force and/or are legislated or planned to be adopted. Baseline scenarios are not intended to be predictions of the future, but rather counterfactual constructions that can serve to highlight the level of emissions that would occur without further policy effort. Typically, baseline scenarios are then compared to mitigation scenarios that are constructed to meet different goals for greenhouse gas emissions, atmospheric concentrations or temperature change. The term 'baseline scenario' is used interchangeably with 'reference scenario' and 'no policy scenario'. In much of the literature the term is also synonymous with the term 'business as usual (BAU) scenario', although the term has fallen out of favour because the idea of 'business as usual' in century-long socioeconomic projections is hard to fathom.

**Biochar:** A solid material obtained from thermochemical conversion of biomass in an oxygen-limited environment.

**Bioenergy:** Energy derived from any form of biomass such as recently living organisms or their metabolic by-products.

**Bioenergy and Carbon Dioxide Capture and Storage (BECCS):** The application of Carbon Dioxide Capture and Storage (CCS) technology to bioenergy conversion processes.

**Black carbon:** The substance formed through the incomplete combustion of fossil fuels, biofuels, and biomass, which is emitted in both anthropogenic and naturally occurring soot. It consists of pure carbon in several linked forms. Black carbon warms the Earth by absorbing heat in the atmosphere and by reducing albedo – the ability to reflect sunlight – when deposited on snow and ice.

**Bottom-up model:** In the context of this assessment, a model that represents a system by looking at its detailed underlying parts. Compared to so-called top-down models, which focus on economic interlinkages, bottom-up models of energy use and emissions can provide greater resolution with regards to sectors or mitigation technologies.

**Cancun Pledge:** During 2010, many countries submitted their existing plans for controlling greenhouse gas emissions to the Climate Change Secretariat and these proposals were formally acknowledged under the United Nations Framework Convention on Climate Change (UNFCCC). Developed countries presented their plans in the shape of economy-wide targets to reduce emissions, mainly up to 2020, while developing countries proposed ways to limit their growth of emissions in the shape of plans of action.

**Carbon Dioxide Capture and Storage (CCS):** A process in which a relatively pure stream of carbon dioxide from industrial, energy-related sources or captured from the air is separated (captured), conditioned, compressed, and transported to a storage location for long-term isolation from the atmosphere.

**Carbon dioxide emission budget (or carbon budget):** For a given temperature rise limit, for example a 1.5°C or 2°C long-term limit, the corresponding carbon budget reflects the total amount of carbon emissions that can be emitted for temperatures to stay below that limit. Stated differently, a carbon budget is the area under a carbon dioxide (CO<sub>2</sub>)



emission trajectory that satisfies assumptions about limits on cumulative emissions estimated to avoid a certain level of global mean surface temperature rise.

**Carbon dioxide equivalent (CO<sub>2</sub>e):** A way to place emissions of various radiative forcing agents on a common footing by accounting for their effect on climate. It describes, for a given mixture and amount of greenhouse gases, the amount of CO<sub>2</sub> that would have the same global warming ability, when measured over a specified time period. For the purpose of this report, greenhouse gas emissions (unless otherwise specified) are the sum of the basket of greenhouse gases listed in Annex A to the Kyoto Protocol, expressed as CO<sub>2</sub>e assuming a 100-year global warming potential.

**Carbon intensity:** The amount of emissions of CO<sub>2</sub> released per unit of another variable such as gross domestic product, output energy use, transport or agricultural/forestry products.

**Carbon offset:** See Offset.

**Carbon price:** The price for avoided or released CO<sub>2</sub> or CO<sub>2</sub>e emissions. This may refer to the rate of a carbon tax or the price of emission permits. In many models that are used to assess the economic costs of mitigation, carbon prices are used as a proxy to represent the level of effort in mitigation policies.

**Carbon sequestration:** The process of removing carbon from the atmosphere and depositing it in a reservoir.

**Carbon stock:** The quantity of carbon contained in a carbon pool or reservoir.

**Carbon tax:** A levy on the carbon content of fossil fuels. Because virtually all of the carbon in fossil fuels is ultimately emitted as CO<sub>2</sub>, a carbon tax is equivalent to an emission tax on CO<sub>2</sub> emissions.

**Circular carbon economy:** An economy or portion of an economy in which waste, by-product, or ambient CO<sub>2</sub> serves as feedstock and is recycled into products (e.g., fuels, chemicals, plastics, carbon composites)

**Co-benefits:** The positive effects that a policy or measure aimed at one objective might have on other objectives,

**Current policy trajectory:** This trajectory is based on estimates of 2020 emissions considering projected economic trends and current policy approaches including policies at least through 2012. Estimates may be based on either official data or independent analysis.

**Deforestation:** Conversion of forest to non-forest.

**Double counting:** In the context of this assessment, double counting refers to a situation in which the same emission reductions are counted towards meeting two countries' pledges.

**Economic mitigation potential:** The mitigation potential, which takes into account social costs and benefits and social discount rates, assuming that market efficiency is improved by policies and measures and barriers are removed.

**Emissions gap:** The difference between the greenhouse gas emission levels consistent with having a likely chance (>66 percent) of limiting the mean global temperature rise to below 2°C/1.5°C in 2100 above pre-industrial levels and the GHG emission levels consistent with the global effect of the INDCs, assuming full implementation from 2020.

**Emission pathway:** The trajectory of annual greenhouse gas emissions over time.

**Global warming potential:** An index representing the combined effect of the differing times greenhouse gases remain in the atmosphere and their relative effectiveness in absorbing outgoing infrared radiation.

**Greenhouse gases:** The atmospheric gases responsible for causing global warming and climatic change. The major greenhouse gases are carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>) and nitrous oxide (N<sub>2</sub>O). Less prevalent, but very powerful, greenhouse gases are hydrofluorocarbons (HFCs), perfluorocarbons (PFCs) and sulphur hexafluoride (SF<sub>6</sub>).

**Hydrofluorocarbons (HFC) bank:** Quantities of hydrofluorocarbons already produced or in use of which a portion is likely to eventually be emitted to the atmosphere.

**Integrated assessment models:** Models that seek to combine knowledge from multiple disciplines in the form of equations and/or algorithms in order to explore complex

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