

SUSTAINABLE DEVELOPMENT GOALS

Jean Monnet Sustainable Development Goals Network Policy Brief Series



SDG 13: Take urgent action to combat climate change and its impacts

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Climate Change and Global Heating

The United Nations Framework Convention on Climate Change (UNFCCC) defines climate change as ‘a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods’ (IPCC, 2018). Global warming is sometimes used interchangeably with the term climate change, though they are not the same. Global warming/heating refers to the long-term temperature rise of the planet. Climate change is a broader concept which also takes into account changes caused by the warming of the planet, such as accelerating ice melt, the shrinking of glaciers and changes in plant development times. The United Nations Economic and Social Council’s (ECOSOC) 2019 special report on progress towards the Sustainable Development Goals identified climate change as an existential threat to life on Earth.

Because of human-induced climate change, global temperatures are rising, and the rate of that temperature increase is accelerating. The average global temperature has increased by a little more than 1°C since 1880. The rate at which warming occurs has more than doubled since 1981 to 0.18°C. The five warmest years since 1880 have all occurred since 2015, and nine of the 10 warmest years have occurred since 2005. Between 1900 and 1980, new temperature records occurred on average every 13.5 years; that period has shortened to only every three years since 1981 (Lindsay & Dahlman, 2020). According to the US National Oceanic and Atmospheric Administration (NOAA), May 2020 and May 2016 are a draw for the warmest May since 1880—making 2020 a year in which every month so far has been either the hottest or second hottest for more than a century. There is a better than even chance that 2020 will be among the five hottest years on record so far (Di Liberto, 2020).

Current climate change is linked directly to the burning fossil fuels, which lead to the emission of greenhouse gases (GHGs). Greenhouse gases, which trap air in the lower atmosphere and thus contribute to the heating of the Earth, include water vapour, carbon dioxide, methane, and nitrous oxide. These are naturally occurring gases and it is not their existence per se that is causing to climate change, but the fact that emissions and consumption patterns are increasing their atmospheric concentrations. In 2020, carbon dioxide levels in the atmosphere are 412ppm, their highest levels in 650,000 years (NASA, 2020b). Other human activities contributing to global warming include deforestation and farming (Kennedy & Lindsey, 2015).

Climate change has far reaching consequences. Already, increasing global temperatures have led to declines in Arctic and Antarctic ice, ocean acidification and coral bleaching. The corresponding rise in global sea levels in the past century is already affecting low lying coastal areas globally and will likely increase climate change related mass migration. Climate change also causes increases in extreme weather events, including blizzards, hail and rainstorms, hurricanes, prolonged and more severe droughts, more severe and longer fire seasons. Climate change also has the potential to adversely affect access to basic necessities like water, food and energy. And while climate change affects all countries, it will impact poor and developing countries most severely (United Nations, 2020c).

History

Knowledge that increasing levels of carbon dioxide in the atmosphere were directly related to increasing global temperatures emerged out of Antarctic ice cores in the late 1980s (Griffiths, 2010). That scientific research demonstrated unequivocally that human activity was causing the world to warm. The United Nations has been attempting to address the issue for decades—since even before concrete scientific evidence of the phenomenon was established. In 1972, the UN held its first Conference on the Human Environment (the ‘Earth Summit’) in Stockholm, Sweden. The Stockholm Declaration ‘raised the issue of climate change for the first time, warning Governments to be mindful of activities that could lead to climate change and evaluate the likelihood and magnitude of climatic effects’ (Jackson, nd).

Nearly two decades later, in 1989, the Intergovernmental Panel on Climate Change (IPCC) was established. Its first report, released in 1990, predicted that under a business as usual scenario, mean global temperatures would increase by 1°C by 2025, and 3°C before 2100, while global mean sea levels would rise by 20 centimetres by 2030 and 65 centimetres by 2100 (IPCC 1990). Great hope for avoiding such an outcome was invested in the 1992 Earth Summit in Rio de Janeiro, where the 1992 UNFCCC opened for signature. Signed by 158 countries, the Framework was the first global agreement to specifically address climate change. It committed those signatories to stabilising greenhouse gas emissions, but was widely criticised for its failure to include specific targets or enforcement mechanisms. It was not until five years later that a significant breakthrough was achieved, at Kyoto in 1997. The Kyoto Protocol updated the 1992 UNFCCC with mandated, specific emissions targets for individual countries. The European Union, for example, committed as a bloc to an 8% reduction on 1990 levels. However, the Protocol was undermined by a concession to allow Australia to increase emissions, and the United States’ refusal to ratify the agreement.

After Kyoto, it would be another 18 years before a significant breakthrough in international negotiations. A series of disappointing UNFCCC Conferences of the Parties (COPs) between 1997 and 2014 resulted in little progress. It was not until COP21 in Paris in 2015 that UNFCCC signatories committed to keeping global temperature rise below 2°C above industrial levels and to pursue further efforts to keep increases below 1.5°C (UNFCCC, nd). Though far from perfect, the Paris Agreement is widely regarded a crucial breakthrough in international climate negotiations.

Climate Change and the SDGs

Adopted before the Paris agreement was finalised, Sustainable Development Goal 13, Climate Action, nevertheless included a specific commitment to reaching its targets. It also goes further. SDG13 calls on the world to ‘take urgent action to combat climate change and its impacts’ (United Nations, 2020c). It has three corresponding targets: 13.1, ‘Strengthen resilience and adaptive capacity to climate-related hazards and natural disasters in all countries’; 13.2, ‘Integrate climate change measures into national policies, strategies and planning’; and 13.3, ‘Improve education, awareness-raising and human and institutional capacity on climate change mitigation, adaptation, impact reduction and early warning’ (UNGA, 2015, p. 23). Two additional targets

(13.A and B) specifically relate to the means of implementation in the Global South, committing to the mobilisation of \$100 billion to fund the Green Climate Fund to assist countries with their mitigation strategies. The SDG 13 targets also explicitly acknowledge the UNFCCC as ‘the primary international, intergovernmental forum for negotiating the global response to climate change’ (UNGA, 2015, p. 23).

Climate Change and the European Union

The EU is generally regarded as a global leader in efforts to address the causes and consequences of human-induced climate change, and a primary driver of the SDG Agenda. However, when it comes to climate in particular, the EU and its precursors in the European Communities (EC) have frequently struggled to coordinate and develop policies and agendas between the distinct jurisdictions of Member States on the one hand, and European institutions on the other. The Commission made its first communication relating to climate change in November 1988, highlighting scientific developments relating to greenhouse gases, and outlining possible responses. The communication concluded, however, that the ‘reduction of greenhouse gases concentrations does not seem at this stage a realistic objective but could be a very long term goal’ (European Commission, 1988, p. 44).

By 1990, however, the EC had dramatically changed its approach to climate change. The Commission warned that there was an ‘urgent need for a clear commitment by industrial countries to stabilize CO₂ emissions’ by the end of the century and for ‘significant reductions’ to be made by 2010 (EC 1990, pp. 3–4). In October 1990, a Joint Council of Energy and Environment Ministers came to an agreement that EC-wide emissions should be stabilised at 1990 levels by 2000—with the caveat that other countries made similar commitments (Oberthür & Pallemarts, 2010). The next two years—leading up to the Rio Earth Summit in 1992—were marked by internal disagreement within the EC as to how best achieve emissions reductions. In 1991, the Commission proposed a package of measures that included a tax on carbon/energy (Grubb, 1995). It was met by significant criticism within the EC from a range of actors including the energy council, Member States, businesses, and lobbyists. This criticism, compounded by disagreement on the ideal form for a tax, meant the proposal failed. This failure prevented the EC from taking a more assertive stance during the Rio Summit negotiations, allowing the UK to sidestep the EC and forge a more modest agreement with the US.

The Maastricht Treaty, which came into force in 1993—bringing the EC together as the EU—initiated a new era of climate action in Europe. Environmental issues could now be dealt with at the supranational level, and a more coherent set of structures allowed a more unified and streamlined approach to climate policy (Nilsson, 2018). The next few years saw the EU’s emissions reduction policies focus on two core instruments: Specific Actions for Vigorous Energy Efficiency (SAVE), which introduced common standards and labelling systems for domestic white goods, and energy audits for energy intensive companies (Commission, 1995); and ALTENER, a program which introduced indicative targets to promote renewable energy production while providing funding for renewable energy research and development (European Council, 1993). These two programs were however weakened by the EU’s legislative process, which reduced their impact significantly (Oberthür & Kelly, 2008).

During the 1997 Kyoto Protocol negotiations the EU argued in favour of the strongest emissions reduction targets (-15 percent on 1990 levels for OECD countries) and ultimately accepted the highest targets out of all the major industrialised countries. However, the EU proposal was attacked by Japan, the US, Canada, and Australia, and New Zealand (JUSCANNZ) who argued it was unrealistic and unachievable—at least partly to draw attention away from their own lack of commitments. While the eventual targets agreed upon at Kyoto were significantly lower than those initially proposed by the EU, it is possible that if the EU had not started the negotiations at 15 percent—and pushed back against criticisms from JUSCANNZ—that the final

outcome could have consisted of much weaker commitments (Andresen & Agrawala, 2002; Ringius, 1999; Yamin, 2000).

The Kyoto targets provided the EU with the framework within which it could define its strategy for emissions reductions over the coming decade. The European Climate Change Program, launched in 2000, proposed the creation of the European Emissions Trading Scheme, which became a cornerstone of the EU's emissions reduction program. The Renewable Electricity Directive established targets on the proportion of electricity to come from renewable energy sources in each Member State's energy mix.

The EU's climate leadership was put to the test in 2001, when the Bush administration announced its opposition to Kyoto. The EU played a vital role in salvaging the deal through the Marrakesh Accords, which ensured the Protocol came into force despite the US' withdrawal. The decade was then marked by the EU's pursuing of a 'soft' leadership strategy in global climate negotiations. This involved the EU leveraging its political and economic weight while also relying on 'leadership by example' and 'diplomacy, persuasion and argumentation' (Oberthür & Kelly, 2008 p. 36).

Since 2007, EU climate policies have proved successful in reducing emissions. For the initial Kyoto Protocol reporting period (2008-2012) the EU surpassed its commitments, reducing its emissions by 12.2 percent from 1990 levels. It has largely failed, however, to replicate this success on a global scale, proving unable to use its self-assumed leadership role to convince other major emitting countries to implement similar measures or commit to more serious reductions targets. In 2012, in the absence of further global emissions reductions commitments, the EU was instrumental in extending the Kyoto Protocol through the Doha Amendment. The EU then played a crucial role in the negotiations which led to the 2015 Paris Agreement (Nilsson, 2018).

Current Programs

Emissions Targets

The EU has set itself a series of targets and policy objectives for 2020, 2030, and 2050, designed to reduce the EU's GHG emissions in a progressive manner. The 2020 targets aim to cut GHG emissions by 20 percent (from 1990 levels), increase to 20 percent the share of energy generated by renewables, and improve energy efficiency by 20 percent. In 2020, the Commission revised its climate ambitions upwards, proposing a 55% cut in emissions by 2030. The 2050 targets aim to make the EU climate-neutral with net-zero GHG emissions.

Emissions Trading Scheme

The EU's emissions trading scheme (ETS) created the world's first major carbon market, which remains the largest of its kind. The EU ETS is in operation across all EU Member States as well as Iceland, Liechtenstein, and Norway, and covers approximately 45 percent of the EU's GHG emissions. The system works by setting a cap on the total amount of GHG that can be emitted by certain installations, which is gradually reduced so that total emissions fall. Companies either receive or buy emissions allowances, which they can trade amongst themselves while also being able to purchase credits from the global market from emissions-reducing projects. At the end of each year companies must return enough allowances to cover their emissions, lest they be fined. The EU states that the in-built flexibility within the scheme 'ensures that emissions are cut where it costs least to do so' while the 'robust carbon price also promotes investment in clean, low-carbon technologies' (European Commission).

European Green Deal

The European Green Deal (EGD) was announced in December 2019 by the newly elected EC President Ursula von der Leyen. The EGD is a climate policy agenda which aims to cut carbon emissions by 50-55 percent by 2030 and introduces legislation which enshrines the goal of a climate-neutral Europe by 2050 through a new European 'Climate Law'. The EGD will work by

integrating and building upon existing environmental policies with the specifically stated aims of establishing a ‘circular economy’ and ensuring the preservation of ecosystem biodiversity. The EGD also includes two proposed mechanisms, the ‘Just Transition Fund’ and a ‘Carbon Border Tax’, which are, respectively, designed to assist carbon-dependent Member States in their transition to a renewable energy-based economy, and protect energy intensive industries from cheaper imports from competitors with lesser climate change reduction policies. The EC has proposed to fund the EGD’s initiatives through a combination of existing EU funds and the mobilisation of private sector investment.

Progress

The EU has stated that as a bloc, it is on track to surpassed its 20 percent emissions reduction target for 2020, having reduced GHG emissions by 23 percent between 1990 and 2018. However, not all Member States are on track to reach individual targets, which will likely mean that Malta, Germany, Ireland, and Austria will have to rely on a transfer of emissions allocations from other Member States in order to meet their obligations (European Commission, 2019). Despite progress towards the 2020 targets, and a suite of new legislation introduced to assist in meeting its 2030 target, the EU’s current trajectory has nonetheless been rated as ‘insufficient’ by the Climate Action Tracker, which states that the EU’s current policy projections will ‘not yet [be] enough to reach a Paris Agreement compatible emissions pathway’ (Climate Action Tracker, 2019, Assessment section, para 2).

This is echoed in global prognoses. The most recent UN SDG Report (2020) offers a damning assessment of progress towards SDG13: ‘[t]he world is way off track to meet the Paris Agreement target, signalling cataclysmic changes ahead.’ Although financing for climate action measures has increased considerably to \$681 billion, that funding still trails investments in fossil fuels (\$781 billion). According to the report, most countries in the Global South have begun developing plans to strengthen resilience and adapt to climate change. There have been 83 submissions, totalling \$203.8 million in requests, to access the Green Climate Fund. To date, 40 have been approved. The glaring outtake from the report is the unacceptably slow progress towards limiting global warming to 1.5°C in line with the Paris Agreement. Limiting warming to 1.5°C will require global emissions to peak within the next couple of years and then rapidly decrease by 45 percent from 2010 levels by 2030 followed by a further steep drop to net zero emissions by 2050—a scenario that is less and less likely the longer we continue along our current trajectory (UN 2020).

Critical Challenges

Despite modest progress, particularly in the European Union, significant global action on climate change has remained unattainable. The catastrophic effects of the global COVID-19 pandemic raised some hope for radical emissions reduction resulting from the almost complete collapse of a number of emissions-intensive industries such as global aviation. However, a recent study published in *Nature* found that the incidental emissions reductions caused by the pandemic ‘will be negligible’ (Foster et al., 2020). Averting catastrophic warming, in short, requires concerted and deliberate action. As has been stated time and time again, the longer such action is delayed, the more difficult it will become and the more catastrophic the effect.

Numerous studies have demonstrated that action on climate change is time critical. Unpredictable ‘feedback loops’ will both compound the effects of climate change and threaten to create thresholds whereby significant mitigation will become impossible on a ‘hothouse Earth’ (Steffen et al., 2018). As these multiple crises compound, the possibilities for considered, ‘voluntary’ change narrow, making traumatic, ‘involuntary’ socio-economic upheaval more likely.

Progress on SDG13 is thus critical not just for the achievement of the Global Transformation Agenda as a whole, but for global survival. In this, both the Transformation Agenda and the upheaval caused by the global COVID-19 pandemic offer a glimpse of a way

forward. The same *Nature* study that noted the pandemic-induced economic crisis will not miraculously reduce global emissions argued that a ‘green’ recovery—an economic recovery which favours a ‘green’ stimulus and fossil fuel investment reductions—will likely be able to avoid future warming of 0.3°C by 2050 (Forster et al., 2020). The ‘Recovery Plan for Europe’ is predicated on such a recognition, focusing on just transition and climate action (EC, 2020). In the process of emerging from one global crisis, it may be possible to avert another.

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