



Momentum for greater climate action sustained under the COVID-19 crisis

Due to the COVID-19 pandemic crisis, the 26th Conference of the Parties (COP26) to the United Nations Framework Convention on Climate Change (UNFCCC) has been postponed from November 2020 to November 2021. Despite this postponement of the supreme decision-making body of the UNFCCC, the momentum for much greater climate action and ambition continues. Recently the European Union (EU), Japan and the Republic of Korea, along with more than 110 other countries, have pledged to achieve carbon neutrality by 2050, while China was set to join them by 2060.¹ By now, 50 per cent of the world's gross domestic product (GDP) and half of the global carbon dioxide (CO₂) emissions are covered by a net zero commitment.

To rally this momentum, on 12 December 2020, the United Kingdom, as President of the COP26, the United Nations and France, in partnership with Chile and Italy, will co-host the Climate Ambition Summit 2020.² The co-hosts have called for: 1) a new, more ambitious Nationally Determined Contributions (NDCs); 2) long-term strategies setting out a pathway to net zero emissions; 3) climate finance commitments to support the most vulnerable; and 4) crucially, ambitious adaptation plans and underlying policies. The Summit is also to mark the fifth anniversary of the Paris Agreement for climate change.

Climate disruption continues apace

While the COVID-19 pandemic continues to disrupt lives, economic activity and social cohesion across the globe, climate disruption continues apace. Extreme climate events, such as heat, wildfires, floods and droughts, became more prevalent this year. Severe droughts lingered over parts of southwestern United States, North Africa and Southern Africa. The extensive wildfires that appeared in the summer worsened in the western parts of the United States and the eastern Mediterranean. Extreme climate events continue to cause a significant loss of lives and economic well-being in parallel with the pandemic crisis.

According to the Global Climate Report³, the first ten months of 2020 had been warmer than average across much of the globe. Record warm January–October temperatures were geographically spread widely across Europe, East and Southeast Asia, parts of Central and South America. The first ten months of 2020 were, on average, the second warmest January–October for

KEY MESSAGES

- » The world registered a record reduction of energy-related CO₂ emissions in the first half of 2020. However, this year's reduction is projected to be a one-time dip, and only has an infinitesimal impact on the buildup of atmospheric CO₂.
- » The low-carbon transition needs a new mode of production and consumption, and post-crisis investments must accelerate the economic transformation to ensure that we recover better.
- » The surging awareness of climate-related risks in the financial sector makes the COP26 a crucial step for mainstreaming climate actions in economic policies.
- » Decisive actions are needed for steering recovery with economic transformation as historic emissions reduction under the COVID-19 crisis has had little impact on atmospheric CO₂ level

global land and ocean temperatures, registering 1.0°C above the 20th century average. This is only 0.03°C lower than the record set in 2016. The globe continues to be prone to extreme weather patterns, either dry or wet. Moreover, the World Meteorological Organization (WMO)⁴ announced that moderate to strong La Niña was currently being developed, which is projected to last well into 2021. A strong El Niño tends to follow a strong La Niña, which may result in extreme climate events at unexpected places in unexpected manners.

CO₂ emissions reduced but the impact on atmospheric carbon dioxide is minimal

The world registered a record reduction of energy-related CO₂ emissions in the first half of this year. Energy demand plunged as restrictions on economic activity and movements of people were imposed as part of containment and mitigation efforts against the pandemic. Consequently, a significantly lower volume of fossil fuels was combusted. The decline was the most noticeable in April when

1 United Nations (2020), UN chief stresses need for greater speed to achieve carbon neutrality, UN News, 9 November 2020. <https://news.un.org/en/story/2020/11/1077202>

2 Alok Sharma (2020), Looking ahead to the Climate Ambition Summit 2020, A virtual briefing to all UN member states, 27 October. <https://www.gov.uk/government/speeches/looking-ahead-to-the-climate-ambition-summit-2020>

3 National Centers for Environmental Information (2020), State of the Climate: Global Climate Report, October. Accessed on 17 November. <https://www.ncdc.noaa.gov/sotc/global/202010>

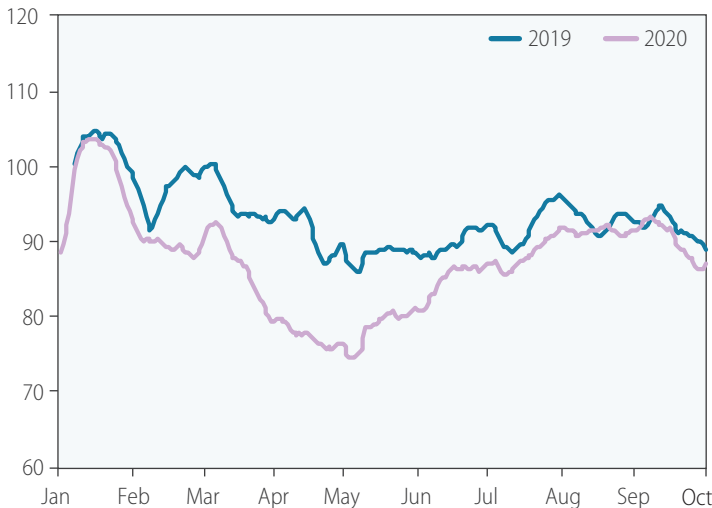
4 WMO (2020), La Niña has developed. Press release, 29 October. <https://public.wmo.int/en/media/press-release/la-ni%C3%B1a-has-developed>

the daily global CO₂ emissions were estimated to have dropped by 16.9 per cent from April 2019.⁵ However, the emissions level has rebounded since late April. By September, it reached the previous year's level several days as lockdown measures were relaxed and the global economy recovered (Figure 1).

Figure 1

CO₂ emission estimates January–September

Million metric tons per day



Source: Carbon Monitor, <https://carbonmonitor.org/>

Note: 7-day moving average

The latest research⁶ shows that the reduction of emissions was across-the-board. However, the emissions from the residential sector remained almost the same as last year's level, as millions of people worldwide worked from home for most part of the year. The emissions reduction from ground transportation in April and May was the most pronounced, but it recovered rapidly to reach last year's level in the third quarter. The emissions from the international aviation sector plunged by 44 per cent during the first half of the year, and remained significantly lower than the previous year's level, reflecting subdued international travels due to border restrictions.

For 2020 as a whole, the International Energy Agency (IEA) projects a 7 per cent decline in energy-related CO₂ emissions relative to 2019 (Figure 2),⁷ down to the levels observed in 2010. This is the largest single-year reduction on record. However, this year's decline is likely to be a one-time dip. It has already been shown in the second half of 2020 that economic recovery quickly increases emissions. Moreover, despite the uncertainties surrounding the COVID-19 pandemic, subsequent lockdown measures have tended to be less restrictive and extensive than the first ones in the second quarter of 2020.

⁵ Zhu Liu and others (2020). Near-real-time monitoring of global CO₂ emissions reveals the effects of the COVID-19 pandemic. *Nature Communications*: 11, 5172. Available at <https://doi.org/10.1038/s41467-020-18922-7>

⁶ Ibid.

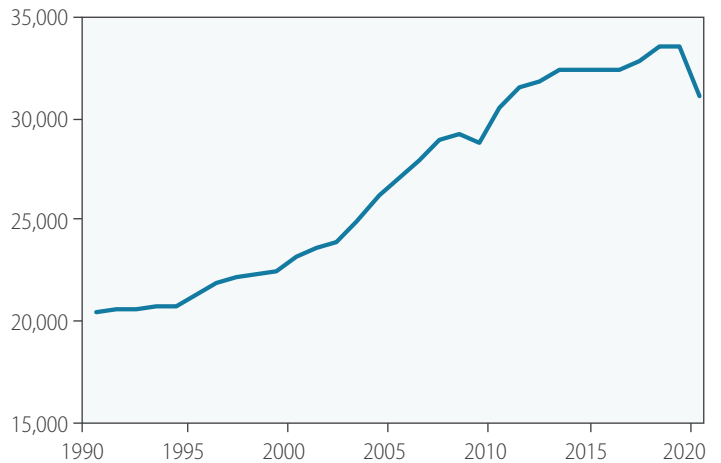
⁷ IEA (2020). *World Energy Outlook 2020*.

A temporal decline in CO₂ emissions, even one as drastic as witnessed this year, is insufficient to meet the 1.5°C target of the Paris Agreement on climate change. In the recent report by the United Nations Environment Programme (UNEP), global CO₂ emissions would need to be reduced by 7.6 per cent every year from 2020 to 2030 to meet the target.⁸ Nor did the substantial reduction in CO₂ emissions in the first half of 2020 substantially change the course of the increasing atmospheric concentration of CO₂. One forecast projects an annual increase of atmospheric CO₂ by 2.48 parts per million (ppm) at Manna Loa Observatory in Hawaii in the United States over the 2019 average of 411.4 ppm.⁹ The forecaster argued that the 2020 emissions reduction would have only an infinitesimal impact, as the counterfactual forecast without the pandemic stood at 2.8 ppm.

Figure 2

CO₂ emissions from fuel combustion

Million metric tons per year



Source: IEA (2020), *World Energy Outlook 2020*, <https://www.iea.org/reports/world-energy-outlook-2020> and CO₂ Emissions from Fuel Combustion, <https://www.iea.org/reports/co2-emissions-from-fuel-combustion-overview>

To slow and eventually halt global warming, it is the buildup of atmospheric CO₂ that needs to be slowed. The observed atmospheric CO₂ this year has been showing usual seasonality which involves photosynthesis and plant respiration. Atmospheric CO₂ declines from May to October as photosynthesis dominates over plant respiration, and this pattern reverses from November to April (Figure 3). Once released into the atmosphere by burning fossil fuel, CO₂ can last in the atmosphere for centuries. Theoretically any amount of fossil fuel combustion, however small, can only increase the atmospheric CO₂, and the emissions reduction this year was too little to make a pronounced impact on the CO₂ in the atmosphere.

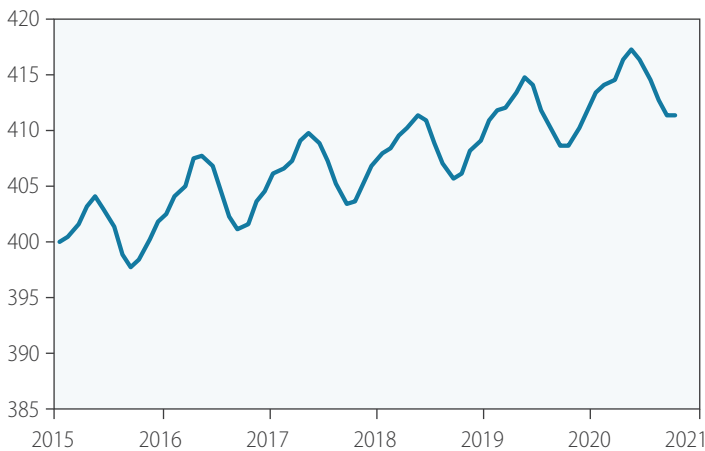
⁸ UNEP (2019), Cut global emissions by 7.6 per cent every year for next decade to meet 1.5°C Paris target - UN report, Press release, 26 November. <https://www.unenvironment.org/news-and-stories/press-release/cut-global-emissions-76-percent-every-year-next-decade-meet-15degc>

⁹ Met Office (2020), Coronavirus will impact the atmospheric CO₂ record – but not enough to slow global heating. 7 May. <https://blog.metoffice.gov.uk/2020/05/07/coronavirus-will-impact-the-atmospheric-co2-record-but-not-enough-to-slow-global-heating/>

Figure 3

Monthly mean CO₂ at Mauna Loa Observatory

Parts per million (ppm)



Source: Global Monitoring Laboratory, <https://www.esrl.noaa.gov/gmd/ccgg/trends/>

The CO₂ emissions reduction this year was a result of painful changes in social behaviour and economic activity which were imposed on the global population to contain and mitigate the COVID-19 pandemic. On top of the risk of infections and widespread social anxieties, the unprecedented plunge in economic activity resulted in massive economic losses with rapid surge in bankruptcy and unemployment in most countries. Mitigation measures severely constricted domestic mobility and international travel. The sense of socioeconomic sacrifice was shared widely, but this sacrifice contributed to only an infinitesimal impact on the atmospheric CO₂ and global warming.

The experience this year indicates that restraining economic activities, even with its painful consequences, will not slow down CO₂ build up and global warming. Under the current mode of production and consumption, austerity cannot lead to a low-carbon economy. The low-carbon transition needs a new mode of production and consumption, and post-crisis investments must accelerate economic transformation to ensure that we recover better.¹⁰ Though the COVID-19 crisis is far from over, the recovery must be planned so that financial and human resources can be allocated to strengthen our society against major shocks and crises, particularly climate change, and to reduce the potential incidence of such shocks.

Growing awareness of climate-related risks in the financial sector

Recovering better requires substantial policy thrusts to enhance our society's resilience. A big push for green investments is one such policy thrust. Both fiscal and monetary policy instruments should be deployed to create technologies, institutions and incentives to

¹⁰ António Guterres (2020), Recovery from the coronavirus crisis must lead to a better world. <https://www.un.org/sg/en/content/sg/articles/2020-04-02/recovery-the-coronavirus-crisis-must-lead-better-world>

cut carbon emissions in to the atmosphere. Traditionally, it was fiscal policy that can be an effective tool for advancing environmental objectives. Both taxes and subsidies can be used to channel financial resources away from environmentally harmful practices and to create incentives for business to adopt practices aligned with environmental objectives. Already, the EU has pledged to make available €547 billion for the green transition, the largest single climate pledge ever made. The size amounts to 30 per cent of the planned expenditure of the EU budgets for 2021–27 and the new EU Recovery Instrument.

Nevertheless, the available fiscal space is becoming increasingly scarce as much of the space was used up to cope with the COVID-19 crisis. The green expenditure pledge is still subject to public revenue constraints. Central banks and financial regulators can relieve such public revenue constraints by incentivizing the financial market to support green investments. For example, as major central banks are extending their quantitative easing programmes, green bonds become a potential support tool. Moreover, the engagement of central banks and financial regulators in support of climate action is crucial for establishing market-based data infrastructure to evaluate climate-related risks and to create incentives for financial institutions and business entities to take climate actions.

The momentum for climate actions by central banks and financial regulators gathered pace over the last five years. In April 2015, the G20 requested the Financial Stability Board (FSB) to consider how the financial sector can take account of climate-related issues. In December 2015, the FSB launched the Task Force on Climate-related Financial Disclosures (TCFD) to develop recommendations on climate-related financial disclosures by financial institutions and business entities, prioritized as a prerequisite for financial market participants to identify, manage and price climate risks appropriately. The recommendations of TCFD in 2017,¹¹ with other frameworks and standards provided by the private sector initiatives such as the Climate Disclosure Standards Board (CDSB) and the Sustainability Accounting Standards Board (SASB), have increasingly been incorporated in Environmental, Social and Governance (ESG) disclosure rules on financial reporting. ESG disclosures are still mostly voluntary exercises, but on 10 March 2021, the EU Regulation on Sustainability-Related Disclosures will take effect, requiring the financial sector to disclose ESG information.

In December 2017, a group of central banks and financial regulators established the Network of Central Banks and Supervisors for Greening the Financial System (NGFS). The NGFS aims to help strengthen the global response required to meet the goals of the Paris Agreement and to enhance the role of the financial system to manage risks and to mobilize capital for green and low-carbon investments.¹² Currently, central banks and financial regulators

¹¹ Task Force on Climate-related Financial Disclosures (2017), Recommendations. <https://www.fsb-tcfd.org/recommendations/> (Accessed 25 November).

¹² Network of Central Banks and Supervisors for Greening the Financial System (2018), First Progress Report. <https://www.ngfs.net/en/liste-chronologique/ngfs-publications?year=2018>

are focusing on two types of climate-related risks: physical risks and transition risks, and how these can be mitigated and managed.

Physical risks are “the possibility that the economic costs and financial losses from the increasing severity and frequency of extreme climate-change related weather events might erode the value of financial assets, and/or increase liabilities”.¹³ Physical risks impact society directly and incur human and economic losses. The insurance sector has increasingly recognized this type of risks. Natural catastrophes caused the highest consecutive two-year period of insured losses on record (\$219 billion) over 2017 and 2018,¹⁴ but estimated uninsured weather-related losses also mounted to historical highs in recent years.

Transition risks “relate to the process of adjustment towards a low-carbon economy. Whilst such an adjustment may be necessary part of the global economy’s response to climate change, shifts in policies designed to mitigate and adapt to climate change could affect the value of financial assets and liabilities”.¹⁵ The concern here is that unexpected and abrupt adjustments to the value of assets and liabilities in the course of the green transition could trigger financial instability. Regarding this type of climate-related risks, a risk trade-off is also pointed out. Avoiding or deferring actions for the green transition may delay a materialization of transition risks, but in the meantime increase the exposure to physical risks.¹⁶

The problem here is the lack of data and information infrastructure to assess potential change in assets and liabilities in the face of physical and transition risks. Particularly, a reliable assessment of transition risks is crucial in order not to create incentives to delay climate actions. ESG disclosures will be an important part of the information infrastructure, but are still at the initial stage. Moreover, at present there is no universally accepted benchmark data or information to gauge how risks are perceived by market participants. In particular, there is still no benchmark price of CO₂. In April this year, International Exchange (ICE) launched an index to track the global price of CO₂, the ICE Global Carbon Futures Index. This innovative approach is yet to become a benchmark as carbon pricing in emission trading systems (ETS) is not determined by market mechanism alone. In each jurisdiction which operates an ETS, carbon pricing reflects a specific institutional setting with emission quotas allocated to business entities. Consequently, except for the European Union ETS (EU-ETS), carbon markets are segmented at national or sub-national levels or

under certain private sector initiatives. The segmentation creates dispersions and uncertainties rather than convergence toward global benchmark carbon prices.

Toward mainstreaming of climate actions in economic policies

The COP26 calls the attention of a diverse range of stakeholders to the surging awareness of climate-related risks in the financial sector. The COP26 will decide on effective operationalization of Article 6 of the Paris Agreement stipulating the mechanism for voluntary cooperation/market- and non-market-based approaches,¹⁷ which is crucial for the creation of new global carbon markets. Article 6 does not propose global cap-and-trade systems of global scale, similar to the EU-ETS, but provides a mechanism to link emission trading schemes of two or more countries or regions (Article 6.2), and a central mechanism to trade emissions on baseline-and-credit systems (Article 6.4) by a United Nations body still to be designated. Some critics doubt the effectiveness of these mechanisms in creating sufficiently large incentives to reduce emissions, reflecting concerns that they could be used as a loophole to circumvent the commitments made. However, such internationally agreed mechanisms are essential to drive the creation of the necessary data and information infrastructure. The detailed rules of the Article 6, which are to be determined in the COP26, will influence ESG disclosure rules. They also provide a mechanism to connect geographically segmented ETS. Financial institutions and business entities’ interest in the COP26 is high because the result will impact their disclosure operations, risk assessments and business opportunities.

Article 6, if successfully negotiated, would lead to a decentralization of climate action decision-making. ESG disclosures and carbon market participation would present in financial markets the approach of each financial institution and business entity to the green transition. Governments, central banks and financial regulators are given more policy options for the green transition, not only through fiscal measures but also by financial market interventions regulation and disclosure requirements. As policy options diversify, climate actions will be more embedded into various types of policy making in both fiscal and monetary policies.

¹³ Financial Stability Board (2020), The implications of Climate Change for Financial Stability, 23 November. <https://www.fsb.org/2020/11/the-implications-of-climate-change-for-financial-stability/>

¹⁴ Swiss Re Institute (2019), Sigma – Natural catastrophes and man-made disasters in 2018. https://www.swissre.com/dam/jcr:c37eb0e4-c0b9-4a9f-9954-3d0bb4339bfd/sigma2_2019_en.pdf

¹⁵ Financial Stability Board (op. cit.)

¹⁶ Ibid.

¹⁷ UNFCCC, What is the Paris Agreement? <https://unfccc.int/process-and-meetings/the-paris-agreement/what-is-the-paris-agreement> (accessed on 25 November 2020).