The COP 26 & Carbon Pricing

Sticking Plaster Or Key To Progress?

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Introduction

The United Nations Framework Convention on Climate Change (UNFCCC[1]) was an international environmental treaty adopted at the first Earth Summit in Rio in 1992 and signed by all UN member states.

In those days George H Bush was US president, Boris Yeltsin was the Russian president and John Major was the UK prime minister. The Berlin wall had not long come down, the cold war was over and the world was full of optimism.

George H. W. Bush and Boris Yeltsin 1993 – Photographer Susan Biddle

The UNFCCC aimed to stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous climate change.

Although it did not contain binding limits on greenhouse gas emissions for individual countries (nor have any enforcement mechanisms), it did lay down a framework for the development of international treaties (called 'Protocols' or 'Agreements') that would develop binding targets.

These protocols or agreements are developed through annual Conferences Of The Parties or COPs.

COP26 is the twenty-sixth Conference of the Parties that signed the original convention and is taking place in Glasgow from 26 October to 12 November 2021[2].

Thirty Years Of Slow Progress

Only two COPs out of the preceding 25 stand out as having made substantive progress in tackling anthropomorphic climate change: COP 3 in Kyoto which resulted in the Kyoto Protocol[3], and COP 21 in Paris, resulting in the Paris Agreement[4].

[1] https://unfccc.int/
[2] https://ukcop26.org/
[3] https://unfccc.int/kyoto_protocol
[4] https://unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement

The reason for this glacial pace is that there is no agreed voting rule for COPs - almost all decisions must be adopted by consensus[5].

Consensus does not mean that all parties must agree, just that there is no stated objection to a decision (For example, a country may choose not to object formally to a decision, but to ask for its concerns to be noted in the report on the session).

The result is an enormous amount of 'horse trading' as blocs of smaller countries form to negotiate concessions (often having little to do with climate change) from major participants such as the US, Russia, and China.

The process is further complicated by the domestic politics of participants, who may find themselves under fire from opposition groups for giving away the family silver[6]. This is particularly well illustrated in the two 'successful' COPs mentioned earlier (see box 1).

International events can also influence the outcomes of COPs. In the thirty years since the UNFCCC, a new player has come to dominate the global stage.

China's rapid industrialisation and stellar economic growth have led it to become the world's largest emitter of greenhouse gases[7]. The Chinese leadership has recognised that this needs to be tackled as a matter of urgency, but whilst efforts to reduce the nation's reliance on coal[8] and increase its uptake of renewables[9] are beginning to bear fruit, and a new carbon trading scheme is gathering momentum, China is coming under pressure to achieve its net-zero target far earlier than its 2060 goal.

Although the US has indicated it will take a leadership position at COP26[10], recent geopolitical events[11] have cooled relations between China and western nations. As of 4 October, there has not been confirmation that the Chinese premier will attend the COP.

As a result, it is still uncertain whether the necessary alliances can be forged to drive the COP26 agenda forward.

[5] https://unfccc.int/resource/process/guideprocess-p.pdf
[6] https://www.spglobal.com/platts/en/market-insights/latest-news/energy-transition/081321-biden-administration-needs-climate-wins-in-congress-for-strong-momentum-into-cop26
[7] https://www.icos-cp.eu/science-and-impact/global-carbon-budget/2020
[8] https://www.theguardian.com/world/2021/sep/22/china-climate-no-new-coal-fired-power-projects-abroad-xi-jinping
[9] https://www.csis.org/east-green-chinas-global-leadership-renewable-energy
[10] https://www.whitehouse.gov/briefing-room/statements-releases/2021/09/15/president-biden-to-host-leader-level-meeting-of-the-major-economies-forum-on-energy-and-climate/
[11] https://www.thestar.com.my/aseanplus/aseanplus-news/2021/10/01/china-draws-contrast-with-aukus-as-it-rallies-support-to-join-cptpp

Box 1 Domestic Issues

In 1997 COP 3 met in Kyoto, and the result was the Kyoto Protocol. The protocol outlined greenhouse gas emissions reduction obligations for developed countries, along with what came to be known as Kyoto Mechanisms such as emissions trading, clean development mechanism and joint implementation.

The US was instrumental in forging the protocol, and initially agreed to sign it under President Clinton, but this was never ratified by the US senate. On the election of President George W Bush in 2000, US policy changed, and by 2016 the US was the only nation in the world not to have signed[1].

In 2015, COP 21 met in Paris, and the result was the Paris Agreement

The Paris Agreement's goal is to keep the increase in global average temperature to below 2 °C. To achieve this each country must determine, plan, and regularly report on the contribution that it undertakes to mitigate global warming.

The Obama administration agreed to sign up, and this time the treaty was ratified by the senate. However, the COP meeting took place shortly before the US election and in June 2017, U.S. President Donald Trump announced his intention to withdraw the United States from the agreement.

This formally occurred on 4th November 2020 (ironically the day after he lost the presidential election) and President Biden made it one of the first acts of his presidency to re-join. This took place in February of this year.

However, with a wafer-thin majority in the US Senate, the Biden administration still faces a significant challenge in following through any promises made in Glasgow.

What Is On The Agenda For COP 26?

The headline goals of COP 26 can be found in Box 2

Box 2 COP 26 Goals

1. **Secure global net zero by mid-century and keep 1.5 degrees within reach**
2. **Adapt to protect communities and natural habitats**
3. **Mobilise finance**
4. **Work together to finalise the Paris Agreement and encourage collaboration with business and civil society**

The first of these - securing global net-zero by mid-century and keeping 1.5 degrees within reach - is extremely ambitious. Countries are being asked to come forward with 2030 emissions reductions targets that align with reaching net zero by the middle of the century.

To deliver on these stretching targets, countries will need to:

- accelerate the phase-out of coal
- curtail deforestation
- speed up the switch to electric vehicles
- encourage investment in renewables.

Developing countries, and those who are reliant on the export of fossil fuels, see climate change as the consequence of centuries of economic and living standards progress by developed countries. They are naturally wary of any measures which could curtail their growth.

The second goal, adaptation to protect communities and natural habitats, through protecting and restoring ecosystems, building defences, warning systems, and resilient infrastructure and agriculture - may seem less contentious, but even here some nations balk at the costs of dealing with issues they believe to be caused by developed countries.

Mobilising finance is one area where parties can agree. Trillions of dollars are needed to achieve global net-zero. Unfortunately, where this money will come from is a somewhat more fraught question as developed countries have yet to make good on their promise to mobilise at least $100bn in climate finance per year by 2020[12].

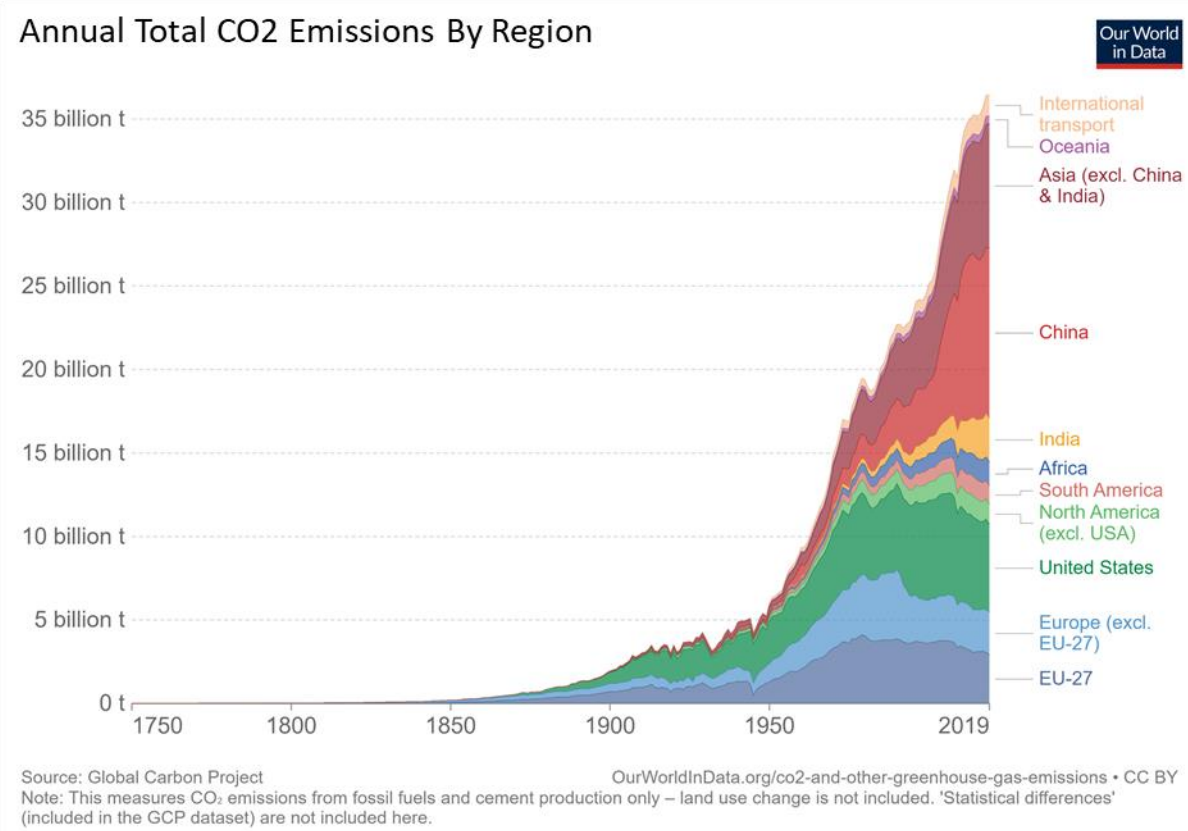
The final goal of COP 26 is to agree on a framework for international action. This element has two parts:

- Finalising the Paris Rulebook (the detailed rules that make the Paris Agreement operational) is critical. The rulebook determines how Nationally Determined Contributions (NDCs) - effectively, national carbon budgets – will be set, how they will be reported, and how compliance will be assured. This is likely to be contentious, with developing nations expecting developed nations to shoulder the lion's share of the burden, whilst fossil fuel exporting nations, will keep an eagle eye on accounting rules and weigh up the costs of reduced use to their economies.
- Accelerating action to tackle the climate crisis through collaboration between governments, businesses, and civil society – although this may be seen by some as the froth on the cappuccino,

[12] https://grist.org/politics/a-100-billion-promise-holds-the-paris-agreement-green-climate-fund/

the developments of international and regional partnerships (with concomitant funding) is part of the business used to cement voting blocs at the COP and can be critical in reaching a consensus.

Figure 1 - Annual CO2 Emissions



Where Does Carbon Pricing Fit In This Picture?

How do you solve pollution problems? One way is to pass laws setting limits on the amount of a pollutant that can be discharged. This forces businesses to comply and applies penalties to those that do not.

However, prohibition can be a blunt instrument:

1. It can't be applied overnight as many firms would be driven out of business.
2. It favours large firms, who can afford abatement technology over small firms who can't.
3. Laws stop at national boundaries, whereas pollution does not, and firms in neighbouring countries without the financial burdens of pollution control can undercut those covered by prohibitions.
4. Finally, the burden of the enforcement of prohibition falls entirely on the public sector, and when this applies to atmospheric pollution, the costs of monitoring are not inconsiderable.

With respect to the first issue, laws can be created which stage the limits of pollutants over several years, giving businesses time to adjust. However, this encourages compliance rather than performance.

Focussing on large emitters may seem logical, but with pollution, the whole may be greater than the sum of individual parts and this may incentivise large businesses to outsource parts of their production process to smaller firms not covered by the legislation.

One way of tackling the issue of unfair competition is to place a price on carbon.

For example, border taxes can be imposed which reflect the increased costs of production for compliant firms. However, imposing taxes can be risky – loopholes can always be found and they can also risk opening up trade disputes with neighbouring countries.

One alternative approach to these problems is to apply market disciplines to pollution control, in other words, to establish a market for emissions allowances that incentivises firms to profit through emissions reduction.

This works as follows:

A central authority establishes a national cap on the amount of a pollutant that can be emitted. The authority then issues emissions allowances (either free of charge or by auction) to polluters. The total number of permits issued is less than the national cap.

Firms are legally bound to measure their own emissions, and their actions have to be audited by an accredited third party. They then have a choice.

I. They can cut production to emit less pollution;
II. They can invest in technology to reduce pollution or;
III. They can buy surplus permits from those firms that have done I or II.

Proof of concept of 'cap and trade' was first demonstrated following the U.S. Clean Air Act Amendments of 1990, which initiated an emissions trading program for sulphur dioxide (SOx) emissions. Later that decade the second large trading program began for control of nitrogen oxide (NOx) emissions.

Although initially viewed as controversial, numerous studies have concluded that cap-and-trade worked well in achieving its stated goals of achieving emissions targets, resulting in substantial environmental and public health benefits.[13]

A detailed analysis of the merits of cap and trade system versus carbon taxes was explored in the 2007 London Accord[14], the 780 page report into the economics of climate change that preceded the Stern Review. The conclusion was that whilst there was room for both approaches, a cap and trade system was favoured by businesspeople and the investment community. However, setting a Cap for cap and trade is a political process and many considerations need to be taken into account.

A Lightbulb Moment

It was as a result of the success of its NOx and SOx trading scheme, that the US pushed for market instruments to be agreed at COP 3 in 1997. The result was the Kyoto Protocol.

A cap was imposed on 39 'Annex B' countries (developed nations) who were required to achieve a designated percentage reduction in their emissions over 1990 levels, and three mechanisms were created to help achieve this:

1. The Clean Development Mechanism (CDM) allowed Certified Emissions Reductions' (CERs) to be claimed by Annex B countries who invested in emissions reduction projects in developing countries.

[13] Burtraw *D &* Szambelan S 2009 *U.S. Emissions Trading Markets for SO2 and NOx* Resources For The Future https://media.rff.org/documents/RFF-DP-09-40.pdf
[14] https://www.longfinance.net/media/documents/e4.pdf

2. Joint implementation (JI) allowed developed countries to claim Emissions Reduction Units (ERUs) by investing in emissions reduction projects in transition economies (mainly former soviet bloc nations).
3. International Emissions Trading (IET) allowed countries that exceeded their emissions reduction targets to sell unused allowances to countries likely to exceed their allowances.

On paper, this looked like a brilliant solution, curbing greenhouse gas production whilst funding clean growth in developing economies.

Unfortunately, the reality was that almost from the start the protocol was flawed and although a number of CDM and JI projects were established, the scheme was heavily criticised for funding heavy industrial development which ran against the principles for which these schemes were founded. This was termed 'carbon leakage' – the displacement of carbon-intensive activity from developed nations to developing nations, with no net benefit to the planet (and concomitant economic damage to the developed nations involved). By 2012 Kyoto was dead.

Kyoto's faults lay in three areas:

1. A lack of international trading arrangements;
2. A lack of emissions reductions targets for emerging economies;
3. Developed nations' failure to stick to their agreed reduction targets, compounded by a lack of sanctions for non-compliance.

National Action

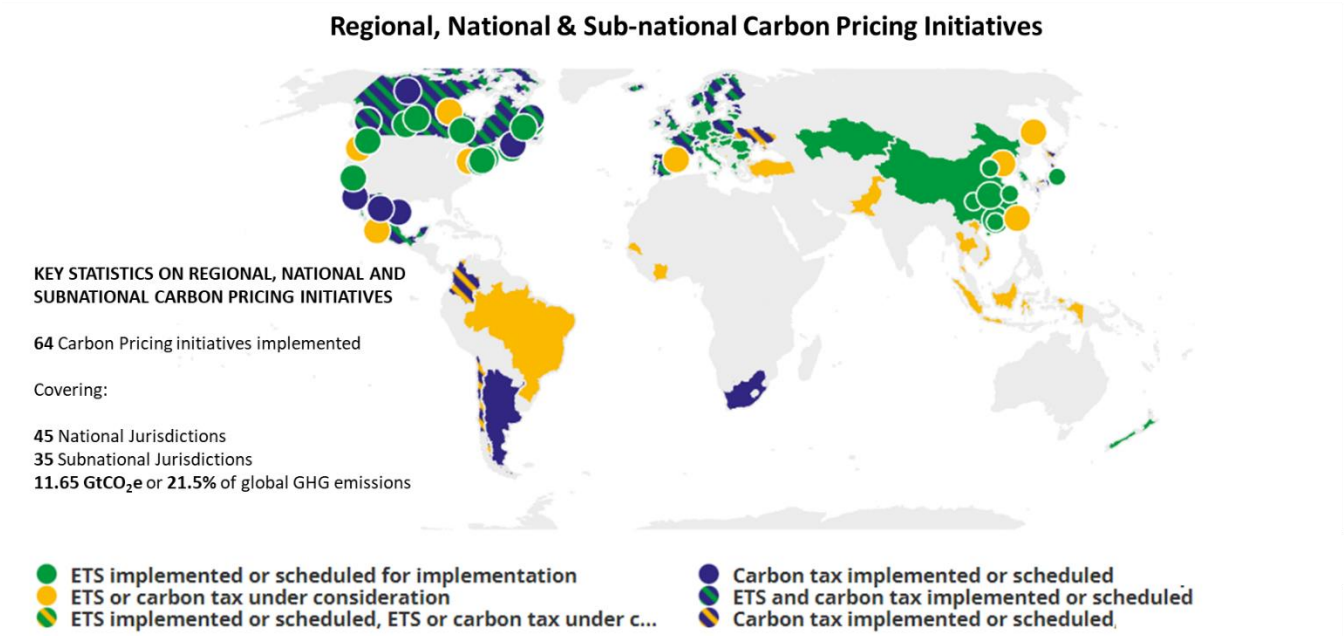
Although Kyoto ultimately failed, the concepts behind it took root and national and regional carbon pricing schemes blossomed. The EU was the first with the EU Emissions Trading Scheme (EUETS) in 2005. This scheme covered 15 member states and sought to achieve an 8% reduction in EU emissions in line with Kyoto. The EUETS is still extant and now covers 28 EU Member States plus Iceland, Liechtenstein, and Norway, as well as aviation activities in these countries. In total, around 45% of total EU greenhouse gas emissions are regulated by the EUETS.

On 14 July 2021, the Commission adopted a proposal for a new 'Carbon Border Adjustment Mechanism[15]' (Tax) which will put a carbon price on imports of certain products so that European businesses covered by the EUETS (and other climate focussed regulations) do not suffer from the effects of 'carbon leakage'.

Other nations and regions followed Europe's lead (see Figure 1), and today there are 65 carbon pricing schemes around the world. One of the most notable is China's national carbon trading scheme (see Box 3) which launched in July 2021.

[15] https://ec.europa.eu/commission/presscorner/detail/en/qanda_21_3661

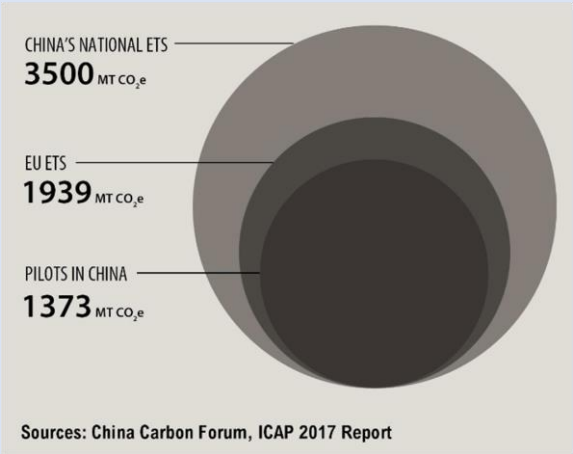
Figure 1 Global Progress On Carbon Pricing



Source: World Bank https://carbonpricingdashboard.worldbank.org/

Box 3 China's Trading Scheme

China's emissions trading scheme which launched nationwide in July 2021, following regional pilot schemes which began in 2012, is the world's largest.



The scheme initially covers coal and gas fired energy plants but it is planned to extend to construction, oil and chemicals in coming years. It accounts for four billion tCO2e, or approximately 40% of national carbon emissions, and is designed to assist the nation in reaching its target of net-zero by 2060.

The scheme has faced some criticism due to its focus on efficiency of production rather than absolute emissions. Absolute emissions can still increase as energy output increases, provided companies are reducing the volume of emissions per Kwh.

China has chosen this route to accommodate predicted economic growth of 5% per year, as although China is now the world's largest emitter of greenhouse gases, its per capita emissions are still half those of the US.

How Could COP 26 Deliver Effective Action On Carbon Pricing?

In the dying hours of COP 21 in Paris, the thorny issue of international carbon trading made its way back onto the agenda. Keen to avoid the mistakes of Kyoto, Article 6 of the Paris Agreement covers in principle (but not in detail) how countries can reduce their emissions using international carbon markets. The three key sections of Article 6 are:

- Article 6.2 - an accounting framework for international cooperation (enabling the linking of emissions-trading schemes and the international transfer of carbon credits between countries.
- Article 6.4 - a central UN mechanism to trade credits from emissions reductions generated through specific projects.
- Article 6.8 - a work program for non-market approaches, such as applying taxes to discourage emissions.

No progress was made on Article 6 at COP 25 but there are signs that COP 26 may provide a breakthrough[16]. However, even if mechanisms are agreed one further piece of the jigsaw is required to a complete solution to emissions reduction: effective carbon pricing.

Currently, although carbon pricing is almost universally agreed to be an effective way of tackling climate change (the OECD estimates that each €1 increase in the cost of carbon results in an average 0.73% reduction in emissions[17]), several issues hamper its effectiveness:

The Price - The most oft leveled criticism is the price itself[18], which varies massively around the world (see OECD.Stat[19]). Opinions vary on what price should be set for a tonne of CO2e in order to meet the Paris Goals: The High-Level Commission on Carbon Prices[20] believes the price should be between €40 and €80 ($47 to $94) per metric tonne today and between €50 to €100 per metric ton by 2030. The IMF[21] recommends prices around €75 per metric tonne, while a French government commission[22] recommends a carbon price of €250 by 2030 (and €775 in 2050) if technology forecasts do not turn out as optimistic as expected.

Establishing a global carbon 'floor price' for large emitters would reinforce the Paris Agreement by encouraging reductions whilst reducing the mounting pressure for border carbon adjustments. The World Bank developed the FASTER principles[23] for carbon pricing immediately before the COP25 meeting in Paris, but they failed to make traction at the time, and it could be time to revisit these.

Net-zero – Although it is broadly agreed that 'Net Zero' refers to a state in which carbon dioxide going into the atmosphere is balanced by removal from the atmosphere, no universally agreed definition of net-zero has yet been agreed. Should offsetting and sequestration be included in calculations? What

[16] https://www.spglobal.com/platts/en/market-insights/latest-news/electric-power/080621-resolution-to-article-6-of-paris-accord-high-on-markets-list-before-cop26
[17] https://www.oecd.org/tax/tax-policy/effective-carbon-rates-2021-brochure.pdf
[18] https://www.oecd.org/tax/tax-policy/effective-carbon-rates-2021-0e8e24f5-en.htm
[19] https://stats.oecd.org/Index.aspx?DataSetCode=ECR&_ga=2.199903977.656584819.1633601296-713418632.1633601296#
[20] https://www.carbonpricingleadership.org/report-of-the-highlevel-commission-on-carbon-prices
[21] https://www.imf.org/en/Publications/staff-climate-notes/Issues/2021/06/15/Proposal-for-an-International-Carbon-Price-Floor-Among-Large-Emitters-460468
[22] https://www.strategie.gouv.fr/english-articles/value-climate-action
[23] https://documents1.worldbank.org/curated/en/901041467995665361/pdf/99570-WP-PUBLIC-DISCLOSE-SUNDAY-SEPT-20-4PM-CarbonPricingPrinciples-1518724-Web.pdf

about other (more potent) greenhouse gases? Nailing down a definition of net-zero may seem a trivial task, but it could be essential to ensuring that the Paris goals are met[24].

The Cap - Setting an effective cap is a critical part of carbon pricing. The EUETS was dogged by problems in its first phase[25] as the cap was too high. In theory, COP 26 should secure a commitment by participants to set emissions reductions targets that align with reaching net zero by the middle of the century. However, if these targets are not ambitious enough, setting an effective cap will be difficult.

Grandfathering - This means that allowances are calculated on a percentage reduction of past emissions, rather than an absolute percentage of the total allowances available. For example, a low population industrialised nation may commit to a reduce its absolute emissions by 30% (over 1990 levels) by 2030, and to do this it will require an allowance of 10 gigatonnes of CO2 equivalent. A populous developing nation may commit to the same reduction, but as it has less industrial capacity, it will only require 2 gigatonnes. However, despite having a lower standard of living the population of the developing nation (who still emit far lower CO2 per capita than the developed nation) will be cutting their per capita emission more than the populous of the developed nation, potentially stifling economic growth. Needless to say, the concept of grandfathering is contentious[26] and likely to be a bone of contention at the COP.

Fungibility - There are a growing number of regional, national and sub-national trading schemes. At present these schemes are incompatible (especially so with China's scheme, which uses the efficiency of production rather than absolute emissions, as the basis for its allowances). Agreeing on global standards and developing the market mechanisms to link these schemes would obviate the need for border carbon taxes in participating nations, enhance the liquidity of these markets and enable an increase in the price of carbon which would begin to bite.

Scope 3 emissions – Under the Green House Gas protocol[27] the world's most widely used greenhouse gas accounting standard, emissions are divided into three groups or 'Scopes'.

- Scope 1 emissions arise from the direct combustion of fossil fuels, for example, the Scope 1 emissions of an airline arise from the use of jet fuel.
- Scope 2 emissions arise from purchased energy, such as electricity, steam or heat.
- Scope 3 emissions are caused by everything else – staff and business travel, procurement, waste disposal, investments*, and the use and disposal by customers of finished products*.

Scope 3 emissions are the elephant in the room at COP26.

For a country such as China, which produces and exports high volumes of consumer goods, accepting responsibility for Scope 3 emissions would be politically unacceptable, and it could be argued, unfair. However, certain elements of scope three, such as carbon accounting for investments are a critical component of effective carbon pricing.

Could the time have come to reassess the Green House Gas protocol from a geopolitical perspective? Should Scope 3 be amended and responsibility for the use and disposal of finished products by consumers be shifted away from corporations and firmly onto the governments of the nations where those consumers live?

[24] https://www.nature.com/articles/d41586-021-00864-9
[25] http://www.eprg.group.cam.ac.uk/wp-content/uploads/2014/01/emissionstradinglessonslearned.pdf
[26] https://www.tandfonline.com/doi/pdf/10.1080/09644016.2012.740937
[27] https://ghgprotocol.org/about-us

Offsetting Schemes – In the wake of Kyoto, a plethora of carbon offsetting schemes sprang up which sought to salve the consciences of corporations and consumers anxious to reduce their impacts on global warming. Some were founded with the best of motives and sought to use scientific principles to calculate their impact. Many were of dubious provenance and were little more than greenwashing. Most were discontinued following the 2008 financial crisis. As global anxiety on the impacts of climate change continues to grow these schemes are once again growing in popularity[28]. COP 26 presents an opportunity to address the issue of offsetting schemes through the establishment of standards. This type of activity could even be brought into the mainstream if it were linked to an updated version of the CDM.

Conclusions

COP26 launches on 26 October buoyed by the hopes of billions. The impacts of anthropogenic climate changed beginning to be felt through extreme weather events around the world. Public awareness of climate change and the importance of the COP are at an all-time high.

In the rarefied atmosphere of the conference however, things are not as straightforward, and already developing countries are lamenting the imbalance of the topics under discussion: although progress may well be made on the Paris Rulebook, other topics including delivery of the $100-billion climate finance goal, a new post-2025 finance target, the global goal on adaptation are not on the agenda.

Financial centres around the world will be viewing the outcomes of COP 26 with some trepidation. It is generally agreed that it would be politically unacceptable for China, Europe and the US to see the can kicked down the road once again. As a minimum, we can expect the Paris Rulebook to be agreed on, NDCs set, and reporting and compliance assured.

This will mean a increased focus on reporting requirements and a rise in the importance of regional standards, such as the EU Taxonomy Regulation and the Non-Financial Reporting Directive (NFRD).

It is also likely that momentum will continue to grow on disinvestment and stranded assets, compounding the woes for fossil fuel companies and raising the issue of the exposure of stock exchanges to Carbon Risk.

Article 6 is one of the least glamourous, and most obscure and complex concepts on the table at COP26. Resolving it will not be greeted with global headlines that the planet is saved, yet getting these rules right is critical.

Effectively structured international markets and mechanisms could help the world avoid dangerous levels of global warming and financial centres can play a critical role in developing the infrastructure, system and services needed to help deliver this essential tool in managing our emissions before it is too late.

20 October 2021

[28] https://www.spglobal.com/platts/en/market-insights/blogs/energy-transition/051821-fft-carbon-offsetting-credits-emissions-oil-gas-producers-lng-corsia

"When would we know our financial system is working?" is the question underlying Long Finance's goal to improve society's understanding and use of finance over the long term. In contrast to the short-termism that characterises today's economic views the Long Finance time-frame is roughly 100 years.

Long Finance aims to:

- expand frontiers - developing methodologies to solve financial system problems;
- change systems - provide evidence-based examples of how financing methods work and don't work;
- deliver services - including conferences and training using collaborative tools;
- build communities - through meeting, networking and events.

Long Finance runs programmes exploring four major themes:

1. **London Accord** – looking at environmental, social, and governance investment research issues;
2. **Financial Centre Futures –** seeking to explore how finance might work in the future;
3. **Meta-Commerce** – aiming to identify and structure the critical questions underlying the long-term viability of the financial system;
4. **Eternal Coin –** encouraging a global discussion on the nature of money and the concept of value.

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