

A guide to COP27

In search of balanced progress

- ◆ Climate talks will resume at COP27 to move forward on key issues – with adaptation, loss & damage, and finance in focus
- ◆ COP27 will be an important gauge of the political mood after the events of 2022 – Egypt is looking for balanced progress
- ◆ With few major decisions expected, investors and businesses will be watching for signals of the speed of climate action

A political metronome: Whilst the focus should be on climate change, in reality COP27 (6–18 November 2022) will **indicate whether the geopolitical events** of 2022 (Russia-Ukraine war, energy prices, food prices, etc.) have distracted governments, businesses and the general public from pursuing continued climate action over the near term. At the same time, the **extreme and record-breaking weather events** so far this year – heatwaves in Europe, floods in Pakistan, droughts in China, and many more – should serve as a reminder of the urgency to act.

A change in tempo: COP27 is an important event in the climate calendar, but will not garner as much media attention as its predecessor in Glasgow – there are fewer critical decisions to be made and less delayed “post-2020” pressure. However, it is still vitally **important for progress to be made** across a whole host of climate issues as they implement the actions from Glasgow, prepare for the global stocktake next year, and **lay the groundwork** for key decisions to be adopted in the coming years. There is also new UNFCCC Executive Secretary – Simon Stiell is former senior minister in the Government of Grenada – to conduct discussions alongside Egypt.

From minor to major: Mitigation (reducing emissions) is still important, but the spotlight in Sharm el-Sheikh will be on **adaptation, loss & damage, and finance**, in our view. There are many gaps across adaptation that need to be addressed, but the chorus will focus on the **global goal on adaptation**. Loss & damage riffs will evoke the extreme events of 2022 and the need for some form of “**provision of funds**” for the most vulnerable nations. Finance will provide the underlying melody (as usual) as developed countries missed the 2022 promise of providing USD100bn and all Parties will work together to discuss the **new collective quantified finance goal**.

A question of scale: The spike in energy prices may have sharpened the short-term need to find fossil fuels, but it has not flattened the importance of long-term energy transition and renewable infrastructure. We think investors and businesses will be listening out for signals regarding the speed of implementation as climate opportunities are potentially unlocked. As regulators fine-tune climate disclosures (for companies and funds), knowing what is coming next (adaptation and biodiversity) will be important.

Climate Change Global



This video is available as a podcast
[Subscribe via research.hsbc.com](https://research.hsbc.com)

Wai-Shin Chan, CFA

Head, Climate Change Centre; Head, ESG Research
The Hongkong and Shanghai Banking Corporation Limited
wai.shin.chan@hsbc.com.hk
+852 2822 4870

Anushua Chowdhury

Associate
Bangalore
[Click here to enter text.](#)

Caught in the crossfire

2nd edition of the ESG Sentiment Survey

[Click to view](#)

Disclosures & Disclaimer

This report must be read with the disclosures and the analyst certifications in the Disclosure appendix, and with the Disclaimer, which forms part of it.

Issuer of report: The Hongkong and Shanghai Banking Corporation Limited

View HSBC Global Research at:
<https://www.research.hsbc.com>

Did you know?

The global climate change process

COPs and the UNFCCC

1. The climate summit taking place in Sharm el-Sheikh, Egypt is known as COP27, the 27th Conference of the Parties to the UN Framework Convention on Climate Change or UNFCCC. It will be presided over by Egypt. (*CMP17, CMA4, SB57 will all take place concurrently in Egypt, see page 10 for details*).
2. The Paris Agreement aims to keep the rise in global average temperatures to well-below 2°C above pre-industrial levels and preferably to 1.5°C in order to significantly reduce the risks and impacts of climate change.

Rising temperatures and falling records

3. Globally, the World Meteorological Organisation estimates surface temperatures are up around 1.17°C since 1850-1900, and this could rise to between 1.1-1.7°C in 2022-2026.
4. Concentrations of CO₂ emissions in the atmosphere are now 50% higher than in pre-industrial times (according the US National Oceanic and Atmospheric Administration, NOAA). It touched 421ppm in June, compared with below 320ppm in 1960.

Ratification and implementation of Paris Agreement

5. There are now 198 Parties to the UNFCCC – the Holy See was the latest to ratify the Convention on 6 July 2022. As of 22 September 2022, 194 Parties, covering around 98% of global greenhouse gas (GHG) emissions have ratified the Paris Agreement. There are only four Parties yet to ratify (see page 12).
6. The Paris rulebook was agreed in 2021, the task for COP27 will be to make appropriate and balanced progress across all issues. These will help to “operationalise” and implement the Paris Agreement. There are many rules and procedures and finer points to be agreed.

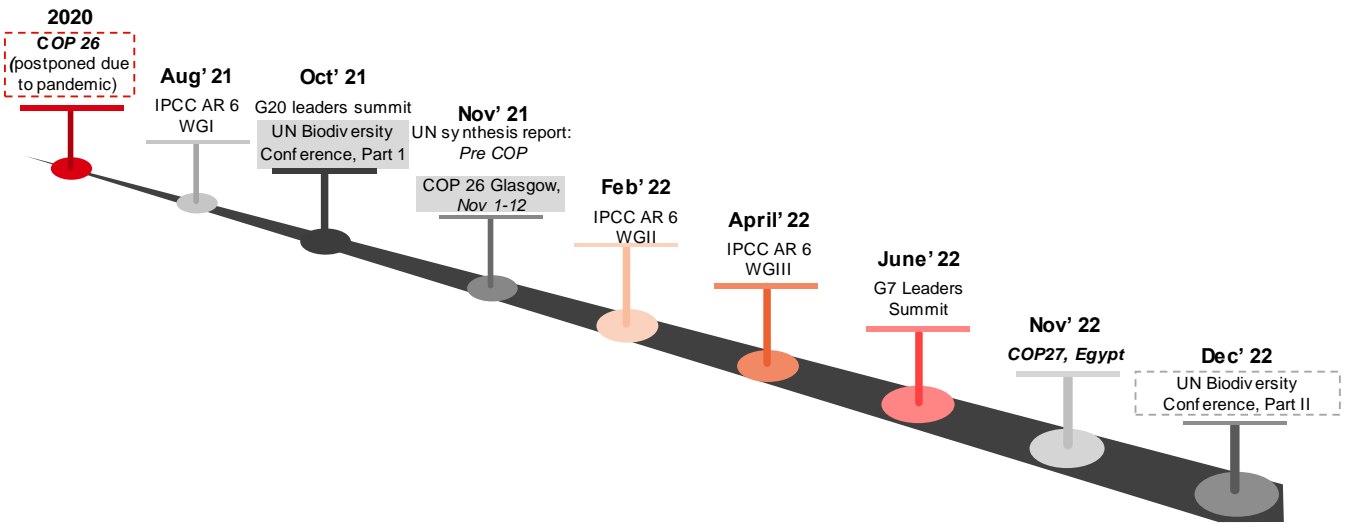
Climate pledges and Net Zero

7. Some 196 Parties submitted a climate pledge (that’s all except Libya and the Holy See) – Nationally Determined Contributions (NDCs) – covering emissions reductions as well as preparing for the impacts of climate change by building up resilience. Parties were asked to revise these before COP27, as at 22 September 2022 only 22 Parties have done so.
8. Net zero refers to the balance between the sources and sinks of GHG emissions. The IPCC states we must reach net zero by 2050 in order to limit warming to under 1.5°C. Around 80 countries (including the EU) have set targets (net zero / 1.5°C / climate or carbon neutral / zero carbon). More than 770 companies (out of 2001 sampled) have set net zero / science-based / carbon neutrality, etc.) targets (as per Net Zero Tracker).

Climate change is closely linked to biodiversity

9. Climate change is one of the key drivers of biodiversity loss – the Glasgow Climate Pact recognised “the interlinked global crises of climate change and biodiversity loss, and the critical role of protecting, conserving and restoring nature and ecosystems in delivering benefits for climate adaptation and mitigation”.
10. COP27 of the UNFCCC is not to be confused with COP15 of the Convention on Biological Diversity, which is also taking place in 2022 (December). For more on biodiversity, please see our [mini-series](#) in the run-up to COP15.

Figure 1: Timeline of events leading up to COP27 in Egypt



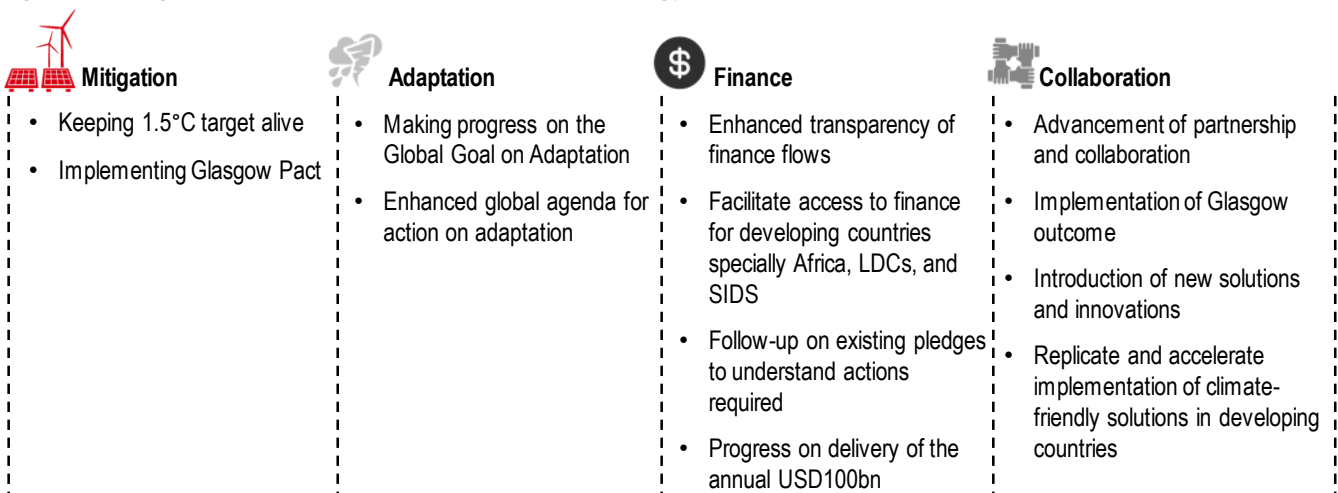
Source: HSBC (based on UNFCCC and IPCC)

Whilst the global climate process under the UNFCCC is a continually evolving ongoing process with more or less defined goals, host governments often have their own goals of what they would like to achieve at COPs.

Egypt’s vision for COP27

Egypt has articulated its [vision for a successful COP27](#). Essentially, it is “progress across the board” on all climate issues “in a balanced and equitable manner”. That means progress on mitigation, the global goal on adaptation, loss and damage and climate finance. It is targeting an acceleration and “scale up” of work streams, clarification of support for loss and damage and “making financial flows a reality”.

Figure 2: The goals for COP27 – from the perspective of Egypt



Source: Egypt COP27 website

Key issues to watch at COP27

- ◆ Adaptation will be a key focus given host's Egypt is representing Africa – look for progress on the issue of the global goal on adaptation
- ◆ Loss & damage could be a derailer as vulnerable economies seek some form of funding arrangements or a fund facility
- ◆ Questions remain over the delivery of climate finance – delegates will discuss definitions, the USD100bn and the new future goal

Recap: COP26 – Glasgow Climate Pact

COP26 in Glasgow was a modest success with a mix of compromise, disappointment and progress across many climate issues, in our view. Crucially, the Paris Rulebook (the operational guidelines of the Paris Agreement) was finalised, especially the key issues of Article 6 and common timeframes for climate pledges. The notable addition of “accelerate efforts towards the phasedown of unabated coal power and phase-out of inefficient fossil fuel subsidies” in the final pact surprised many, despite the watered-down ambition. The missed climate finance was to be delivered by 2022/23, and Parties were asked to revisit and strengthen their climate pledges. For full details, please see [COP26: Glasgow Pact](#) 15 November 2021.

Adaptation – a focus of COP27

Adaptation – and all its associated issues – will feature prominently

Adaptation – preparing for the impacts of climate change – will be a key focus at COP27. The main goal will be making progress on adaptation. This will take a number of guises but a lot of emphasis will be on the **Glasgow-Sharm el-Sheikh work programme on the global goal on adaptation (GGA)**. The GGA work programme started immediately after COP26 and is to last for two years – that is until COP28 in 2023. That means there will not be any substantial decisions taken at COP27; final decisions are supposed to be adopted at CMA5 (2023).



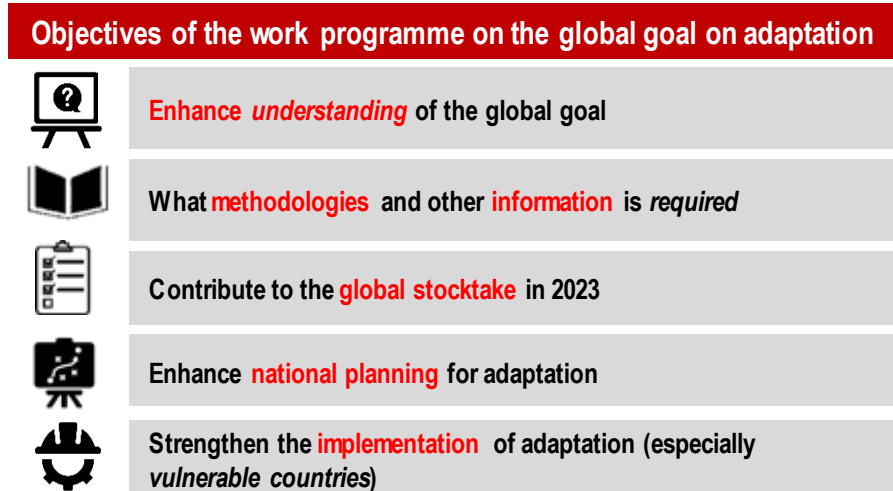
COP27 should witness enhanced global agenda for action on adaptation

Egypt's goals and vision for COP27 (adaptation section)

Transformational adaptation is hard to come by – but progress is the goal

Egypt would like to deliver “transformational adaptation” and as such address the many gaps across policy, planning, implementation and finance. As usual, adaptation will cut across many other climate issues and will appear in multiple concurrent discussions. Adaptation discussions and GGA deliberation will feed into the global stocktake (GST). Delegates will also look at how to accelerate the formulation and implementation of National Adaptation Plans (NAPs).

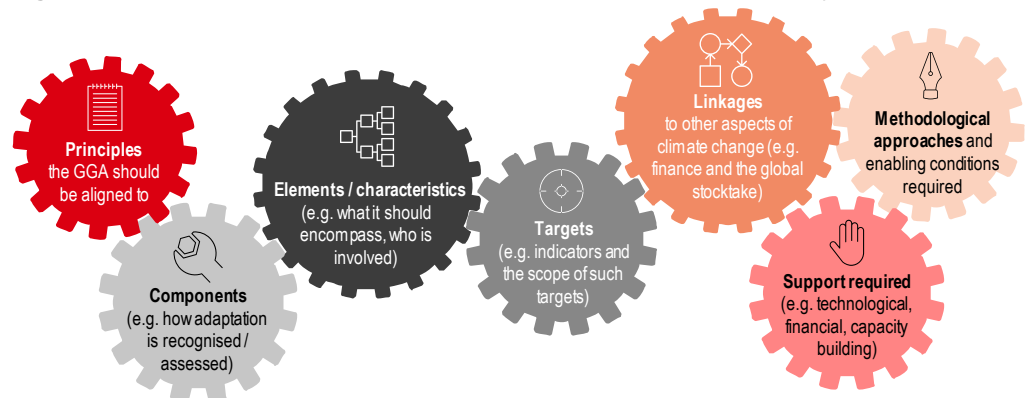
Figure 3: The global goal on adaptation is important (but still not clear)



Source: HSBC (based on UNFCCC COP26 decisions)

Discussions at COP27 are expected to make progress on various parts of the GGA.

Figure 4: Discussions on the Global Goal on Adaptation will cover many topics



Source: HSBC (based on UNFCCC)

Mitigation – what now?

Reducing emissions will still be prominent as current pledges fall far short of global goals

Updating: After the completion of the Paris Rulebook at COP26, the main ask of Parties in the run-up to COP27 was to revisit and strengthen their 2030 climate pledges. As of 23 September 2022, only 22 Parties have done so formally, most notably Egypt (COP27 host), but also the UK (COP26 host), Australia, India, and the UAE (COP28 host); some have indicated their intent to do so, but have not formally submitted updates to the UNFCCC. Another way to look at this is that only a tenth of Parties have revisited their NDCs. Unless there is a significant volume of updates over the next six weeks, we think there will likely be a clause in the main *Cover Decision* document to ask Parties to do so again – before the end of 2023.

Still updating: The limited number of revisions to date could be attributed to the turn of geopolitical events in 2022 which were a major distraction for governments around the world. However, we think another major reason was the lack of peer pressure, i.e. a major developed and developing country throwing down the gauntlet, so to speak.

Long-term mitigation strategies are just as important as short-term ones

At COP26 (CMA 3), also asked Parties to submit long-term low-emissions development strategies (LT-LEDS). To date, there have only be 52 such strategies submitted by Parties (out of 198) – of which only eight were submitted since COP26 ended in November 2021. *Note: The UN will release synthesis reports of both NDCs and LT-LEDS ahead of COP27 to see – in aggregate – what the emissions (and temperature) trajectory is like after the submission of new pledges, assuming full implementation.*

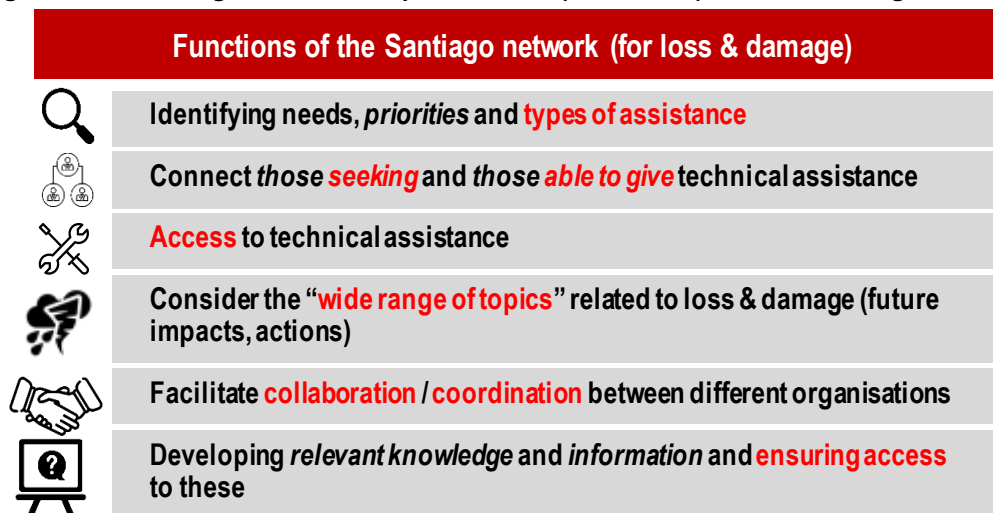
Loss and damage – it’s about finance

The issue of Loss and Damage (L&D) almost derailed COP26 and we expect it to be equally challenging for negotiators at COP27. There are multiple facets to be aware of, but two key issues in particular.

Making the Santiago network fully operational is a priority – but can it be done with finance?

The **Santiago network** for loss and damage is designed to provide relevant tools and technical assistance to developing countries. The functions of the Santiago network were established in Glasgow (COP26) but the network is not yet fully operational – this requires aspects such operational modalities, structure, governance and terms of reference. Discussions on these aspects will continue at COP27. The *terms of reference* for the coordinating or convening body of the Santiago network is expected to be agreed in Egypt. There remains the nagging question of how the Santiago network will be funded.

Figure 5: The Santiago network is to provide tools (not finance) for loss & damage



Source: HSBC (based on UNFCCC COP26 decisions)

Provision of funds will be critical for Loss & Damage discussions – but in what form?

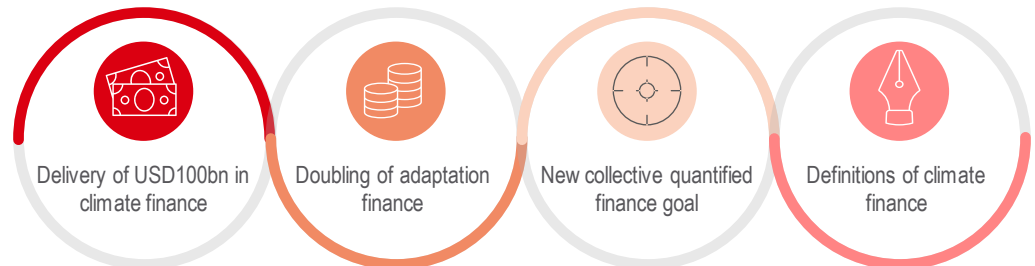
The **Glasgow Dialogue on Loss & Damage** was established at COP26 – this is a formal discussion between Parties to look into potential funding arrangements to address L&D. This is a highly contentious issue. In Glasgow, the “provision of funds” was acknowledged but not its form, source or amount. Developing nations will be looking for a funding facility (under COP) with transparent and predictable resources to address L&D. Developed nations (having already missed general climate financing USD100bn obligations) will balk at the idea of being obliged to provide even more financing. Hence, COP27 will see delegates dance around wording intended to enable some form of funding arrangement (a facility or otherwise) without being too precise on what form the funding will take. There also remains the question of “additionality”, which addresses the issue of whether an activity would have occurred anyway.

Finance – missing deadlines

Finance could be a derailer – but there are nuances ...

Finance is dotted throughout many climate issues given its crucial role for support and implementation. For example, finance is required to assist developing nations mitigate and adapt, prepare reporting and for other issues such as L&D mentioned above. At COP27, there will be four main finance issues to watch.

Figure 6: Four key finance issues to watch at COP27



Source: HSBC (based on UNFCCC)

... the promised USD100bn is still unfulfilled ...

The missing USD100bn: In 2009 (COP15), developed nations promised to provide USD100bn in climate finance to developing nations annually by 2020. Needless to say this deadline was missed. At COP26, recognising the failure to hit this target, developed nations promised to deliver the USD100bn by 2022, or the latest by 2023. Again, the figure was missed in 2022. Developing nations will be looking for *assurances* on how USD100bn will be fulfilled by 2023. Assurances come in the form of transparency of delivery i.e. proof that a financial flow has been made, is *additional*, and can be counted towards the total. This is always challenging as developed countries always claim to have provided more than developing countries claim to have received. *Note: A synthesis report Climate Finance Delivery Plan: Meeting the USD100bn goal, by Canada and Germany, should be published in September.*

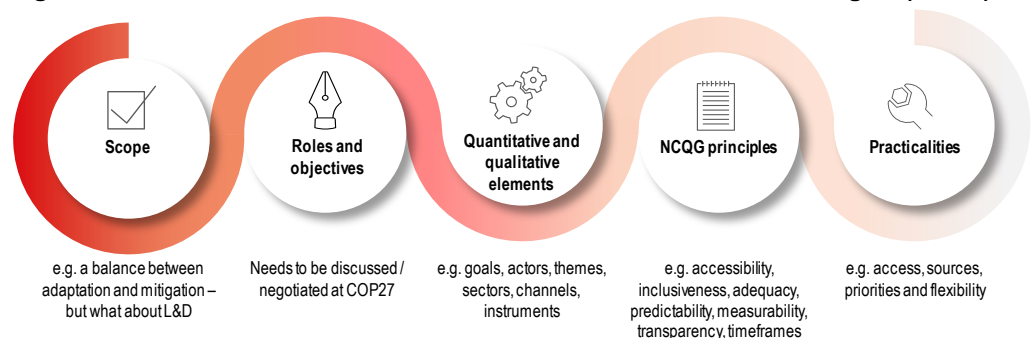
... that doesn't bode well for a promised to double adaptation finance ...

Doubling adaptation finance: Developed nations essentially agreed to “at least double their collective provision of climate finance for adaptation” from 2019 levels by 2025. This roughly translates into a 2025 target of USD40bn. It is a far cry from what is required for adaptation, but developing countries will again be looking for assurances as to how this will be delivered, especially its *additionality*. Some developing nations will be asking for signals on increasing adaptation finance and perhaps to seek bolder commitments beyond doubling.

... or setting future goals

The new collective quantified goal on climate finance (NCQG): Besides the USD100bn, COP26 decided to establish a formal work programmes from 2022-24, with a view to “setting a new collective quantified goal in 2024” (for after 2025). The overall aim of the new goal is to contribute to the Paris Agreement (especially 1.5°C) and also be transformational in supporting future mobilisation, access and delivery of climate finance. Discussions at COP26 will continue to flesh out many aspects of the NCQG (Figure 7).

Figure 7: There is much to cover in discussions towards the new finance goal (NCQG)



Source: HSBC (based on UNFCCC)

This work programme will end in 2024 and so no major conclusions will come out of COP27; however, we do expect the structural formation of the issues above, even if the precise wording is not agreed.

We do not expect delegates to agree on a formal definition of climate finance at COP27

Definitions of climate finance: There is no official UN definition of what constitutes climate finance and so a lot can be (and tends to be) grouped into this category in an attempt to make it seem like a larger amount than it actually was – much to the understandable frustration of receivers of this finance. The *Standing Committee on Finance* was tasked with coming up with a definition of climate finance at COP25 (2019). Discussion were ongoing at COP26 and have picked up throughout 2022 as various Parties submitted their views. ‘Inputs for consideration’ are expected at COP27 but we do not expect a formal definition to be agreed in Egypt.

How much is enough? There will also be numbers floating around starting from the USD100bn base. For example, some reports have already put ranges on financing requirements such as up to USD300bn for adaptation and a few trillion in annual energy-related investments. Although we expect noises and high numbers (USD1.3trn was mentioned at COP26), we do not expect any formal numbers or ranges to emerge from COP27.

Nature-based solutions have entered climate finance discussions

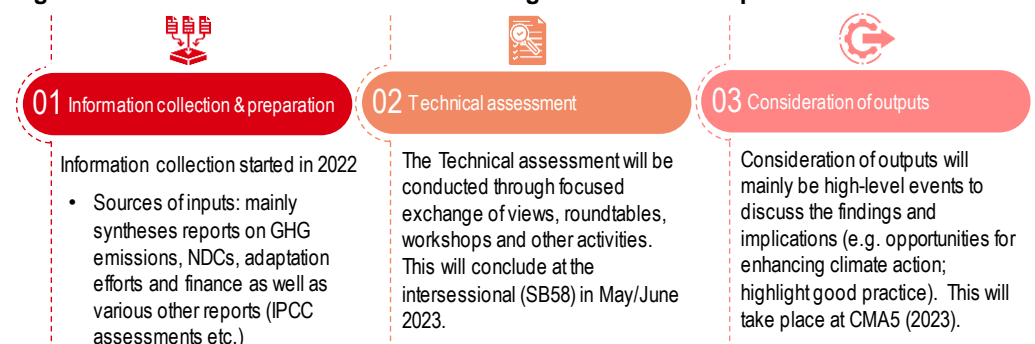
More financial features: We anticipate continued discussion on the importance of concessional and grant-based public finance. Also, the Standing Committee on Finance is starting to consider Nature-based Solutions.

Global Stocktake – in preparation

Preparations for next year’s global stocktake will gather momentum

The first global stocktake (GST) to assess progress towards the Paris Agreement’s purposes and goals will take place at COP28 in 2023. The sources of inputs (non-exhaustive) were agreed at COP26. The process will continue at COP27 with updates on how the collection and preparation of information towards the GST is going. The GST will be a key milestone for many areas including mitigation, adaptation and means of implementation.

Figure 8: The Global Stocktake of the Paris Agreement will take place in 2023



Source: HSBC (based on UNFCCC)

Other key issues

There are many, many other issues that will be discussed at COP27, either within their formal framework, informally, or as part of other discussions. We briefly highlight a few here.

Article 6 – moving forward

This was the big sticking point of COP25 although it was sensibly concluded at COP26. Now, the task is to operationalise Article 6 and its component parts Article 6.2 (Cooperative approaches), Article 6.4 (The Mechanism), Article 6.8 (Non-market approaches). Discussions will be mostly procedural, for example, the make-up of Supervisory Committee and nominations

to the committee. There will be a variety of recommendations for adoption (under CMA4). One to watch in our view is the status of 'avoided emissions'.

Transparency – through the looking glass

As discussed above under finance, those giving or providing support are always keen to claim they are doing more, whereas those on the receiving end do not always see evidence of the support. As such transparency is always a big topic at climate negotiations (and includes the transparency of regular reports). Transparency will be dotted around many issues at COP27, one point in particular to watch out for is whether delegates agree on how to operationalise the accountability framework and move forward with the enhanced transparency framework. Over time, the reporting frameworks of developed and developing nations should converge.

Committee to facilitate implementation and promote compliance – enforcement

There is no "UN police" force, but instead a "monitoring process" known as **facilitating implementation and promoting compliance**. COP26 adopted most of the rules of procedure but there are a few remaining still to be finalised at CMA4.

Long-term global goal under the Convention (LTGG) – are we doing enough?

The second periodic review of the long-term goal will conclude in 2022 at COP27. The purpose of this review is not to change the goals (essentially the temperature goals) but to enhance understanding of the progress towards the goal – i.e., is enough being done? Are there information gaps? What are the challenges faced? Is the collective effort sufficient? There should be a draft decision for adoption at COP27.

Informed by climate science: The LTGG will also be informed by climate science. This might sound obvious, but the science was only "welcome" again at COP26 (science was side-lined at COP24 and COP25). Since COP26, there have been two major reports from the UN's climate science body, the Intergovernmental Panel on Climate Change (IPCC). For more details, please see: [Impacts & adaptation](#) (1 March 2022) and [Mitigation options](#) (5 April 2022).

Key developments (outside the UNFCCC process) since COP26

Several significant deals and announcements, outside of the [Glasgow Climate Pact](#), were made last year during COP26, which includes:

Forests: *Leaders from 144 countries committed to collectively halt and reverse forest loss and land degradation by 2030, under the Glasgow Declaration on Forests and Land Use.* On 13 September 2022, the European Parliament voted for regulation on deforestation-free products. However, Brazil – a signatory to the pledge – continues to experience high levels of deforestation. While the Brazilian government published a decree in May 2022 stepping up fines for illegal deforestation, its [April](#) proposal to redraw the Amazon border has raised deforestation concerns.

Methane: *122 countries signed up to the Global Methane Pledge, committing to limit methane emissions by 30% by 2030, compared with 2020 levels. To support its implementation, the Global Methane Hub was launched with USD340m in philanthropic funding.* In June 2022, the United States, EU, and 11 countries [launched](#) the Global Methane Pledge Energy Pathway to catalyse methane emission reductions in the oil and gas sector. Among other major announcements was Canada's [commitment](#) to reduce methane emissions from oil and gas by 75% by 2030.

Zero-emission vehicles (ZEV): *39 countries, 14 automotive manufacturers, and other actors including cities and fleet owners, set out a [target](#) for all new car and van sales to be zero-emission vehicles by 2040 globally and 2035 in leading markets.* While several major countries, such as China, the US, and Germany, did not sign the pledge, there has been progress on ZEVs since then. For instance, China announced an ambition to develop charging infrastructure to meet the needs of 20m New-Energy Vehicles by 2025, and the US Congress approved the Inflation Reduction Act in August, which is expected to provide impetus to ZEVs in the country.

Understanding COPs

Blue vs Green: There is a lot going on at COPs. There are (usually) tens of thousands of delegates representing countries, regions, companies, investors as well as civil society and other organisations striving to make their voices heard; there are multiple work streams convened under various official bodies; there are a myriad of official and unofficial documents which change on a daily basis; there are also a whole host of side and affiliated events that happen during the COP fortnight.

There are two sides to COPs – official negotiations and stakeholder side-events

- ◆ **Blue zone:** The main official UNFCCC negotiations take place in the Blue zone
- ◆ **Green zone:** The side events and other activities from other stakeholders take place in the Green zone

Although all COPs are important in that progress made at one facilitates decisions made at others, some COPs are more prominent (and hence attract more side-events) because major decisions are expected. For example, COP21 (Paris Agreement), COP26 (Paris rulebook). We expect COP27 to feature less side-events than COP26 did given ongoing geopolitical events.

We highlight some of the key salient features to be aware of at COP meetings.

Parties involved

The UN Framework Convention on Climate Change (UNFCCC) was adopted in 1992 at the Rio Earth Summit and entered into force in 1994. The main aim of the convention is the “**stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.**”

'Parties' refer to UN member states (and the EU) that have joined various agreements

This is implemented through different sub-agreements such as the **Kyoto Protocol** (adopted 1997, in force 2005) and the **Paris Agreement** (adopted 2015, in force 2016). However, UNFCCC Parties are not automatically bound by sub-agreements. Each of these has to be ratified by individual Parties.

Official UN bodies involved

The discussions are organised into different work streams, assigned to different UNFCCC bodies. Many delegates, representing different groups and interests will attend COP27. Many will be a part of various (even multiple) bodies or observers to these.

Key Bodies under the UNFCCC

Conference of Parties (COP) is an annual meeting of the 198 Parties to the UNFCCC (the Holy See joined on 6 July 2022). Its purpose is to implement the aims of the convention i.e. stabilisation of GHGs at safe levels. This will be the 27th Conference of Parties (COP27).

Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA): All Parties which have formally ratified the Paris Agreement form the CMA, Parties yet to ratify participate as observers. There are currently 194 Parties to the Paris Agreement. The CMA oversees the implementation of the Paris Agreement and takes decisions to promote its effective implementation. It is convened alongside the COP and this will be the fourth session of the body (CMA4).

Various bodies meet concurrently and discuss different topics & issues

Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP): All Parties that have ratified the Kyoto Protocol form the CMP. There are currently 192 Parties to the Kyoto Protocol. The CMP oversees the implementation of the Kyoto Protocol and takes decisions to promote its effective implementation. It is convened alongside the COP and this will be the seventeenth session of the body (CMP17).

Subsidiary Body for Implementation (SBI): The SBI supports the work of the COP, the CMP and the CMA through the assessment and review of the effective implementation of the Convention, its Kyoto Protocol and the Paris Agreement. This will be the 57th session of the body (SBI57).

Subsidiary Body for Scientific and Technological Advice (SBSTA): The SBSTA supports the work of the COP, the CMP and the CMA through the provision of timely information and advice on scientific and technological matters as they relate to the Convention, its Kyoto Protocol and the Paris Agreement. This will be the 57th session of the body (SBSTA57).

Other important groups

Countries often club together into groups for logistical reasons as well as strength in numbers. For example, smaller countries may lack the resources to send delegates to every work stream and discussion. A banding together on specific or similar issues is often more efficient because there is already a consensus to build upon and it strengthens their individual position.

Many countries will align themselves with other countries to strengthen their bargaining power

Key negotiating groups in the climate process

The Association of Small Island States (AOSIS): Small Island and low-lying coastal countries e.g. Haiti, Kiribati, Palau, Nauru, Samoa, Suriname and Vanuatu (44 coalition members).

View: Adaptation is a key issue, especially financial support for adaptation by larger countries since AOSIS members are often the most vulnerable to climate impacts such as sea level rises.

Group of 77 and China (G77 & China): Originally a group of 77 developing countries, membership has expanded to 134 as other countries have joined but others have left as they became more developed. China is not an official member, but joins the G77 on climate issues. The Islamic Republic of Pakistan is the current chair of the G77 and China group for 2022.

View: Seeks balance on key issues (mitigation, adaptation, transparency) but often with an element of differentiation between developed and developing economies.

Like-Minded Developing Countries (LMDCs): A group of larger developing countries e.g. Bangladesh, China, India, Malaysia, Nicaragua, Saudi Arabia, and Venezuela.

View: Believes developed or more industrialised nations could do more, as they are responsible for the majority of historical emissions, but developing nations should also play their part.

The Small Island Developing States (SIDS): Similar to AOSIS but includes some territories that are not UN member states in their own right (with some overlap) e.g. Cabo Verde, the Maldives, Timor-Leste – but also Aruba, Curacao, Guadeloupe, and Montserrat (58 members).

View: Believes much more prominence needs to be given to adaptation since SIDS members are vulnerable to climate impacts such as rising sea-levels and more severe storms.

Other groupings: There are others that may club together depending on the issues. Independent Association of Latin America and the Caribbean (**AILAC**); Bolivarian Alliance for the Peoples of Our America (**ALBA**); High Ambition Coalition (**HAC**). Brazil, South Africa, India, and China (**BASIC**).

National climate pledges come in many forms

Climate pledges

In the run-up to the adoption of the Paris Agreement in 2015 (COP21), parties were invited to present their contribution – a climate pledge – towards the global efforts to combat climate change. These were initially known as ‘Intended Nationally Determined Contributions’ (INDCs) and became simply ‘Nationally Determined Contributions’ or NDCs (i.e. without the ‘intended’) after Parties ratified the Agreement. Parties were invited to revisit and strengthen their NDCs in 2022 but only a few have done so.

Signatories, Ratification (and Withdrawal)

Sign: A Party to the UNFCCC signing the Paris Agreement indicates its intention to be bound by the Agreement at a later date, subject to ratification, acceptance or approval. All 198 Parties are signatories to the Agreement (195 signatories plus Syria, Nicaragua and the Holy See directly ratifying).

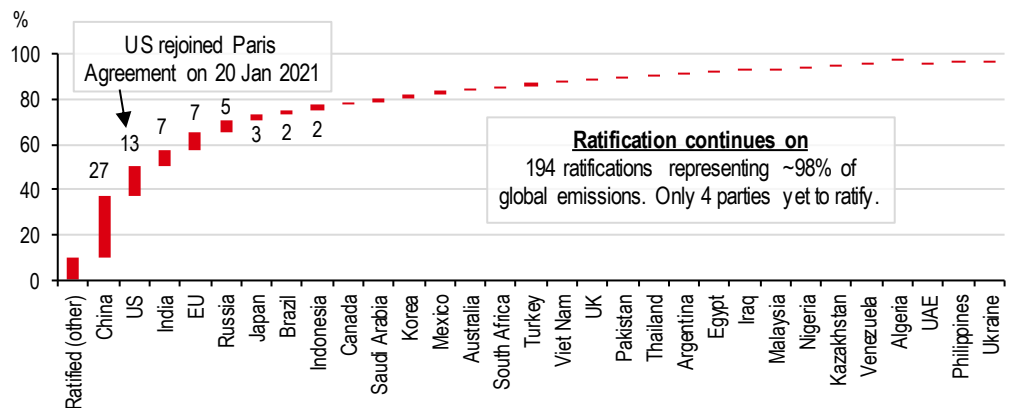
“ There are only four Parties which have not yet ratified the Paris Agreement (Eritrea, Iran, Libya, and Yemen)

A Party is only allowed to vote on decisions aligned with Bodies they have legally ratified to become a part of

Ratify: A Party becomes legally bound by the Agreement only once it deposits an instrument of ratification, acceptance or approval (which all carry the same legal effect). Parties that have ratified are legally bound by the Agreement and are allowed to take decisions with respect to the Agreement. Parties which have not yet ratified are only allowed to participate as observers in official meetings.

Some 194 Parties have ratified (Iraq, Turkey and the Holy See are the newest additions). There are only four Parties which have not yet ratified: **Eritrea, Iran, Libya, and Yemen.**

Figure 9: Ratification of the Paris Agreement trickles on



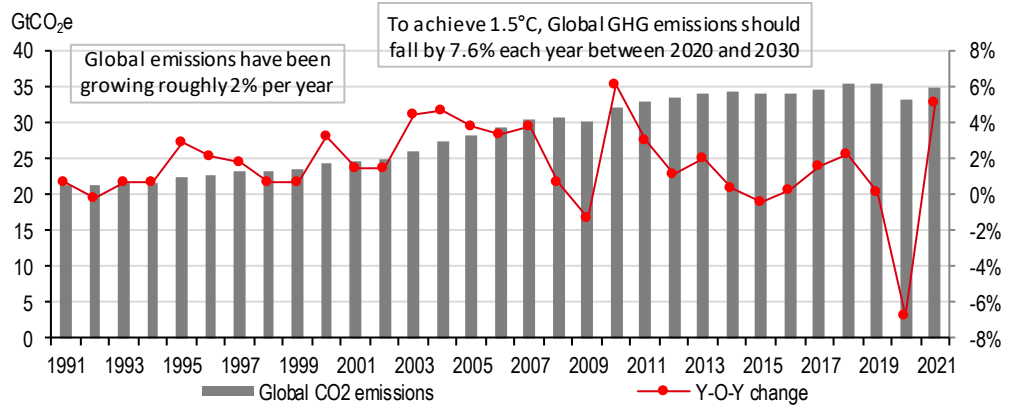
Note: emissions exclude land use change and forestry (LUCF)
Source: UNFCCC, WRI CAIT

We do not expect any Parties to withdraw from the Agreement – although US politics can be unpredictable

Article 28 of the Agreement allows for a Party’s withdrawal, essentially four years after it has entered into force (for that Party). In June 2017, the US announced its intention to do so and then formally exited on 4 November 2020. However, following the change in administration, it re-joined on the day of President Biden’s inauguration and formally became a Party to the Agreement again on 19 February 2021 (an absence of 107 days). We do not expect any other Parties to withdraw from the Agreement.

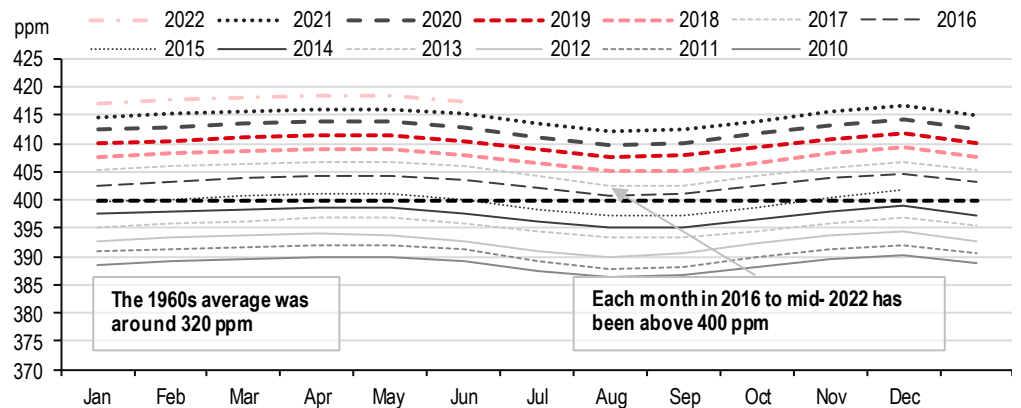
The state of the climate

Figure 10: Global historical annual CO₂ emissions (1990-2021)



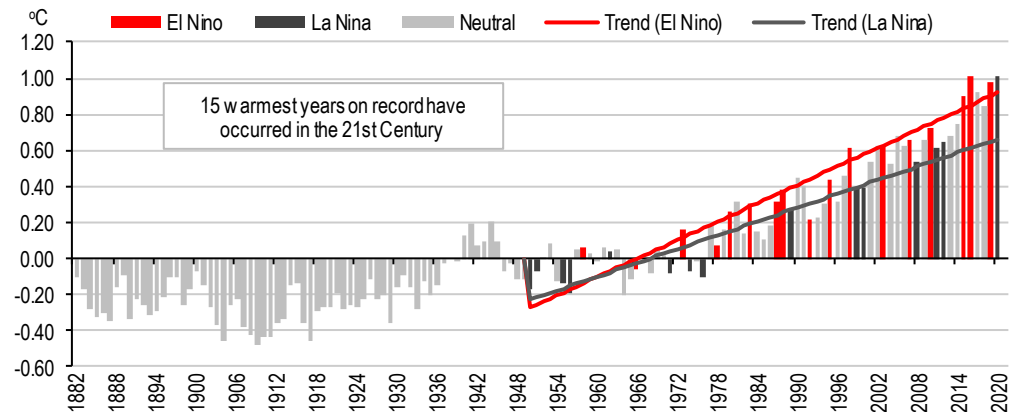
Source: CAIT, Carbon Monitor

Figure 11: Atmospheric concentrations of carbon dioxide (CO₂)



Note: This is the highest that atmospheric CO₂ concentrations have been for at least 800,000 years
Source: Earth System Research Laboratory (NOAA)

Figure 12: Global land-ocean temperature anomalies (1950-2021)



Note: Base year 1951-80; El Niño data starts from the year 1950
Source: NASA; NOAA

Disclosure appendix

Analyst Certification

The following analyst(s), economist(s), or strategist(s) who is(are) primarily responsible for this report, including any analyst(s) whose name(s) appear(s) as author of an individual section or sections of the report and any analyst(s) named as the covering analyst(s) of a subsidiary company in a sum-of-the-parts valuation certifies(y) that the opinion(s) on the subject security(ies) or issuer(s), any views or forecasts expressed in the section(s) of which such individual(s) is(are) named as author(s), and any other views or forecasts expressed herein, including any views expressed on the back page of the research report, accurately reflect their personal view(s) and that no part of their compensation was, is or will be directly or indirectly related to the specific recommendation(s) or views contained in this research report: Wai-Shin Chan, CFA

Important disclosures

This document has been prepared and is being distributed by the Research Department of HSBC and is intended solely for the clients of HSBC and is not for publication to other persons, whether through the press or by other means.

This document is for information purposes only and it should not be regarded as an offer to sell or as a solicitation of an offer to buy the securities or other investment products mentioned in it and/or to participate in any trading strategy. Advice in this document is general and should not be construed as personal advice, given it has been prepared without taking account of the objectives, financial situation or needs of any particular investor. Accordingly, investors should, before acting on the advice, consider the appropriateness of the advice, having regard to their objectives, financial situation and needs. If necessary, seek professional investment and tax advice.

Certain investment products mentioned in this document may not be eligible for sale in some states or countries, and they may not be suitable for all types of investors. Investors should consult with their HSBC representative regarding the suitability of the investment products mentioned in this document and take into account their specific investment objectives, financial situation or particular needs before making a commitment to purchase investment products.

The value of and the income produced by the investment products mentioned in this document may fluctuate, so that an investor may get back less than originally invested. Certain high-volatility investments can be subject to sudden and large falls in value that could equal or exceed the amount invested. Value and income from investment products may be adversely affected by exchange rates, interest rates, or other factors. Past performance of a particular investment product is not indicative of future results.

HSBC and its affiliates will from time to time sell to and buy from customers the securities/instruments, both equity and debt (including derivatives) of companies covered in HSBC Research on a principal or agency basis or act as a market maker or liquidity provider in the securities/instruments mentioned in this report.

Analysts, economists, and strategists are paid in part by reference to the profitability of HSBC which includes investment banking, sales & trading, and principal trading revenues.

Whether, or in what time frame, an update of this analysis will be published is not determined in advance.

For disclosures in respect of any company mentioned in this report, please see the most recently published report on that company available at www.hsbcnet.com/research. HSBC Private Banking clients should contact their Relationship Manager for queries regarding other research reports. To find out more about the proprietary models used to produce this report, please contact the authoring analyst.

Additional disclosures

- 1 This report is dated as at 26 September 2022.
- 2 All market data included in this report are dated as at close 23 September 2022, unless a different date and/or a specific time of day is indicated in the report.
- 3 HSBC has procedures in place to identify and manage any potential conflicts of interest that arise in connection with its Research business. HSBC's analysts and its other staff who are involved in the preparation and dissemination of Research operate and have a management reporting line independent of HSBC's Investment Banking business. Information Barrier procedures are in place between the Investment Banking, Principal Trading, and Research businesses to ensure that any confidential and/or price sensitive information is handled in an appropriate manner.
- 4 You are not permitted to use, for reference, any data in this document for the purpose of (i) determining the interest payable, or other sums due, under loan agreements or under other financial contracts or instruments, (ii) determining the price at which a financial instrument may be bought or sold or traded or redeemed, or the value of a financial instrument, and/or (iii) measuring the performance of a financial instrument or of an investment fund.

Disclaimer

Legal entities as at 25 May 2022

'UAE' HSBC Bank Middle East Limited, DIFC; HSBC Bank Middle East Limited, Dubai; 'HK' The Hongkong and Shanghai Banking Corporation Limited, Hong Kong; 'TW' HSBC Securities (Taiwan) Corporation Limited; 'CA' HSBC Securities (Canada) Inc.; 'France' HSBC Continental Europe; 'Spain' HSBC Continental Europe, Sucursal en España; 'Italy' HSBC Continental Europe, Italy; 'Sweden' HSBC Continental Europe Bank, Sweden Filial; 'DE' HSBC Trinkaus & Burkhardt GmbH, Düsseldorf; '000' HSBC Bank (RR), Moscow; 'IN' HSBC Securities and Capital Markets (India) Private Limited, Mumbai; 'JP' HSBC Securities (Japan) Limited, Tokyo; 'EG' HSBC Securities Egypt SAE, Cairo; 'CN' HSBC Investment Bank Asia Limited, Beijing Representative Office; The Hongkong and Shanghai Banking Corporation Limited, Singapore Branch; The Hongkong and Shanghai Banking Corporation Limited, Seoul Securities Branch; The Hongkong and Shanghai Banking Corporation Limited, Seoul Branch; HSBC Securities (South Africa) (Pty) Ltd, Johannesburg; HSBC Bank plc, London, Tel Aviv; 'US' HSBC Securities (USA) Inc., New York; HSBC Yatirim Menkul Degerler AS, Istanbul; HSBC México, SA, Institución de Banca Múltiple, Grupo Financiero HSBC; HSBC Bank Australia Limited; HSBC Bank Argentina SA; HSBC Saudi Arabia Limited; The Hongkong and Shanghai Banking Corporation Limited, New Zealand Branch incorporated in Hong Kong SAR; The Hongkong and Shanghai Banking Corporation Limited, Bangkok Branch; PT Bank HSBC Indonesia; HSBC Qianhai Securities Limited; Banco HSBC S.A.

Issuer of report

The Hongkong and Shanghai Banking Corporation Limited
Level 19, 1 Queen's Road Central
Hong Kong SAR
Telephone: +852 2843 9111
Fax: +852 2801 4138
Website: www.research.hsbc.com

The Hongkong and Shanghai Banking Corporation Limited ("HSBC") has issued this research material. The Hongkong and Shanghai Banking Corporation Limited is regulated by the Hong Kong Monetary Authority. If it is received by a customer of an affiliate of HSBC, its provision to the recipient is subject to the terms of business in place between the recipient and such affiliate.

In the UK, this publication is distributed by HSBC Bank plc for the information of its Clients (as defined in the Rules of FCA) and those of its affiliates only. Nothing herein excludes or restricts any duty or liability to a customer which HSBC Bank plc has under the Financial Services and Markets Act 2000 or under the Rules of FCA and PRA. A recipient who chooses to deal with any person who is not a representative of HSBC Bank plc in the UK will not enjoy the protections afforded by the UK regulatory regime. HSBC Bank plc is regulated by the Financial Conduct Authority and the Prudential Regulation Authority. In Australia, this publication has been distributed by The Hongkong and Shanghai Banking Corporation Limited (ABN 65 117 925 970, AFSL 301737) for the general information of its "wholesale" customers (as defined in the Corporations Act 2001). Where distributed to retail customers, this research is distributed by HSBC Bank Australia Limited (ABN 48 006 434 162, AFSL No. 232595). These respective entities make no representations that the products or services mentioned in this document are available to persons in Australia or are necessarily suitable for any particular person or appropriate in accordance with local law. No consideration has been given to the particular investment objectives, financial situation or particular needs of any recipient. This publication is distributed in New Zealand by The Hongkong and Shanghai Banking Corporation Limited, New Zealand Branch incorporated in Hong Kong SAR.

In the European Economic Area, this publication has been distributed by HSBC Continental Europe or by such other HSBC affiliate from which the recipient receives relevant services. This material is distributed in Japan by HSBC Securities (Japan) Limited. HSBC Securities (USA) Inc. accepts responsibility for the content of this research report prepared by its non-US foreign affiliate. The information contained herein is under no circumstances to be construed as investment advice and is not tailored to the needs of the recipient. All US persons receiving and/or accessing this report and intending to effect transactions in any security discussed herein should do so with HSBC Securities (USA) Inc. in the United States and not with its non-US foreign affiliate, the issuer of this report. In Korea, this publication is distributed by either The Hongkong and Shanghai Banking Corporation Limited, Seoul Securities Branch ("HBAP SLS") or The Hongkong and Shanghai Banking Corporation Limited, Seoul Branch ("HBAP SEL") for the general information of professional investors specified in Article 9 of the Financial Investment Services and Capital Markets Act ("FSCMA"). This publication is not a prospectus as defined in the FSCMA. It may not be further distributed in whole or in part for any purpose. Both HBAP SLS and HBAP SEL are regulated by the Financial Services Commission and the Financial Supervisory Service of Korea. In Singapore, this publication is distributed by The Hongkong and Shanghai Banking Corporation Limited, Singapore Branch for the general information of institutional investors or other persons specified in Sections 274 and 304 of the Securities and Futures Act (Chapter 289) ("SFA") and accredited investors and other persons in accordance with the conditions specified in Sections 275 and 305 of the SFA. Only Economics or Currencies reports are intended for distribution to a person who is not an Accredited Investor, Expert Investor or Institutional Investor as defined in SFA. The Hongkong and Shanghai Banking Corporation Limited, Singapore Branch accepts legal responsibility for the contents of reports pursuant to Regulation 32C(1)(d) of the Financial Advisers Regulations. This publication is not a prospectus as defined in the SFA. This publication is not a prospectus as defined in the SFA. It may not be further distributed in whole or in part for any purpose. The Hongkong and Shanghai Banking Corporation Limited Singapore Branch is regulated by the Monetary Authority of Singapore. Recipients in Singapore should contact a "Hongkong and Shanghai Banking Corporation Limited, Singapore Branch" representative in respect of any matters arising from, or in connection with this report. Please refer to The Hongkong and Shanghai Banking Corporation Limited Singapore Branch's website at www.business.hsbc.com.sg for contact details. HSBC México, S.A., Institución de Banca Múltiple, Grupo Financiero HSBC is authorised and regulated by Secretaría de Hacienda y Crédito Público and Comisión Nacional Bancaria y de Valores (CNBV).

In Canada, this document has been distributed by HSBC Securities (Canada) Inc. (member IIROC), and/or its affiliates. The information contained herein is under no circumstances to be construed as investment advice in any province or territory of Canada and is not tailored to the needs of the recipient. No securities commission or similar regulatory authority in Canada has reviewed or in any way passed judgment upon these materials, the information contained herein or the merits of the securities described herein, and any representation to the contrary is an offense. In Brazil, this document has been distributed by Banco HSBC S.A. ("HSBC Brazil"), and/or its affiliates. As required by Resolution No. 20/2021 of the Securities and Exchange Commission of Brazil (Comissão de Valores Mobiliários), potential conflicts of interest concerning (i) HSBC Brazil and/or its affiliates; and (ii) the analyst(s) responsible for authoring this report are stated on the chart above labelled "HSBC & Analyst Disclosures".

Any recommendations contained in it are intended for the professional investors to whom it is distributed. This material is not and should not be construed as an offer to sell or the solicitation of an offer to purchase or subscribe for any investment. HSBC has based this document on information obtained from sources it believes to be reliable but which it has not independently verified; HSBC makes no guarantee, representation or warranty and accepts no responsibility or liability as to its accuracy or completeness. Expressions of opinion are those of HSBC only and are subject to change without notice. From time to time research analysts conduct site visits of covered issuers. HSBC policies prohibit research analysts from accepting payment or reimbursement for travel expenses from the issuer for such visits. The decision and responsibility on whether or not to invest must be taken by the reader. HSBC and its affiliates and/or their officers, directors and employees may have positions in any securities mentioned in this document (or in any related investment) and may from time to time add to or dispose of any such securities (or investment). HSBC and its affiliates may act as market maker or have assumed an underwriting commitment in the securities of any companies discussed in this document (or in related investments), may sell them to or buy them from customers on a principal basis and may also perform or seek to perform banking or underwriting services for or relating to those companies. This material may not be further distributed in whole or in part for any purpose. No consideration has been given to the particular investment objectives, financial situation or particular needs of any recipient. (070905)

If you are an HSBC Private Banking ("PB") customer with approval for receipt of relevant research publications by an applicable HSBC legal entity, you are eligible to receive this publication. To be eligible to receive such publications, you must have agreed to the applicable HSBC entity's terms and conditions for accessing research and the terms and conditions of any other internet banking service offered by that HSBC entity through which you will access research publications ("the Terms"). Distribution of this publication is the sole responsibility of the HSBC entity with whom you have agreed the Terms. If you do not meet the aforementioned eligibility requirements please disregard this publication and, if you are a customer of PB, please notify your Relationship Manager. Receipt of research publications is strictly subject to the Terms and any other conditions or disclaimers applicable to the provision of the publications that may be advised by PB.

© Copyright 2022, The Hongkong and Shanghai Banking Corporation Limited, ALL RIGHTS RESERVED. No part of this publication may be reproduced, stored in a retrieval system, or transmitted, on any form or by any means, electronic, mechanical, photocopying, recording, or otherwise, without the prior written permission of The Hongkong and Shanghai Banking Corporation Limited.

MCI (P) 037/01/2022, MCI (P) 017/10/2021

[1200417]

Global Climate Change & ESG Team

Climate Change Centre of Excellence

Head, Climate Change Centre of Excellence
Wai-Shin Chan, CFA +852 2822 4870
wai.shin.chan@hsbc.com.hk

Climate Change Solutions Database

Climate Database Lead
Amit Shrivastava +971 4 509 3349
amit1.shrivastava@hsbc.com

Head of Global Research Direct
Piers Butler +44 20 7991 5518
piers.butler@hsbcib.com

Research Direct
Guillermo Berger +44 20 7991 5283
guillermo.c.berger@hsbc.com

Research Direct
Derek Hamilton +852 2822 3053
derek.hamilton@hsbc.com.hk

Environmental, Social and Governance (ESG) Research

Global Head of ESG Research
Wai-Shin Chan, CFA +852 2822 4870
wai.shin.chan@hsbc.com.hk

Head of Forensic Accounting Research
Dylan Whitfield +44 20 3359 5903
dylan.b.whitfield@hsbc.com

Governance Analyst
Yaryna Kobel +44 20 3359 6152
yaryna.kobel@hsbc.com

ESG Analyst
Camila Sarmiento +1 212 525 5901
camila.sarmiento@us.hsbc.com

ESG Analyst
Alessia Apostolatos +1 212 525 7457
alessia.m.apostolatos@us.hsbc.com

ESG Analyst
Polo Heung +852 2914 9861
polo.heung@hsbc.com.hk

ESG Analyst
Amy Tyler +44 20 3359 4059
amy.frances.tyler@hsbc.com

ESG Analyst
Linnet Cotterill, CFA +971 4423 6922
linnet.cotterill@hsbc.com

ESG Analyst
Amit Shrivastava +971 4 509 3349
amit1.shrivastava@hsbc.com

Head of ESG Integration – Equities, Asia Pacific
Thomas Hilboldt, CFA +852 2822 2922
thomaschilboldt@hsbc.com.hk

ESG Analyst
Heidi Tang +852 3941 1140
heidi.tang@hsbc.com.hk

Equities & Alternative Energy

EMEA Head of Industrials Research
Sean McLoughlin +44 20 7991 3464
sean.mcloughlin@hsbcib.com

Head, Asia Energy Transition Research
Evan Li +852 2996 6619
evan.m.h.li@hsbc.com.hk

ESG Specialist Sales

Global Head of ESG Sales
Patrick Kondarjian +44 20 7991 5866
patrick.kondarjian@hsbcib.com

ESG & Sustainable Investments Sales
Natalya Oram +852 2822 2135
natalya.oram@hsbc.com.hk

ESG Sales
Shannon Whyborne +44 20 7991 5473
shannon.whyborne@hsbc.com