Collective Input to the Global Stocktake
Submission by the Islamic Republic of Pakistan on behalf of the Group of 77 and China
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Introduction

1. The Global Stocktake (GST) is a key element in the Paris Agreement for achieving our common objective of enhancing the collective ambition of action and support towards achieving the purpose and long-term goals of the Paris Agreement. This is in the context, as Art 2 of the Paris Agreement indicates, all Parties must strive to reduce global emissions, enhance adaptive capacity, and ensure finance flows are in line with low-emissions and climate- resilient development, while enhancing the implementation of the Convention so as to reflect equity and common but differentiated responsibilities and respective capabilities, in light of different national circumstances.[1] Other relevant goals embraced in other Articles of Paris Agreement are also part of this context.

2. As such, the GST is the progressive ambition mechanism in the Paris Agreement based on an effective science-policy interface whereby the Parties can obtain scientific inputs, understand them, and together assess the collective progress towards achieving the purpose of the Paris Agreement and its long-term goals. From this assessment, the GST's outcome pursuant to Art. 14.3 of the Paris Agreement "shall inform Parties in updating and enhancing, in a nationally determined manner, their actions and support in accordance with the relevant provisions of this Agreement, as well as in enhancing international cooperation for climate action", and thereby advance coherently in the achievement of the Paris Agreement's long term goals. .

3. The first GST was launched at COP26 in Glasgow. The co-facilitators for the Technical Dialogue under the GST have already been appointed. The first Technical Dialogue will take place at the June 2022 session in Bonn. The Subsidiary Body Chairs have issued a call for inputs for the GST in accordance with the GST modalities that were adopted in 2018 at COP24 in Katowice. These modalities recognize, inter alia, that voluntary submissions from Parties, including on inputs to inform equity considerations under the GST, are included among the sources of inputs for the global GST.

4. We expect that the GST will be undertaken in a holistic, systemic, comprehensive, balanced and facilitative manner, considering all thematic areas, including mitigation, adaptation, the means of implementation and support, the consequences of response measures, loss and damage, barriers and enablers, and cross-cutting themes, in the light of equity and the best available science. The GST process should enable us to look backward at implementation gaps and challenges, including with respect to historical responsibility and pre-2020 implementation of the Convention and its related instruments, and to look forward in terms of what must be done to achieve our collective goals and how these actions could be addressed and delivered in a systemic and transformative way.[2]

Impacts of climate change on developing countries

5. Since COP25 in 2019 in Madrid, the contributory reports of Working Groups I, II, and III of the IPCC for its Sixth Assessment Report have been released.

6. The report of IPCC Working Group I on the physical science basis of the current state of the climate notes that "it is unequivocal that human influence has warmed the atmosphere, ocean and land. Widespread and rapid changes in the atmosphere, ocean, cryosphere and biosphere have

[1] G77 and China (2021a), Statement for GST Informal Consultations (7 June 2021), para. 2, at https://unfccc.int/sites/default/files/resource/G77%20Statement%20GST%20Informals%207%20June%202021.pdf
[2] G77 and China (2021b), Opening Statement at the Joint Opening Plenary of COP26, CMA3, CMP16 (31 October 2021), para. 25, at https://www.g77.org/statement/getstatement.php?id=211031

occurred."[3] It furthermore states that "Human-induced climate change is already affecting many weather and climate extremes in every region across the globe. Evidence of observed changes in extremes such as heatwaves, heavy precipitation, droughts, and tropical cyclones, and, in particular, their attribution to human influence, has strengthened since AR5."[4] In this context, observed changes in weather and climate extremes (such as hot extremes, heavy precipitation, and agricultural and ecological drought) are adversely affecting all developing country regions in Africa, Asia and the Pacific, and Latin America and the Caribbean.[5]

7. The report of the IPCC Working Group II on impacts, adaptation and vulnerability notes that "Human-induced climate change, including more frequent and intense extreme events, has caused widespread adverse impacts and related losses and damages to nature and people, beyond natural climate variability. Some development and adaptation efforts have reduced vulnerability. Across sectors and regions the most vulnerable people and systems are observed to be disproportionately affected. The rise in weather and climate extremes has led to some irreversible impacts as natural and human systems are pushed beyond their ability to adapt."[6] The IPCC notes that "Climate change has caused substantial damages, and increasingly irreversible losses, in terrestrial, freshwater and coastal and open ocean marine ecosystems", stating that "The extent and magnitude of climate change impacts are larger than estimated in previous assessments … Widespread deterioration of ecosystem structure and function, resilience and natural adaptive capacity, as well as shifts in seasonal timing have occurred due to climate change, with adverse socioeconomic consequences."[7]

8. The report of the IPCC Working Group III on mitigation of climate change noted that "Human-induced climate change is a consequence of more than a century of net GHG emissions from unsustainable energy use, land-use and land use change, lifestyle and patterns of consumption and production. Without urgent, effective and equitable mitigation actions, climate change increasingly threatens the health and livelihoods of people around the globe, ecosystem health and biodiversity. There are both synergies and trade-offs between climate action and the pursuit of other SDGs. Accelerated and equitable climate action in mitigating, and adapting to, climate change impacts is critical to sustainable development."[8]

9. The negative impacts of climate change to agricultural productivity have been mainly in, inter alia, mid- and low latitude regions (e.g. tropical regions), and increasing weather and climate extreme events have exposed millions of people to acute food insecurity and reduced water security, with the largest impacts observed in many locations and/or communities in, inter alia, developing countries in Africa, Asia, Central and South America, and Small Islands.[9] The IPCC also notes that "Climate and weather extremes are increasingly driving displacement in all regions, with small island states disproportionately affected. Flood and drought-related acute food insecurity and malnutrition have increased in Africa and Central and South America."[10] According to the IPCC, "Regions and people with considerable development constraints have high vulnerability to climatic hazards. Global hotspots of high human vulnerability are found particularly in West-, Central- and East Africa, South Asia, Central and South America, Small Island Developing States …"[11]

10. The Working Group I report highlights climate model projections showing that "Global warming of 1.5°C and 2°C will be exceeded during the 21st century unless deep reductions in CO2 and

[3] IPCC (2021), Climate Change 2021: The Physical Science Basis – Summary for Policymakers (2021), para. A.1, at https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_SPM_final.pdf.
[4] IPCC (2021), para. A.3.
[5] IPCC (2021), Figure SPM.3, p. 10.
[6] IPCC (2022a), Climate Change 2022: Impacts, Adaptation and Vulnerability – Summary for Policymakers (2022), para. SPM.B.1, at https://report.ipcc.ch/ar6wg2/pdf/IPCC_AR6_WGII_SummaryForPolicymakers.pdf
[7] IPCC (2022a), para. SPM.B.1.2, and Figure SPM.2, p. SPM-9.
[8] IPCC (2022b), Climate Change 2022: Mitigation of Climate Change – Summary for Policymakers (2022), para. D.1.1, at https://report.ipcc.ch/ar6wg3/pdf/IPCC_AR6_WGIII_SummaryForPolicymakers.pdf
[9] IPCC (2022a), para. SPM.B.1.3.
[10] IPCC (2022a), para. SPM.B.1.7.
[11] IPCC (2022a), para. SPM.B.2.4.

other greenhouse gas emissions occur in the coming decades;"[12] that "Many changes in the climate system become larger in direct relation to increasing global warming. They include increases in the frequency and intensity of hot extremes, marine heatwaves, heavy precipitation, and, in some regions, agricultural and ecological droughts; an increase in the proportion of intense tropical cyclones; and reductions in Arctic sea ice, snow cover and permafrost;"[13] and that "Many changes due to past and future greenhouse gas emissions are irreversible for centuries to millennia, especially changes in the ocean, ice sheets and global sea level."[14]

11. For the Group of 77 and China, the following projected impacts are among those that are important to consider during the GST in terms of its assessment of collective progress and the consideration of its outcomes:

    (i) Semi-arid regions (such as the semi-arid areas in South America, Africa, and West and South Asia) and the South American Monsoon region "are projected to see the highest increase in the temperature of the hottest days, at about 1.5 to 2 times the rate of global warming";[15]

    (ii) Drying regions that show a projected increase in agricultural and ecological droughts include Northern Central America, Southern Central America, Caribbean, Northern South America, North-Eastern South America, South American Monsoon, South-Western South America, Southern South America, West Southern Africa, East Southern Africa, and Madagascar;[16]

    (iii) Precipitation is projected to increase over, inter alia, the equatorial Pacific and part of the monsoon regions – such as South and South East Asia, East Asia and West Africa, but decrease over parts of the subtropics and limited areas of the tropics;[17]

    (iv) It is virtually certain that global mean sea level will continue to rise over the 21st century and for centuries to millennia and will remain elevated for thousands of years[18] -- this will have an existential adverse impact on small island developing states in the Caribbean, Africa, Indian Ocean, Asia and the Pacific, as well as on developing countries with populations living in low-lying coastal areas;[19]

    (v) Food security risks due to climate change will be more severe, leading to malnutrition and micro-nutrient deficiencies, concentrated in Sub-Saharan Africa, South Asia, Central and South America and Small Islands;[20]

    (vi) Other examples of regional key risks to developing country regions from increasing levels of global warming were also highlighted by the IPCC.[21]

12. According to the IPCC, "Soft limits to some human adaptation have been reached, but can be overcome by addressing a range of constraints, primarily financial, governance, institutional and policy constraints. Hard limits to adaptation have been reached in some ecosystems. With increasing global warming, losses and damages will increase and additional human and natural systems will reach adaptation limits."[22] It further states that "Despite progress, adaptation gaps

[12] IPCC (2021), para. B.1.
[13] IPCC (2021), para. B.2.
[14] IPCC (2021), para. B.5.
[15] IPCC (2021), para. B.2.3.
[16] IPCC (2021), Figure SPM.6, p. 18-19.
[17] IPCC (2021), para. B.3.1 and B.3.3.
[18] IPCC (2021), para. B.5.3 and B.5.4.
[19] For example, the IPCC has noted that "Vulnerability will also rise rapidly rise in low-lying Small Island Developing States and atolls in the context of sea level rise …" See IPCC (2022a), para. SPM.B.2.5.
[20] IPCC (2022a), para. SPM.B.4.3.
[21] IPCC (2022a), Figure SPM.3, panel (f), p. SPM-17.
[22] IPCC (2022a), para. SPM.C.2.13.

exist between current levels of adaptation and levels needed to respond to impacts and reduce climate risks; observed adaptation is unequally distributed across regions, and gaps are partially driven by widening disparities between the estimated costs of adaptation and documented finance allocated to adaptation. At current rates of adaptation planning and implementation the adaptation gap will continue to grow."[23]

13. Furthermore, the response measures to climate challenges adopted by Parties may also have "associated direct and/or indirect, intended and/or unintended, short, medium and/or long-term"[24] social and economic impacts on developing countries that should be taken into account. The adverse effects of climate change also bring about economic and non-economic losses and damages, especially to particularly vulnerably developing countries. These therefore also need to be addressed as recognized by paragraph 6(b)(i) and (ii) of decision 19/CMA.1 as important elements of the GST in order to ensure that the outcome of the GST support its objective of updating and enhancing, in a nationally determined manner, action and international cooperation on climate change.

Key issues for consideration during the GST: The science-policy interface, equity, and means of implementation

14. The IPCC's reports highlight that the observed and projected impacts of climate change on developing countries are serious and pose enormous challenges that need to be addressed in the context of sustainable development. Doing so through adequate financial support, international cooperation and nationally determined contributions, including, as appropriate, long-term low greenhouse gas emission development strategies under Art. 4.19 of the Paris Agreement, is within the mandate of Parties under the Convention and Paris Agreement.

15. For the Group of 77 and China, there are two key concepts that we wish to highlight in this regard for the GST: [25]

    (i) The collection and consideration of the needed INFORMATION for the purposes of the GST, in a manner that reflect both diversity and balance in perspectives;

    (ii) Assessing the collective progress of implementation on the ground, including the progress and gaps on delivery of commitments and ambitions in pre2020 and post2020 periods, the progress and barriers of just transition, with a view to inform Parties in updating and enhancing their actions and support, as well as international cooperation; and

    (iii) Identifying the good practices, lessons learned, opportunities, challenges, needs, and gaps for enhancing IMPLEMENTATION and AMBITION, with respect to mitigation, adaptation, the provision of the means of implementation (finance, capacity building and technology transfer) to developing countries, addressing the consequences of response measures, and averting, minimizing, and addressing loss and damage as indicated in para 6(b) of decision 19/CMA.1 in a balanced manner.

16. In this context, the following information that may be derived, collected, and aggregated in an inclusive and comprehensive manner from the various sources of inputs would be useful:[26]

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[23] IPCC (2022a), para. SPM.C.1.2.

[24] KCI, Draft technical paper on capacity building (KCI/2021/4/5, 25 May 2021), para. 17, at https://unfccc.int/sites/default/files/resource/TP_capacity%20building.pdf

[25] See G77 and China (2021a), para. 3.

[26] G77 and China (2021a), para. 6; G77 and China (2021c), Statement for GST Information Event of the SB Chairs: SB Chairs' Non-Paper on the GST (15 June 2021), para. 4, at https://unfccc.int/sites/default/files/resource/G77%20Statement%20GST%20SB%20Chairs%20Non-Paper.pdf. These include, for example, information relating to the global goal on adaptation, finance-related information such as the recently adopted Needs Determination Report from the SCF, information under Article 9.5, equity-related information. This could also include information with respect to pre-2020 implementation issues such as those that may be coming from the Second Periodic Review and the national reports of Parties under the Convention. See G77 and China (2021d), G77 Statement – Sources of Inputs (3

(i) Information to assess the collective progress on mitigation, adaptation, means of implementation, etc. towards achieving the purpose and long-term goals of the Paris Agreement, including information about progress, gaps, opportunities, and the way forward on delivery of ambition and commitments, from the pre-2020 period towards and after 2030

(ii) Information about what is needed to enhance implementation and ambition, both of actions to take and support needed, towards the implementation of the Paris Agreement and the achievement of its purpose and long-term goals under Art. 2 as well as other relevant goals under the Paris Agreement, in the context of sustainable development and poverty eradication, in the light of equity and the best available science

(iii) Information about implementation barriers, including need and gaps, in relation to the various GST thematic areas under para 6(b) of decision 19/CMA.1 and the measures needed to address such barriers, including complementary measures or policy packages relating to finance, technology transfer, and capacity building

17. The synergies and trade-offs between climate action and the pursuit of other SDGs, according to the IPCC, **"**depend on the development context including inequalities, with consideration of climate justice. They also depend on means of implementation, intra- and inter-sectoral interactions, cooperation between countries and regions, the sequencing, timing and stringency of mitigation actions, governance, and policy design. Maximising synergies and avoiding trade-offs pose particular challenges for developing countries, vulnerable populations, and Indigenous Peoples with limited institutional, technological and financial capacity, and with constrained social, human, and economic capital. Trade-offs can be evaluated and minimized by giving emphasis to capacity building, finance, governance, technology transfer, investments, and development and social equity considerations with meaningful participation of Indigenous Peoples and vulnerable populations."[27]

18. According to the IPCC, from "a physical science perspective, limiting human-induced global warming to a specific level requires limiting cumulative CO2 emissions, reaching at least net zero CO2 emissions, along with strong reductions in other greenhouse gas emissions."[28] It also points out that "Limiting global temperature increase to a specific level would imply limiting cumulative CO2 emissions to within a carbon budget."[29] It further states that "the cumulative scientific evidence is unequivocal: Climate change is a threat to human well-being and planetary health. Any further delay in concerted anticipatory global action on adaptation and mitigation will miss a brief and rapidly closing window of opportunity to secure a liveable and sustainable future for all."[30]

19. In the context of the outcomes of COP26, and with respect to the consideration of the IPCC reports during the GST, the Glasgow Climate Pact has, inter alia:

(i) Recognized that limiting global warming to 1.5C requires rapid, deep and sustained reductions in global greenhouse gas emissions, including reducing global carbon dioxide emissions by 45 per cent by 2030 relative to the 2010 level and to net zero around mid-century, as well as deep reductions in other greenhouse gases, and that this requires accelerated action in this critical decade, on the basis of the best available scientific knowledge and equity, reflecting common but differentiated responsibilities and respective

November 2021), para. 3, at https://unfccc.int/sites/default/files/resource/G77%20Statement%20GST%20Informals%203%20Nov%202021.pdf

[27] IPCC (2022b), para. D.1.2.

[28] IPCC (2021), para. D.1.

[29] IPCC (2021), para. D.1.1.

[30] IPCC (2022a), para. SPM.D.5.3.

capabilities, in the light of different national circumstances and in the context of sustainable development and efforts to eradicate poverty;[31]

(ii) Emphasized the urgency of scaling up action and support, including finance, capacity building and technology transfer, to enhance adaptive capacity, strengthen resilience and reduce vulnerability to climate change in line with the best available science, taking into account the priorities and needs of developing country Parties;[32]

(iii) Urged developed country Parties to provide enhanced support, including through financial resources, technology transfer and capacity-building, to assist developing country Parties with respect to both mitigation and adaptation, in continuation of their existing obligations under the Convention and the Paris Agreement;[33]

(iv) Emphasized the urgency of scaling up action and support, as appropriate, including finance, technology transfer and capacity-building, for implementing approaches to averting, minimizing and addressing loss and damage associated with the adverse effects of climate change in developing country Parties that are particularly vulnerable to these effects;[34]

(v) Recognized the importance of the global goal on adaptation for the effective implementation of the Paris Agreement, and welcomed the launch of the comprehensive two- year Glasgow–Sharm el-Sheikh work programme on the global goal on adaptation;[35]

(vi) Recognized the need to take into consideration the concerns of Parties with economies most affected by the impacts of response measures, particularly developing country Parties, in line with Article 4, paragraph 15, of the Paris Agreement, and the need to ensure just transitions promote sustainable development and eradication of poverty, and the creation of decent work and quality jobs[36].

20. In view of the above, equity is a fundamental basis for understanding the context and identifying future actions for enhancing ambition, addressing implementation barriers and opportunities, and strengthening international cooperation under the Convention and the Paris Agreement. Considering equity and the best available science together will strengthen the science-policy interface represented by the IPCC and UNFCCC/Paris Agreement regime and ensure that the

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[31] COP26, Glasgow Climate Pact, para. 17-18; CMA3, Glasgow Climate Pact, para. 22-23.

[32] COP26, Glasgow Climate Pact, para. 6, 11-14; CMA3, Glasgow Climate Pact, para. 7, 15-19. The IPCC has noted that "Financial constraints are important determinants of soft limits to adaptation across sectors and all regions. Although global tracked climate finance has shown an upward trend since AR5, current global financial flows for adaptation, including from public and private finance sources, are insufficient for and constrain implementation of adaptation options especially in developing countries. The overwhelming majority of global tracked climate finance was targeted to mitigation while a small proportion was targeted to adaptation. Adaptation finance has come predominantly from public sources. Adverse climate impacts can reduce the availability of financial resources by incurring losses and damages and through impeding national economic growth, thereby further increasing financial constraints for adaptation, particularly for developing and least developed countries." Furthermore, it also noted that "enhanced mobilization of and access to financial resources are essential for implementation of adaptation and to reduce adaptation gaps … Public and private finance instruments include inter alia grants, guarantee, equity, concessional debt, market debt, and internal budget allocation as well as savings in households and insurance. Public finance is an important enabler of adaptation. Public mechanisms and finance can leverage private sector finance for adaptation by addressing real and perceived regulatory, cost and market barriers, for example via public-private partnerships. Financial and technological resources enable effective and ongoing implementation of adaptation, especially when supported by institutions with a strong understanding of adaptation needs and capacity." See IPCC (2022a), para. SPM.C.3.2 and SPM.C.5.4.

[33] COP26, Glasgow Climate Pact, para. 22, 25-36; CMA3, Glasgow Climate Pact, para. 40, 43-60.

[34] COP26, Glasgow Climate Pact, para. 39-40; CMA3, Glasgow Climate Pact, para. 63-67, 70, 73. The IPCC has noted that "Adaptation does not prevent all losses and damages, even with effective adaptation and before reaching soft and hard limits. Losses and damages are unequally distributed across systems, regions and sectors and are not comprehensively addressed by current financial, governance and institutional arrangements, particularly in vulnerable developing countries. With increasing global warming, losses and damages increase and become increasingly difficult to avoid, while strongly concentrated among the poorest vulnerable populations." IPCC (2022a), para. SPM.C.3.5.

[35] CMA3, Glasgow Climate Pact, para. 11.

[36] CMA3, Glasgow Climate Pact, para. 84-85.

science-based assessments with respect to mitigation and adaptation coming from the IPCC are holistically taken into account in a systemic and integrated manner in the multilateral policy context of the GST.

21. The GST modalities adopted at Katowice states that equity and the best available science will be considered in a Party-driven and cross-cutting manner. There should be balance, fairness, and comprehensiveness in the treatment of all views in all of the areas covered by para. 6(b) of decision 19/CMA.1, including with respect to the information and sources of inputs under paras. 36 and 37. These are paramount concepts throughout the GST. Aligning them will be the key to success in the context of achieving the objective of the Convention and the purpose and goals of its Paris Agreement.[37]

22. Equity in substance requires a holistic and cross-cutting collection and assessment of the information obtained for the GST from all sources of inputs in light of the purpose of the GST, so that the technical assessment and political consideration of the outcome will also have substantive equity as a key element. Doing so will help ensure that the outcome of the GST is equitable, looking backward at implementation gaps and challenges (including with respect to historical responsibility and pre-2020 implementation of the Convention and its related instruments, in particular the Kyoto Protocol), what has been done, what has not yet been done, and how these would be addressed in a forward looking and equitably ambitious manner in the various areas and related efforts under paragraph 6b) of decision 19/CMA.1, taking into account the underlying principle of common but differentiated responsibility and respective capabilities, in light of different national circumstances, and in the context of sustainable development and poverty eradication. Such a substantive equity-based outcome would be the best way to enable the GST to inform Parties as they prepare their next NDCs and enhance international cooperation.[38]

23. For example, equity considerations are important aspects of the IPCC's assessment of the conditions for climate resilient development, as it notes that "Opportunities for climate resilient development are not equitably distributed around the world. Climate impacts and risks exacerbate vulnerability and social and economic inequities and consequently increase persistent and acute development challenges, especially in developing regions and sub-regions, and in particularly exposed sites, including coasts, small islands, deserts, mountains and polar regions. This in turn undermines efforts to achieve sustainable development, particularly for vulnerable and marginalized communities."[39] The IPCC states that "Climate resilient development pathways are progressively constrained by every increment of warming, in particular beyond 1.5°C, social and economic inequalities, the balance between adaptation and mitigation varying by national, regional and local circumstances and geographies, according to capabilities including resources, vulnerability, culture and values, past development choices leading to past emissions and future warming scenarios, bounding the climate resilient development pathways remaining, and the ways in which development trajectories are shaped by equity, and social and climate justice."[40]

24. The IPCC also notes that "Integrated and inclusive system-oriented solutions based on equity and social and climate justice reduce risks and enable climate resilient development."[41] These system-oriented solutions should be equitable and nationally appropriate, in light of different national circumstances, and support integrated, comprehensive, and inclusive climate action through closing "loops" and tackling material and GHG emissions flows. They should holistically advance flexible and equitable emissions reduction and climate adaptation models, innovative sustainable development pathways, such as but not limited to a circular economy or circular carbon economy approach, and the consideration of various mitigation and adaptation technologies and technological approaches referred to by the IPCC's reports, to be adopted and implemented in a nationally driven manner and enable climate change challenges to be addressed effectively.

[37] G77 and China (2021a), para. 4.
[38] G77 and China (2021c), para. 7.
[39] IPCC (2022a), para. SPM.D.1.2.
[40] IPCC (2022a), para. SPM.D.1.1.
[41] IPCC (2022a), para. SPM.D.1.3.

25. Equity would also imply that a holistic, systemic and integrated understanding of the past, present, and future challenges and opportunities for action and ambition is obtained through the GST. For example, as the IPCC has stated, "It is unequivocal that climate change has already disrupted human and natural systems. Past and current development trends (past emissions, development and climate change) have not advanced global climate resilient development. Societal choices and actions implemented in the next decade determine the extent to which medium- and long-term pathways will deliver higher or lower climate resilient development. Importantly climate resilient development prospects are increasingly limited if current greenhouse gas emissions do not rapidly decline, especially if 1.5°C global warming is exceeded in the near term. These prospects are constrained by past development, emissions and climate change, and enabled by inclusive governance, adequate and appropriate human and technological resources, information, capacities and finance."[42]

26. The IPCC has recognized that there are "close linkages between climate change mitigation, adaptation and development pathways. The development pathways taken by countries at all stages of economic development impact GHG emissions and hence shape mitigation challenges and opportunities, which vary across countries and regions" and that the assessed scientific literature "explores how development choices and the establishment of enabling conditions for action and support influence the feasibility and the cost of limiting emissions" and "highlights that climate change mitigation action designed and conducted in the context of sustainable development, equity, and poverty eradication, and rooted in the development aspirations of the societies within which they take place, will be more acceptable, durable and effective."[43]

27. In this context, as the IPCC notes, "ambitious mitigation pathways imply large and sometimes disruptive changes in economic structure, with significant distributional consequences, within and between countries. Equity remains a central element in the UN climate regime, notwithstanding shifts in differentiation between states over time and challenges in assessing fair shares. Distributional consequences within and between countries include shifting of income and employment during the transition from high to low emissions activities. While some jobs may be lost, low-emissions development can also open more opportunities to enhance skills and create more jobs that last, with differences across countries and sectors. Integrated policy packages can improve the ability to integrate considerations of equity, gender equality and justice."[44] As the IPCC highlighted in relation to inequalities in the distribution of emissions and in the impacts of mitigation policies within countries that affect social cohesion and the acceptability of mitigation and other environmental policies, "equity and just transitions can enable deeper ambitions for accelerated mitigation. Applying just transition principles and implementing them through collective and participatory decision-making processes is an effective way of integrating equity principles into policies at all scales, in different ways depending on national circumstances."[45]

28. Furthermore, together with the equity considerations raised above, basing our work in the GST on the best available science requires that the policy-relevant insights presented by the IPCC reports with regards to historic emissions, future scenarios, pathways, challenges and solutions needed to achieve them are reflected in the outputs of the Technical Assesment component, and in the final outcome of the GST itself. The IPCC reports highlight the challenge of shifting development pathways from current trends to those which enable social and economic development in a manner that achieves both rapid emissions reductions and climate resilience, while meeting national aspirations. This illustrates the kind of holistic, systemic framework that can strengthen our approach, helping our analyses and our conclusions more effectively frame the opportunities and challenges referred to in paragraphs 13 and 34 of decision 19/CMA.1 for enhancing action and

[42] IPCC (2022a), para. SPM.D.5.
[43] IPCC (2022b), Climate Change 2022: Mitigation of Climate Change – Summary for Policymakers (2022), p. SPM-2, at https://report.ipcc.ch/ar6wg3/pdf/IPCC_AR6_WGIII_SummaryForPolicymakers.pdf
[44] IPCC (2022b), para. D.3.2.
[45] IPCC (2022b), para. D.3.3.

support in the light of equity and the best available science, as well as lessons learned and good practices, in terms of the solution space considered by science.

29. The COP agreed in the Glasgow Climate Pact to milestones by 2030 towards meeting the Paris Agreement's long-term temperature goals by mid-century. Through the work and outcome of the GST, there can be concrete guidance to inform Parties with a view to achieving the outcome of the GST under Article 14.3 of the Paris Agreement.

30. Systems that must rapidly transition towards deep structural changes include the energy system, the industrial system, the urban and infrastructure system, and the land use and food system[46]. The GST must consider progress made, barriers and enablers, needed steps and milestones, to provide guidance that can inform and empower Parties to consider the whole range of options relevant to updating and enhancing, in a nationally determined manner, their actions and support in accordance with the relevant provisions of this Agreement, as well as in enhancing international cooperation for climate action.

31. An equity-based approach to climate action in light of the best available science would hence require that the GST take into account the following policy-relevant insights from the IPCC:

    (i) "Broadening equitable access to domestic and international finance, technologies that facilitate mitigation, and capacity, while explicitly addressing needs can further integrate equity and justice into national and international policies and act as a catalyst for accelerating mitigation and shifting development pathways. The consideration of ethics and equity can help address the uneven distribution of adverse impacts associated with 1.5°C and higher levels of global warming, in all societies. Consideration of climate justice can help to facilitate shifting development pathways towards sustainability, including through equitable sharing of benefits and burdens of mitigation, increasing resilience to the impacts of climate change, especially for vulnerable countries and communities, and equitably supporting those in need"[47]

    (ii) "There are mitigation options which are feasible to deploy at scale in the near term. Feasibility differs across sectors and regions, and according to capacities and the speed and scale of implementation. Barriers to feasibility would need to be reduced or removed, and enabling conditions strengthened to deploy mitigation options at scale. These barriers and enablers include geophysical, environmental-ecological, technological, and economic factors, and especially institutional and socio-cultural factors."[48]

    (iii) "Tracked financial flows fall short of the levels needed to achieve mitigation goals across all sectors and regions. The challenge of closing gaps is largest in developing countries as a whole. Scaling up mitigation financial flows can be supported by clear policy choices and signals from governments and the international community. Accelerated international financial cooperation is a critical enabler of low-GHG and just transitions, and can address inequities in access to finance and the costs of, and vulnerability to, the impacts of climate change."[49]

    (iv) "Accelerated financial support for developing countries from developed countries and other sources is a critical enabler to enhance mitigation action and address inequities in access to finance, including its costs, terms and conditions and economic vulnerability to climate change for developing countries. Scaled-up public grants for mitigation and

[46] IPCC (2018), Special Report on Global Warming of 1.5°C (2018), para. SPM C.2
[47] IPCC (2022b), para. D.3.4.
[48] IPCC (2022b), para. E.1. According to the IPCC, "the term 'enabling conditions' refers to conditions that enhance the feasibility of adaptation and mitigation options. Enabling conditions include finance, technological innovation, strengthening policy instruments, institutional capacity, multi-level governance and changes in human behaviour and lifestyles." Id., para. E.1, footnote 73.
[49] IPCC (2022b), para. E.5.

adaptation funding ... would be cost-effective and have high social returns in terms of access to basic energy. Options for scaling up mitigation in developing regions include: increased levels of public finance and publicly mobilised private finance flows from developed to developing countries in the context of the USD100 billion-a-year goal; increase the use of public guarantees to reduce risks and leverage private flows at lower cost; local capital markets development; and building greater trust in international cooperation processes. A coordinated effort to make the post-pandemic recovery sustainable and increased flows of financing over the next decade can accelerate climate action, including in developing regions and countries facing high debt costs, debt distress and macro-economic uncertainty."[50]

(v) "Average annual modelled investment requirements for 2020 to 2030 in scenarios that limit warming to 2°C or 1.5°C are a factor of three to six greater than current levels, and total mitigation investments (public, private, domestic and international) would need to increase across all sectors and regions. Mitigation investment gaps are wide for all sectors, and widest for the AFOLU sector in relative terms and for developing countries. Financing and investment requirements for adaptation, reduction of losses and damages, general infrastructure, regulatory environment and capacity building, and climate-responsive social protection further exacerbate the magnitude of the challenges for developing countries to attract financing."[51]

(vi) "International financial, technology and capacity building support to developing countries will enable greater implementation and encourage ambitious nationally determined contributions over time."[52]

(vii) "International cooperation on technology development and transfer accompanied by capacity building, knowledge sharing, and technical and financial support can accelerate the global diffusion of mitigation technologies, practices and policies at national and sub-national levels, and align these with other development objectives. Challenges in and opportunities to enhance innovation cooperation exist, including in the implementation of elements of the UNFCCC and the Paris Agreement as per the literature assessed, such as in relation to technology development and transfer, and finance. International cooperation on innovation works best when tailored to specific institutional and capability contexts, when it benefits local value chains, when partners collaborate equitably and on voluntary and mutually agreed terms, when all relevant voices are heard, and when capacity building is an integral part of the effort. Support to strengthen technological innovation systems and innovation capabilities, including through financial support in developing countries would enhance engagement in and improve international cooperation on innovation."[53]

32. As a final reflection on the relevance of the best available science on the GST, we wish to highlight the findings of IPCC AR6 Working Group II regarding the soft and hard limits to adaptation. Emissions which exceed the long-term temperature goals of the Paris Agreement, including 1.5C, will result in climate impacts that disproportionately harm developing countries, against which it will not be possible to adapt, and will cause losses and damages to those who are most vulnerable. This brings a new urgency to the imperative of providing financial support to address loss and damage as part of the UNFCCC's and Paris Agreement's institutional architecture for international cooperaton, particularly in light of the commitment of developed country Parties to lead the way in emissions reductions as stated in Article 3.1 of the UNFCCC and Article 4.4 of the Paris Agreement.

[50] IPCC (2022b), para. E.5.3.
[51] IPCC (2022b), para. E.5.1.
[52] IPCC (2022b), para. E.6.1.
[53] IPCC (2022b), para. E.6.2.

33. It is highly important to the Group of 77 and China that support for climate resilient development prospects identified by the IPCC above include technological resources and finance. These are the means of implementation that enable developing countries to implement and be more ambitious in their national climate actions under the Convention and the Paris Agreement, and the provision of which has been long-standing and current obligations of developed countries.[54] The Group has stressed that financial resources as well as technology development and transfer and capacity building are crucial enablers of climate action,[55] and that the provision and mobilization of finance, technology and capacity building by developed countries must be done in a transparent manner, must be new, additional, predictable, and consider the actual needs and priorities of developing countries.[56] This would include, for example, promoting finance for and the deployment of technologies needed to effectively address emissions and ensure just energy transitions such as those relevant mitigation and adaptation technologies referred to by the IPCC in its assessments.

34. In this context, the Group of 77 and China's call has been, and continues to be, to strengthen the parts of our system under the UNFCCC to ensure that we are able to deliver on ambitious action on mitigation, adaptation, and the provision of the means of implementation, consistent with the principles of equity and common but differentiated responsibilities and respective capabilities in light of different national circumstances available in the UNFCCC and its Kyoto Protocol and Paris Agreement. We need to make this system work so that it can effectively address the needs of our peoples all over the world, especially in developing countries that are particularly vulnerable to the adverse effects of climate change and faced with more challenges towards achieving sustainable development.[57]

35. To summarize, there are priority issues that are of key interest to developing countries that have not been given adequate treatment or balanced treatment. These include equity in both outcome and process, adaptation (including the global goal on adaptation and any progress made under the Glasgow-Sharm el-Sheikh work programme), means of implementation (separately for finance, technology transfer, and capacity building), response measures, loss and damage, technology development and transfer, and transformational change. These issues should be given more detail and focus to elicit from Parties and other contributors of inputs to the process more holistic, cross-cutting, equity-oriented, backward and forward-looking information inputs that would be needed to enable the GST to carry out its purpose.[58]

36. Of great importance for the Group of 77 and China would be inputs and discussions in the GST that would allow Parties to have a clearer, more holistic, and more systemic understanding of the various actions and elements that need to work together on the implementation of the UNFCCC and the Paris Agreement, enhance ambition, the provision of the means of implementation, and international cooperation, and support just transitions and the achievement of sustainable development in a nationally determined manner.

37. Finally, we would like to recall and reiterate some overarching considerations that are important to the Group: [59]

    (i) Information coming from regional reports of regional organizations may be relevant to the assessment of collective progress and be included in GT outputs. Sufficient regional representation of developing countries within GST activities is also important.

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[54] UNFCCC, Art. 4.3, 4.4, 4.5, 4.7; Paris Agreement, Art. 3, 4.5, 7.13, 9.1, 9.3, 9.5, 9.7, 10.6, 11.3.
[55] G77 and China (2021b), para. 9.
[56] G77 and China (2021b), para. 11.
[57] G77 and China (2021e), Opening Statement – Joint Opening Plenary of the SBSTA and SBI (31 May 2021), para. 5, at https://www4.unfccc.int/sites/SubmissionsStaging/Documents/202106071056---Guinea_G77%20and%20China%20Virtual%20SB%20Opening%20Statement.pdf
[58] G77 and China (2021c), para. 4.
[59] G77 and China (2021f), Statement for GST Informal Consultations: Modalities for Consideration of Submissions under Paragraph 37(i), Decision 19/CMA.1 (8 June 2021), para. 2, at https://unfccc.int/sites/default/files/resource/G77%20Statement%20GST%20Informals%20Consultation%20on%2037_i.pdf

(ii) To promote comprehensiveness in the information to be considered during the GST, there should be balance in terms of considering both backward-looking and forward-looking information in all the thematic areas referred to in paragraph 6(b) of decision 19/CMA.1, without prejudging or limiting the content of such information. For the G77, we stress that there should not be any imbalance in terms of focus on any thematic area.

(iii) As stated in paragraph 14 of decision 19/CMA.1, the focus is on taking stock of the implementation of the Paris Agreement to assess collective progress and have no individual Party focus.

(iv) For the GST to serve its purpose under Article 14 of the Paris Agreement, simple, effective, and efficient implementation of the agreed modalities under decision 19/CMA.1 would be important.

38. This submission is without prejudice to further submissions from the Group or to the specific or individual views of the members of the Group of 77 and China or its various constituency groups.