

Sharm El-Sheikh Mitigation Ambition and Implementation Work Programme

Submission on the topics to be discussed at the 2023 global dialogues in line with the scope of work of the Mitigation Work Program (*MWP*) agreed at COP27¹

1 February 2023

A. Summary

- 1. The selection of topics to be discussed at the mandated global dialogues could be based on the following criteria:
 - positive mitigation impact potential
 - maturity (technical and economic feasibility)
 - positive sustainable development impacts
 - strategic targeting
 - non-Party stakeholder (NPS) engagement
 - case for government intervention
 - feasibility of policy or actions.
- 2. Applying these criteria to the scope of the MWP, examples of areas that would merit discussion under the MWP dialogues include:
 - Reduce methane emissions from the energy sector
 - Scale up deployment of clean energy technologies in the electricity sector
 - Electrify land-based transportation
 - Protect, manage, and restore forests and other ecosystems.

¹ This submission is made in response to the invitation to submit by 1 February 2023 and every year thereafter suggested topics to be discussed under the dialogues.



B. Suggested topics for discussion under the global dialogues

3. Specific topics to be discussed at the mandated global dialogues under the MWP could be selected using the following criteria:²

• positive mitigation impact potential

- The mitigation potential for the sector is substantial relative to the level required by 2030, and complements longer term-action, including in other sectors.
- **maturity** (technical and economic feasibility)
 - Associated costs are falling or need to be driven down for uptake, confidence exists in the measurement of impacts (e.g., solar and wind energy costs have significantly decreased).
- positive sustainable development impacts
 - Potential for positive synergies among the UN Sustainable Development Goals (*SDGs*) outweigh negative tradeoffs (e.g., when carefully implemented, natural climate solutions can safeguard livelihoods and preserve biodiversity, among other benefits provided).
- strategic targeting
 - Sectors have substantial and/or growing emissions footprint (e.g., demand for transport is expected to continue rising rapidly) or are specifically vulnerable to climate impacts, interventions target innovations that can unlock untapped opportunities addressing both mitigation and adaptation priorities, and potential exists to disseminate practices and technologies across jurisdictions.
- non-Party stakeholder engagement
 - Actors outside central government are willing to participate and meet policy requirements or encouragements, and collaborative initiatives among NPS and between Parties and NPS already exist to accelerate impact (e.g., the Breakthrough Agenda).

• case for government intervention

 Government policy and/or action can be expected to realize greater mitigation impacts, through the removal of regulatory barriers, alignment of objectives, more effective use of institutions or resources, and economic incentives.

² These criteria are based on those originally developed by C2ES and EDF in relation to ongoing work on the global stocktake, <u>https://www.c2es.org/wp-content/uploads/2022/02/distilling-critical-signals-from-the-global-stocktake.pdf</u>.



• feasibility of policy or actions

- Best practices are available, institutional capacity installed, solutions locally appropriate (e.g., pressures for large-scale commodity production on land provides less benefits than forest protection).
- 4. Applying these criteria to the scope of the MWP, examples of areas that would merit discussion under the MWP dialogues include:³
 - Reduce methane emissions from the energy sector
 - Scale up deployment of clean energy technologies in the electricity sector
 - Electrify land-based transportation
 - Protect, manage, and restore forests and other ecosystems.

C. Considerations on how to carry out effective global dialogues

- 5. To be most effective, the MWP global dialogues could usefully aim to:
 - generate discussions that are facilitative, constructive, innovative, and catalytic
 - be inclusive and ensure a diversity of participation, including by policymakers and implementers
 - generate clear signals in support of national processes and be of practical use to domestic policymaking
 - explore, elucidate, and highlight the greatest, most cost-effective and scalable mitigation opportunities/potential, as well as enable practical pathways to help countries implement their Nationally Determined Contributions (*NDCs*) and identify scope for enhanced action, including by:
 - sharing best practice and lessons learned, including in relation to overcoming challenges to scaling and implementing enhanced mitigation action, also encompassing a focus on non-cost barriers
 - effectively involving NPS, the High Level Champions (*HLCs*), and wider climate action agenda, drawing on their work, e.g., 2030 Breakthroughs⁴ and Breakthrough Agenda⁵

³ These areas are emerging out of ongoing work between C2ES and EDF to identify mitigation solutions in the context of the global stocktake, <u>https://www.c2es.org/wp-content/uploads/2022/02/Mitigation-Landscape-Analysis-Themes-and-Trends.pdf</u>.

⁴ 2030 Breakthroughs <u>https://racetozero.unfccc.int/wp-content/uploads/2021/09/2030-breakthroughs-upgrading-our-systems-together.pdf</u>

⁵ Breakthrough Agenda <u>https://climatechampions.unfccc.int/breakthrough-agenda/</u>



- connect to investment-focused events the MWP asks the HLCs to support, on the margins of the dialogues
- o take into account regional considerations
- developing a menu of exemplar best practices and approaches.
- track progress against commitments made by Parties and NPS outside of the formal multilateral process, identify gaps and opportunities for further action, and explore how they might form part of NDC updates as well as long-term low greenhouse gas emission development strategies (LTS)
- address issues of equity and sustainable development
- explore synergies with adaptation
- take into account and be based on the latest science
- consider issues related to just transition
- involve external expertise, as appropriate
- identify where further work in specific areas is needed, e.g., a study of mitigation potential by regions, countries or sectors with a view to making specific policy recommendations
- generate new multilateral initiatives and political statements of intent, strengthening the role of NPS and International Government Organizations.
- 6. The dialogues could operate to identify opportunities for enhanced ambition and implementation, and encourage commitments by Parties, groups of Parties or NPS that could subsequently be harvested in the formal process to update or come forward with new NDCs as part of the Paris Agreement's five-year ambition cycle, so that the MWP is complementary to the GST, as agreed in Glasgow.
- 7. The MWP should not be a forum for negotiation or political discussion, which would be duplicative and unhelpful in delivering on its mandate.
- 8. Related to this, the MWP should respect existing mandates under the Paris Agreement and avoid replicating other processes under the UNFCCC. The MWP should also respect national sovereignty—including in relation to the updating of NDCs.
- 9. Moreover, the MWP should be flexible and capable of adapting over time to address emerging priorities.



- 10. The challenges (and opportunities) posed by the dialogues could be conceptually arranged in three levels:
 - the strategic, which engages global political governance and sets goals at the national level
 - domestic policymaking
 - technology and solutions development.
- 11. The middle level—domestic policymaking—is critical to implementation, and arguably poses the greatest challenges to implementing and scaling known solutions. Such challenges are greatest in developing countries seeking to transition to low-carbon economies. As such, this tier should be a key focus—arguably the main focus—of the MWP, given the urgency of using this decisive decade effectively to transition to net-zero.
- 12. Aside from implementation, the MWP will also need to be effective in scaling up ambition and as such, its work should also inform the updating of NDCs in line with the goals of the Paris Agreement.
- 13. However the MWP is organized, having a "forward looking" perspective—as described above—will be vital.
- 14. One of the perennial challenges in UNFCCC processes is 'how to get the right people around the table.' Despite the steady rise of the importance and prominence of the action agenda, delegations (particularly those of limited resources and capacity) understandably have prioritized bringing negotiators to UNFCCC sessions, including COPs.
- 15. But to effectively speak to domestic policymaking processes, the MWP will need to:
 - attract domestic policymakers and practitioners to participate
 - generate outputs that are useful and command the interest of relevant stakeholders, even if they do not participate directly in the MWP.
- 16. The trend as a result of the COVID19 pandemic to open UNFCCC sessions to virtual participation of Parties and NPS should continue and be further encouraged.
- 17. It will also be important for the MWP to be action-oriented and be more than a talk shop. The challenge will be how to make the MWP facilitative and operate outside the negotiations dynamic, and yet link to the formal UNFCCC process such that Parties invest in the process and it leads to concrete outcomes. Lessons need to be learned from other processes in that regard. The strength of the link and accountability to the political level is important.



D. Synergies between IPCC mitigation areas and climate action breakthroughs

- 18. Different 'pathways to net zero' have been imagined and modelled in recent years to support the alignment of countries' and other economic actors' emissions trajectories with the longterm temperature goal of the Paris Agreement. 'Sectoral approaches' have become increasingly attractive to explore solutions and implement climate commitments through 2050 with a focus on this critical decade.
- 19. A sectoral lens was adopted at COP27 to define the scope of work under the MWP:

"[...] all sectors covered in the 2006 IPCC Guidelines for National Greenhouse Gas Inventories of the Intergovernmental Panel on Climate Change, thematic areas in the contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, and relevant enabling conditions, technologies, just transitions and cross-cutting issues."

- 20. In addition to the references to the IPCC, it is worth also highlighting the work of the HLCs on 2030 Breakthroughs—focused on NPS driven climate action—and the Breakthrough Agenda—adopted by a group of Parties in collaboration with NPS. Both can be useful in the selection of topics for discussion and, importantly, identifying solutions for urgently scaling up mitigation ambition.
- 21. Breakthroughs represent 'signals' of transformation in strategic sectors. The IPCC identifies several mitigation options and compares sectoral solutions in terms of cost-effectiveness of abatement, whenever possible.
- 22. The WGIII report estimates mitigation potentials and associated costs for six broad sectors: Agriculture, Forestry, and Other Land Use (*AFOLU*), Buildings, Industry, and 'Other' emitting activities (i.e., methane—CH4—for solid waste and wastewater, and fluorinated gases). All these sectors have mitigation options with costs lower than 20 USD/ton up to a certain mitigation potential. It also explores interconnected solutions for two systems: Food and Urban and Other Settlements. It finally highlights the importance of different types of carbon



dioxide removal (*CDR*) as well demand-side aspects of mitigation.⁶ The WGIII contribution thus puts forward a total of eight mitigation areas including sectors, systems, and other aspects of mitigation.

- 23. The WGIII contribution's mitigation areas largely correspond to the 2006 IPCC Guidelines for National Greenhouse Gas Inventory reporting categories⁷ albeit being defined with less granularity. The main differences between the WGIII sectors and the IPCC GHG reporting categories is that 'Buildings' is missing from the 2006 Guidelines, and the 'Waste' category there falls among 'Other' emitting activities in the WGIII report. In terms of other mitigation aspects, CDR is part of the Energy category in the 2006 Guidelines, while the latter does not explore demand-side aspects of mitigation.
- 24. The work of the HLCs shows us what we would have to achieve to exponentially accelerate the uptake of solutions and reach the sectoral transformations we need. They have focused on transformational tipping points or 'breakthroughs' for seven critical or 'focus sectors': Clean Power, Hydrogen, Land Use and Agriculture, Built Environment, and the End of Internal Combustion Engine (*ICE*) in three vehicle types (buses, heavy-goods vehicles, passenger vehicles and vans). The HLCs have identified 'breakthroughs' for almost 30 'real economic sectors', suggesting more in depth work can be done on each to highlight specific aspects.
- 25. Building on the HLCs' 2030 Breakthroughs focus sectors, the Glasgow Breakthroughs have recently identified sectoral priority actions to be delivered by COP28 as part of what is now called the Breakthrough Agenda. Five critical sectors are implicated: power, road transport, steel, hydrogen, and agriculture.
- 26. In comparing the IPCC sectors—highlighted in the WGIII contribution and 2006 Guidelines for GHG National Inventories—with the HLCs' 2030 Breakthroughs and Breakthrough Agenda sectors mentioned above, we note coincidence and redundancy in most mitigation aspects of these two sets of sources, namely:
 - Most breakthrough sectors fall under the Transport and Industry IPCC sectors.

⁶ IPCC WGIII Technical Summary

https://report.ipcc.ch/ar6wg3/pdf/IPCC_AR6_WGIII_FinalDraft_TechnicalSummary.pdf ⁷ 2006 IPCC Guidelines for National Greenhouse Gas Inventories <u>https://www.ipcc-nggip.iges.or.jp/public/2006gl/pdf/0_Overview/V0_1_Overview.pdf</u>



- Renewables consistently appear across the two sets of sources (IPCC and breakthroughs), with an emphasis on wind and solar. Oil and gas comes under the Energy sector in the IPCC and also has its own HLC breakthrough.
- The Green hydrogen HLC breakthrough corresponds across the Energy, Transport, and Industry IPCC sectors.
- Transport solutions focus on road transport and AFOLU on halting deforestation for agriculture, across the two sets of sources, respectively.
- The WGIII Buildings sector, related to the 'urban and other settlements' WGIII system, connects to the built environment HLC breakthrough, and indirectly the Breakthrough Agenda steel sector. Buildings and built environment have different dimensions which makes it harder to define clear boundaries for this sector.
- While there is no IPCC equivalent of the HLC Mobile sector, this could to some extent be covered by the Electronics industry mentioned in the 2006 Guidelines.
- The HLC Financial Sector breakthrough does not have an equivalent in the IPCC.



Comparing IPCC sources (WGIII contribution to the AR6 and Guidelines for GHG National Inventories) with Breakthroughs (HLCs' 2030 Breakthroughs and Breakthrough Agenda sectors)

IPCC SECTORS, SYSTEMS, and other ASPECTS		Sectors						Systems		Aspects	
		ENERGY®	AFOLU [®]	BUILDINGS ¹⁰	TRANSPORT ¹¹	INDUSTRY ¹²	OTHER (incl WASTE ¹³)	URBAN & OTHER SETTLEMENTS	FOOD	CDR	DEMAND-SIDE
	ALUMINUM					х					
BREAKTHROUGHS	AVIATION				х						
	CCS/U NETWORKS SERVING HEAVY INDUSTRY					х					
	CEMENT/ CONCRETE					х					
	CHEMICALS					х					
	CLEAN POWER	x									

⁸ Cost-effective mitigation options include wind, solar, nuclear, hydropower, geothermal energy; reducing CH4 emissions from coal mining, and oil and gas.

⁹ AFOLU refers to agriculture, forestry, and other land use; agriculture includes carbon sequestration, reducing CH4 and N2O emissions, reducing conversion of forests and other ecosystems; forestry includes ecosystem restoration, afforestation, reforestation, improved sustainable forest management.

¹⁰ Cost-effective mitigation options include avoiding demand for energy services, efficient lighting, appliances and equipment; onsite renewable production and use; improvement of existing building stock.

¹¹ Cost-effective mitigation options include fuel efficient light duty vehicles; shift to public transportation; shift to bikes and e-bikes; fuel efficient heavy duty vehicles; shipping (efficiency and optimization); aviation (energy efficiency); biofuels.

¹² Cost-effective mitigation options include energy efficiency measures, and reduction of non-CO2 emissions.

¹³ Cost-effective mitigation options include reducing emissions of fluorinated gas, reducing CH4 emissions from solid waste, and reducing CH4 emissions from wastewater.

1 February 2023



IPCC SECTORS, SYSTEMS, and other ASPECTS				Se	ectors		Systems		Aspects		
		ENERGY	AFOLU ⁹	BUILDINGS ¹⁰	TRANSPORT¹¹	INDUSTRY ¹²	OTHER (incl WASTE ¹³)	URBAN & OTHER SETTLEMENTS	100J	CDR	DEMAND-SIDE
	COOLING					х					х
	CONSUMER GOODS										х
	END OF ICE (internal combustion engine) - BUSES				х						
	END OF ICE - HEAVY GOODS VEHICLES				х						
	END OF ICE - PASSENGER VEHICLES & VANS				х						
	ENGINEERED CARBON REMOVAL									х	
	FASHION										x
	GREEN HYDROGEN	х			х	х					
	ICT					х					
	METALS AND MINING	х				х					
	MOBILE					х					
	NBS: LAND USE AND AGRICULTURE		х								
	OCEANS									х	

1 February 2023



IPCC SECTORS, SYSTEMS, and other ASPECTS		Sectors						Systems		Aspects	
		ENERGY®	AFOLU ⁹	BUILDINGS ¹⁰	TRANSPORT ¹¹	INDUSTRY ¹²	OTHER (incl WASTE ¹³)	URBAN & OTHER SETTLEMENTS	FOOD	CDR	DEMAND-SIDE
	PHARMA					х					
	PLASTICS					х					
	RETAIL					х					
	SHIPPING					х					
	STEEL					х					
	TOURISM					х					
	WATER							х			
	FINANCIAL SECTOR										
	OIL & GAS	х									
	BUILT ENVIRONMENT			х				х			