United Nations Framework Convention on Climate Change

27th meeting of the GCOS Steering Committe: View from the UNFCCC

Dr. Florin Vladu, UNFCCC Secretariat

Paris, 30 October 2019

- **Welcomed GCOS IP 2016** submitted by the secretariat of the GCOS and prepared under the guidance of the GCOS Steering Committee **and** welcomed the **contributions by organizations and experts** to the IP
- Noted that the GCOS **considered the outcomes of COP21** when preparing the IP
- Noted with appreciation the **assessment of climate-related observations** that the IP provides for multiple uses
- Noted the introduction of **new ECVs** and the plan's wider consideration of atmospheric, oceanic and terrestrial observation requirements and their **connection to mitigation and adaptation**, particularly early warning systems, including the relationship of the **ECVs to the Earth's water, carbon and energy cycles**
- **Encourages Parties** to **work towards the full implementation of the IP** and to consider what actions they can take to contribute towards its implementation
- Invited United **Nations agencies and international organizations** to support the full implementation of the implementation plan, as appropriate
- Emphasized, with regard to IP, the **need to maintain, strengthen and build capacities for climate observations, monitoring and data management**, including data rescue, digitization, analysis, archiving and sharing
- Emphasized the need to **build capacity in developing countries** through existing relevant mechanisms, including the GCOS Cooperation Mechanism

- Noted the **submissions from Parties** containing their views on the Earth Information Day and the organization by the secretariat of similar events
- Invited the **secretariat to organize similar events** at future sessions of the SBSTA at which systematic observation is considered, as appropriate, starting at SBSTA 51, recognizing that this could be a valuable opportunity for **exchanging information on the state of the global climate system and developments in systematic observation**
- Invited **Parties and relevant organizations to submit their views on possible themes** for the next such event via the submission portal by 5 September 2019

<u>Draft themes:</u>

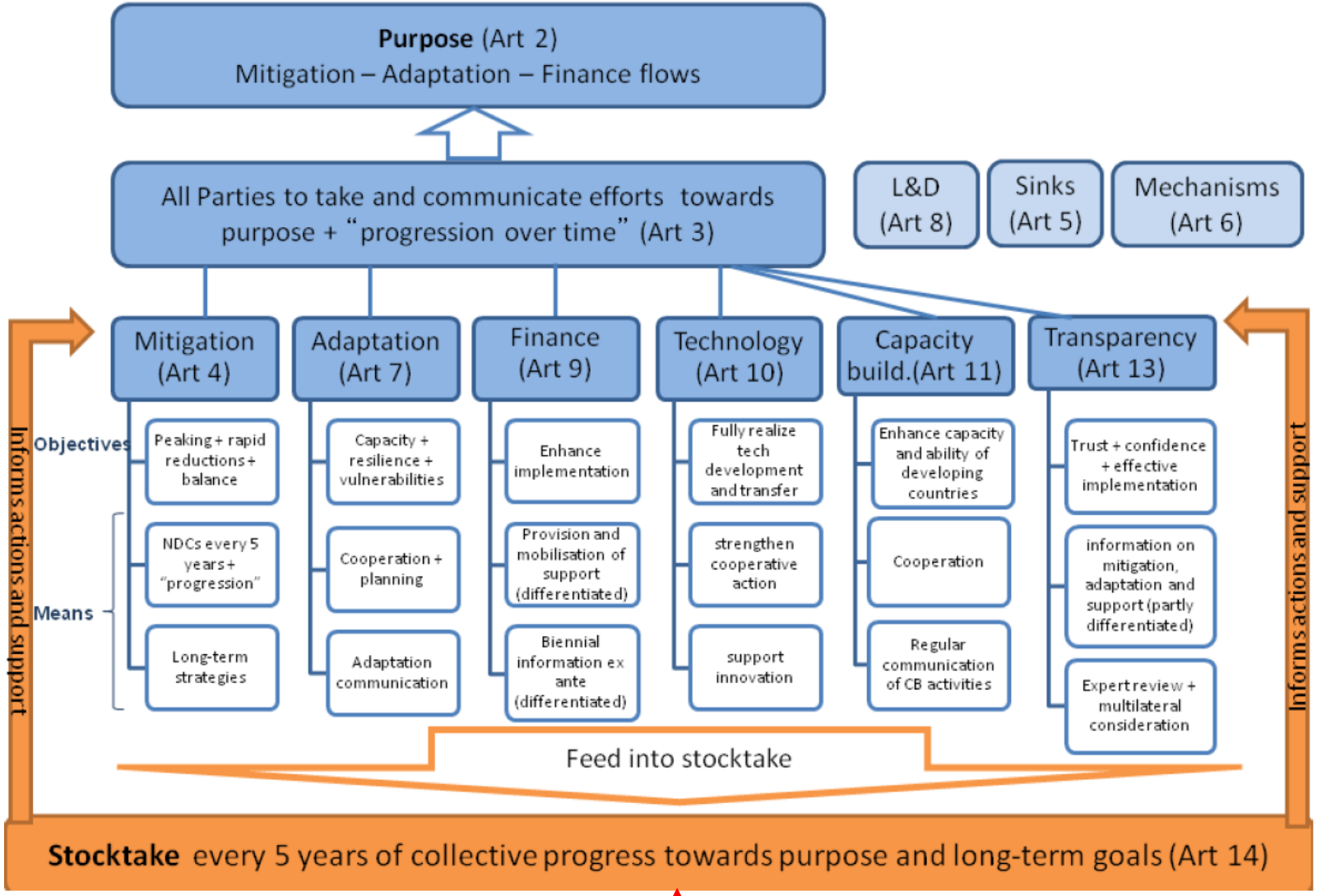
- Updates on the State of the global climate
- Updates on implementing Earth observation: for region and country support, and needs
- Earth observation for science, policy and practice: retooling global cooperation to respond to future climate risk

- Welcomed the joint GCOS–WIGOS **Pacific region observing network plan** and urged Parties and relevant organizations to support implementation of the plan
- Welcomed the joint **GCOS–Copernicus–WIGOS–GFCS regional workshop**, organized in collaboration with the secretariat and held from 29 October to 2 November 2018 in Entebbe, **Uganda**, on improving the value chain from observations to climate services to support climate policy, adaptation and mitigation in East Africa, and noted the key messages from the workshop
- Welcomed the **training provided** at the workshop **by Copernicus** on using the Climate Data Store
- Noted that GCOS plans to hold a regional workshop for the **Caribbean in Belize** in 2019

- Noted the importance of the **work of the observation community and the wider scientific community in line with the GCOS IP** on ECVs, which are **fundamental to climate indicators, and climate services and decision-making on mitigation and adaptation**

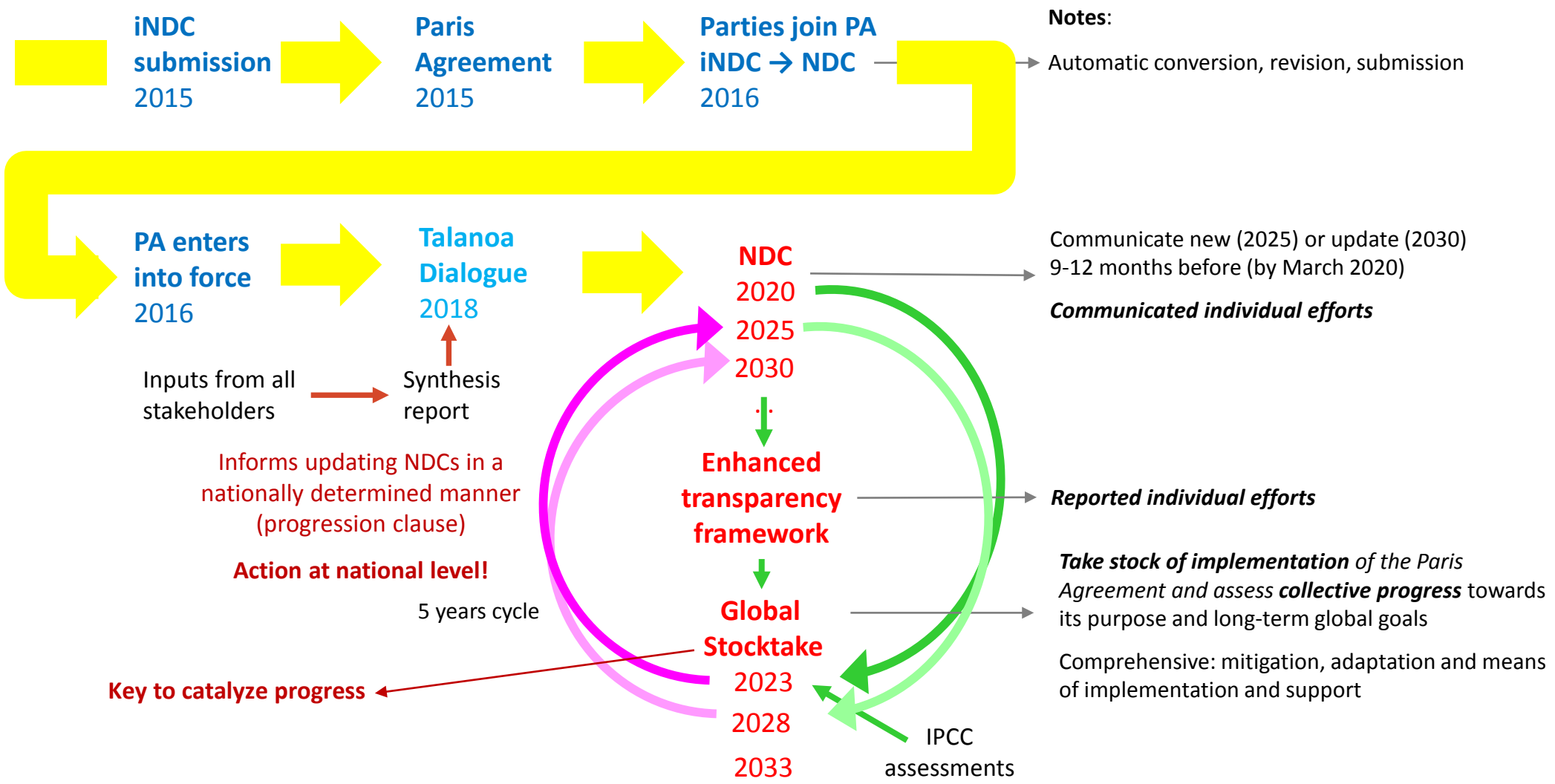
- The SBSTA urged **Parties to enhance the development of climate services**, including by:
  - **Working with and supporting the ongoing activities** of relevant organizations such as WMO and CEOS/CGMS, frameworks such as GFCS and programmes such as GCOS and WCRP, as well as other relevant initiatives
  - **Addressing gaps and needs** related to systematic observation
  - **Making use of the value chain from observations to climate services** to support and strengthen project development and decision-making on adaptation and mitigation, including by sharing knowledge and information through global, regional, national and local mechanisms

What is the structure of the Paris Agreement



GCOS contribution to the implementation of the Paris Agreement

Source - The Paris Agreement: Analysis, Assessment and Outlook


iNDC submission 2015
Paris Agreement 2015
Parties join PA iNDC → NDC 2016
Notes:
Automatic conversion, revision, submission
PA enters into force 2016
Talanoa Dialogue 2018
Inputs from all stakeholders
Synthesis report
NDC
2020
2025
2030
Communicate new (2025) or update (2030) 9-12 months before (by March 2020)
Communicated individual efforts
Informs updating NDCs in a nationally determined manner (progression clause)
Action at national level!
5 years cycle
Enhanced transparency framework
Reported individual efforts
Global Stocktake
2023
2028
2033
Take stock of implementation of the Paris Agreement and assess collective progress towards its purpose and long-term global goals
Comprehensive: mitigation, adaptation and means of implementation and support
Key to catalyze progress
IPCC assessments

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Mitigation

- Overall effect of NDCs
- State of GHG emissions and removals and mitigation efforts undertaken by Parties

Adaptation

- State of adaptation efforts, support, experiences and priorities

Finance flows and means of Implementation and support:

- Finance flows and financial support
- Technology
- Capacity-Building

Efforts on:

- Social and economic consequences of response measures (under mitigation)
- Adverting, minimizing and addressing loss and damage (under adaptation?)

Inputs on equity

- Fairness consideration including equity as communicated by Parties in their NDCs

4-level governance structure:

- CMA: conducts the GST
- SBs: assist the CMA (Joint Contact Group, SB Chairs)
- Technical Dialogue: supports the SBs with the information collection and technical assessment (TD-Cofacilitators)
- High-Level Committee: oversees the consideration of outputs

Learning-by-doing:

- SB Chairs to identify opportunities for:
- Assessing collective progress (methodologies)
- Considering inputs as they become available

Flexibility:

- SBs Chairs to organize the GST in a flexible and appropriate manner
- Adjust duration of the technical assessment to fit the release of IPCC assessments
- Consider refining modalities after each GST (procedural and logistical elements)

Information:

- Accepted from a structured list: types of information and sources
- Arranged by order of importance: Parties, IPCC, other UN Agencies, …

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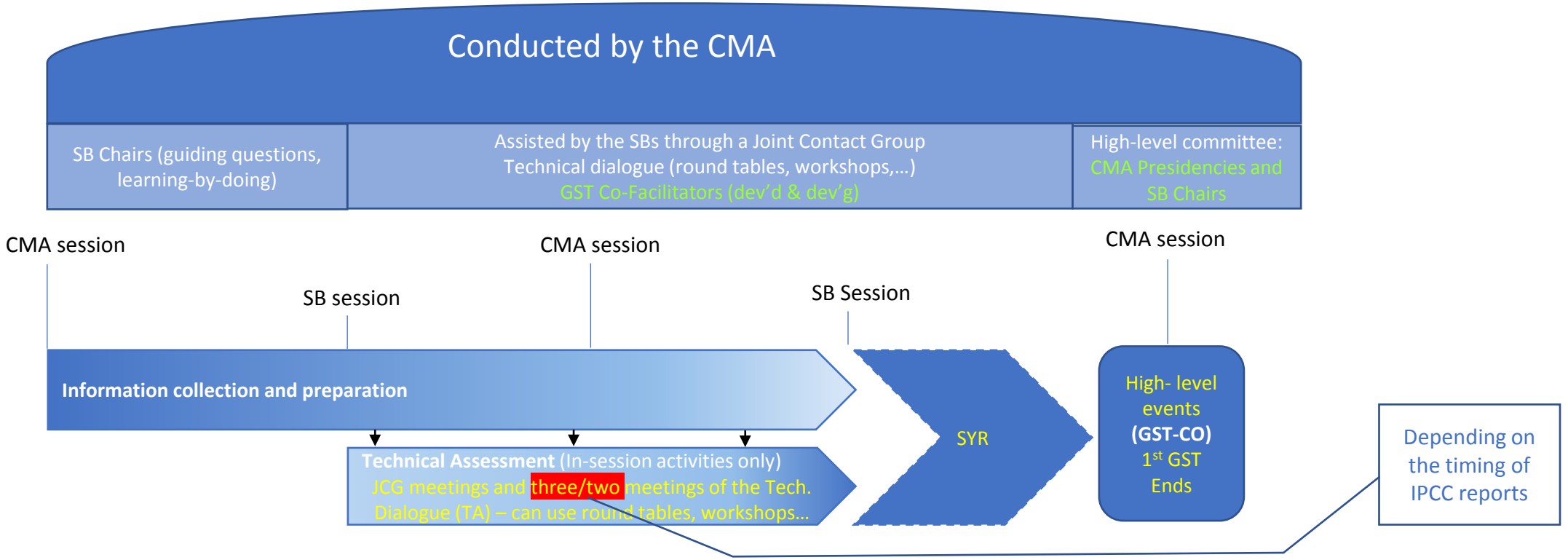
- **Three components**: **information collection and preparation** (ICP); **technical assessment** (TA); and **consideration of outputs** (CO)
- **GST guiding questions**: SB Chairs to develop for all GST components → be specific **thematic and cross-cutting** → due date one SB session prior to the relevant activities under the GST
- Be conducted in a **comprehensive**, **facilitative**, **effective** and **efficient manner**, no duplications with work under the Convention, KP and PA
- **Party-driven** and **non-Party Stakeholders will participate** – all inputs will also be available online
- **Support**: Developed countries to mobilize support for CB to ensure effective participation of LDCs, SIDS and other developing countries
- **Outputs**: no individual Party focus, be non-policy prescriptive, incl. **best practices, opportunities and lessons learned**
- **Refinement of modalities**: CMA to consider refining procedural and logistical elements after each GST
- SB Chairs to:
  - Organize the GST in a **flexible and appropriate manner**
  - Work on **identifying opportunities for learning-by-doing**, incl. for assessing collective progress and take steps for inputs to be considered as they become available

Follow-up work

- **Post GST**: Parties to present their NDCs, informed by the GST, at a **special UNSG event**



Other actors:

- **TD CFs**: conduct the dialogue, prepare summary reports and other outputs of the GST-TA for each thematic area and prepare an overall factual synthesis report of the summary reports
- **CMA high-level committee** (SBs Chairs + Presidencies): oversee the organization and chair the Consideration of output events

- CBs and Forums, supported by the secretariat
- IPCC
- UN Agencies and other international organizations
- Regional groups and institutions
- NPS and other UNFCCC observers

- *Synthesize inputs in their area of expertise;*
- *AC/LEG to also hold events to recognize adaptation efforts of dev'g countries*

- SB Chairs issue a **call for inputs** → cut-off date for inputs: at least 3 months prior to GST-TA
- **Duration**: Start one session before GST-TA and end no later than six months to GST-CO, unless critical info becomes available
- **Secretariat** to
  - Work with **relevant CBs to prepare synthesis reports** for the GST-TA → based on agreed sources of Input
  - Put the inputs online by thematic area
  - Organize a **webinar to clarify methodologies and assumptions** used to aggregate the inputs
  - Start compiling the most up-to-date inputs (based on list of SoI) two sessions before the GST-TA → so one session before the GST-ICP

- SBs to **identify gaps** in info and **request for additional input** (take into account feasibility and cut-off date for inputs and gaps in IPCC products and how they could impact the purpose and LTGs of PA)

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GST-TA

- Will **overlap with the GST–ICP** for effective use of time
- Discuss all inputs and topics in a **balanced**, **holistic** and **comprehensive manner** → balanced time for each thematic area
- **Format**: **Technical dialogue**, which is open, inclusive, transparent and facilitative → allow Parties to engage and discuss with CBs and forums
- Use a SBSTA-IPCC special event for **dialogue between IPCC and Parties** on focused scientific and technical exchange of information on the findings of the IPCC → cont. to use SBSTA-IPCC JWG to **enhance communication and coordination** between the SBSTA and IPCC, in the context of the GST
- **TD-CFs to summarize outputs** (by thematic area and overall)

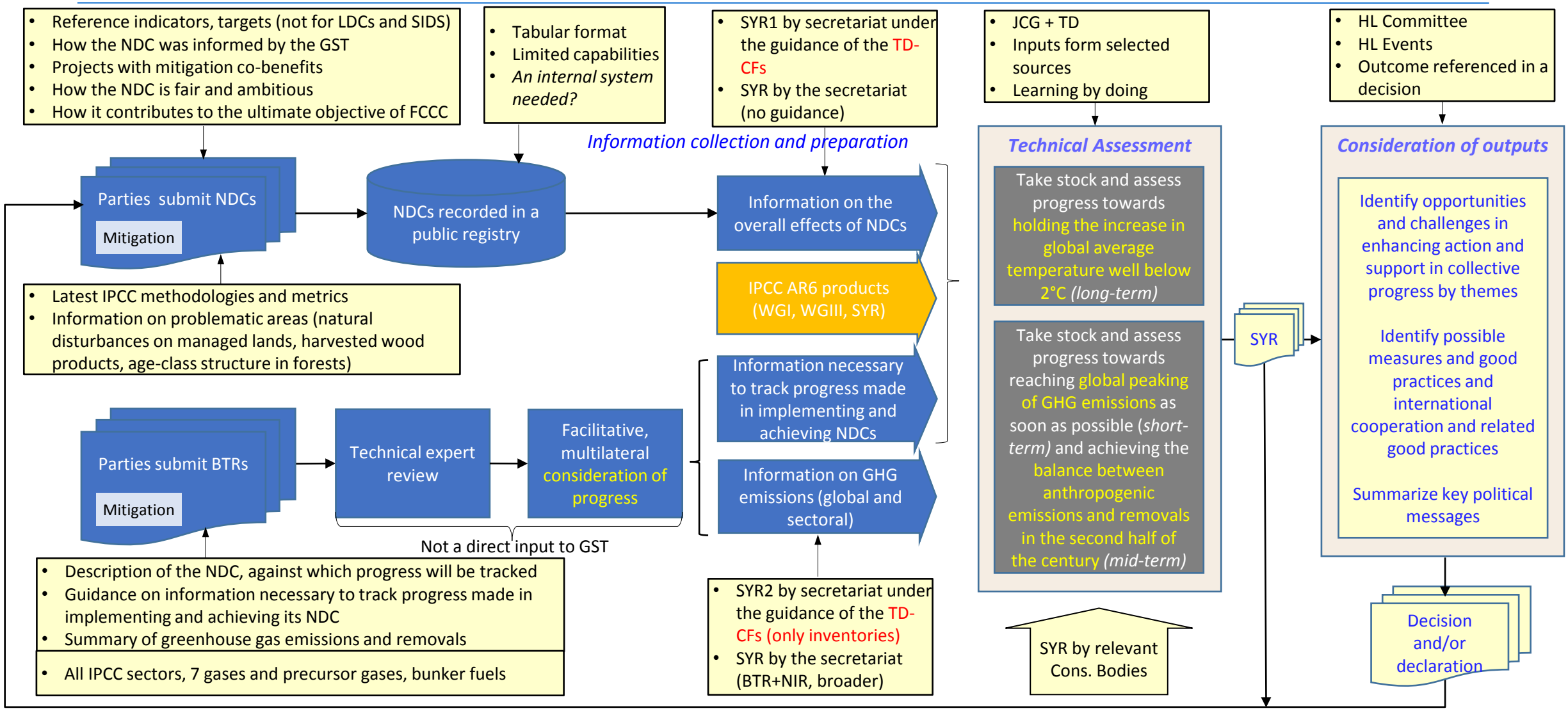
GST-CO

- Chaired by a high-level committee: CMA presidencies and SB Chairs
- **Format**: high-level events
- Present and discuss implications of findings of the GST-TA
- Outputs to:
  - Identify **opportunities and challenges for enhancing action and support** for all thematic areas of the GST, as well as **possible measures and good practices**, incl. for international cooperation
  - Summarize **key political messages**, incl. recommendations from events for strengthening action and enhancing support
  - **Format**: be referenced in a CMA decision and/or declaration

- Information for the GST to be **collective/aggregate** – no individual/ group of Parties information
- Both **backward** (reported) and **forward** (communicated) looking
- Tied to the GST thematic areas
- **Lists**: information sources (where) and the information (types) needed
- SBSTA to **complement lists one session before the GST-ICP**

- Info **providers** to include:
  1. Parties (voluntary and mandated)
  2. IPCC
  3. CBs/forums
  4. UN agencies
  5. NPS and UNFCCC observers organizations
  6. Regional groups and institutions

Katowice guidance on mitigation relevant for the GST



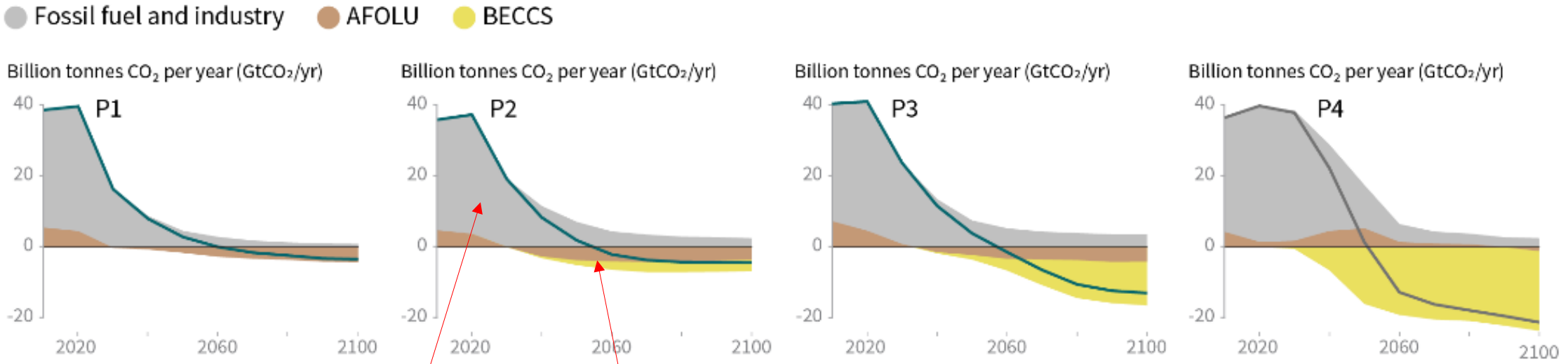
- We have a limited CO_2 budget for stabilizing global temperature rise at 1.5°C. To stay within this budget, we must:
  - Reduce emissions **45 per cent by 2030**
  - Achieve **climate neutrality by 2050**
  - Get on a sustainable socio-economic development pathway

- To achieve these, the IPCC indicates the **need for rapid and far-reaching transitions in energy**, land, urban and infrastructure (including transport and buildings), and industrial systems using all available options

- These **systems transitions are unprecedented in terms of scale**, but not necessarily in terms of speed, and imply deep emissions reductions in all sectors, a wide portfolio of mitigation options and a significant upscaling of investments in those options

- The systems transitions include the **widespread adoption of new and possibly disruptive technologies and practices and enhanced climate-driven innovation**. These imply enhanced technological innovation capabilities… and both national innovation policies and international cooperation

Breakdown of contributions to global net CO_2 emissions in four illustrative model pathways



P1: A scenario in which social, business and technological innovations result in lower energy demand up to 2050 while living standards rise, especially in the global South. A downsized energy system enables rapid decarbonization of energy supply. Afforestation is the only CDR option considered; neither fossil fuels with CCS nor BECCS are used.

P2: A scenario with a broad focus on sustainability including energy intensity, human development, economic convergence and international cooperation, as well as shifts towards sustainable and healthy consumption patterns, low-carbon technology innovation, and well-managed land systems with limited societal acceptability for BECCS.

P3: A middle-of-the-road scenario in which societal as well as technological development follows historical patterns. Emissions reductions are mainly achieved by changing the way in which energy and products are produced, and to a lesser degree by reductions in demand.

P4: A resource- and energy-intensive scenario in which economic growth and globalization lead to widespread adoption of greenhouse-gas-intensive lifestyles, including high demand for transportation fuels and livestock products. Emissions reductions are mainly achieved through technological means, making strong use of CDR through the deployment of BECCS.

Avoiding GHG emissions... **but this is not enough**

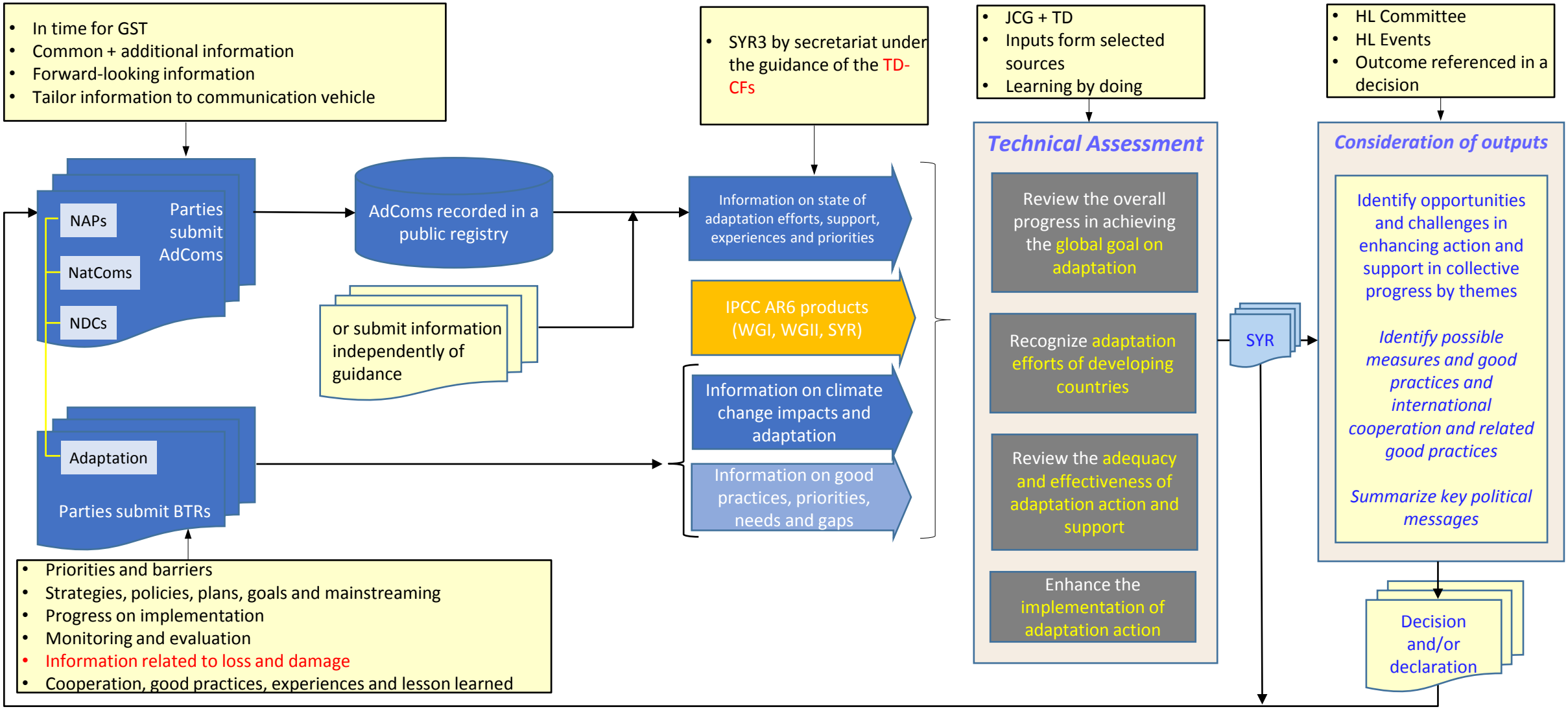
- Better understanding the **climate and carbon cycle response to CDR**, assessing the A/R or BECCs sinks as well as for tracking progress on A/R and BECCS

- The **current ECVs** such as albedo, land cover, fraction of absorbed photosynthetically active radiation, leaf area index, above-ground biomass and **soil carbon can provide the empirical evidence needed** to understand the effects of CDR use, assess its risks, monitor conversion of first generation to second generation bioenergy and estimate potential leakages from CCS storage. However, the **large-scale deployment of CDR may require additional systematic observation capabilities**

- Similarly, several ECVs could be used for monitoring field experiments or deployment of SRM (e.g., aerosol optical depth, aerosol-layer height) but **changes to the definitions and/or their observations requirements** (frequency, resolution, required measurement uncertainty, stability) may be needed

- The observation networks of WMO are detecting changes in aerosols due to volcanic eruptions and provide the basis for monitoring SAI experiments

Katowice guidance on adaptation relevant for the GST

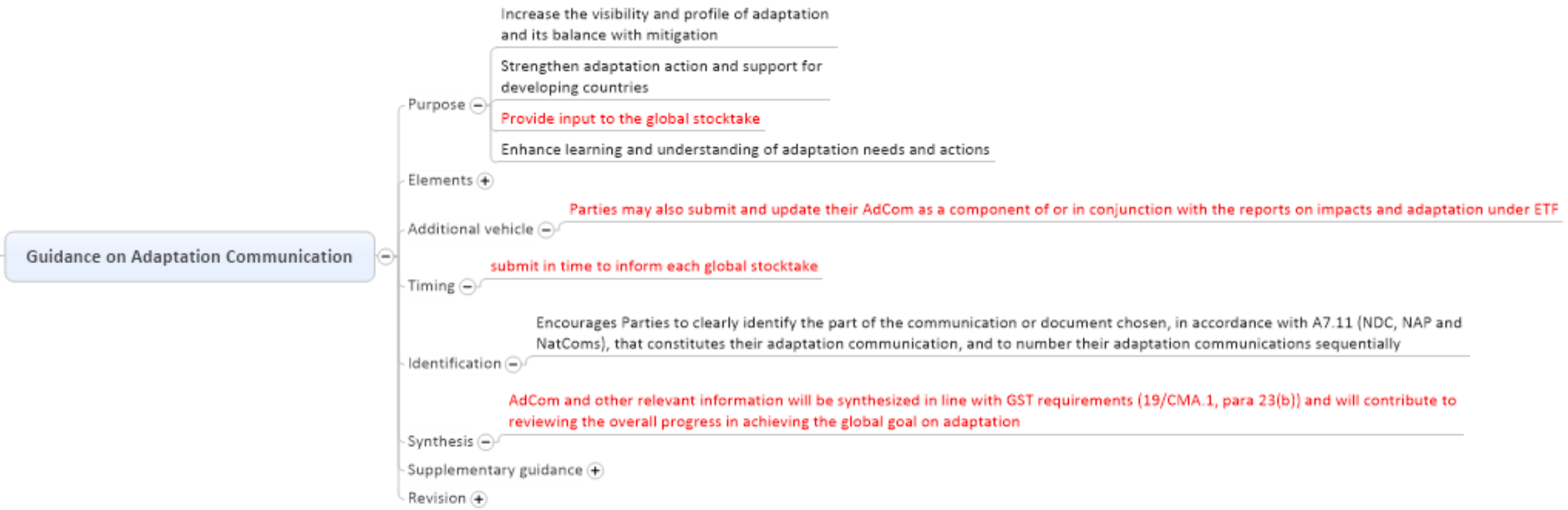


State of the climate

- Changing state of the climate system
- Human influence on the climate system
- Global carbon and other biogeochemic al cycles and feedbacks
- Linking global to regional climate change
- Weather and climate extreme events in a changing climate
- Other potential information sources complementing the IPCC WGI contribution to the global stocktake: Climate Indicators by WMO

Future projections

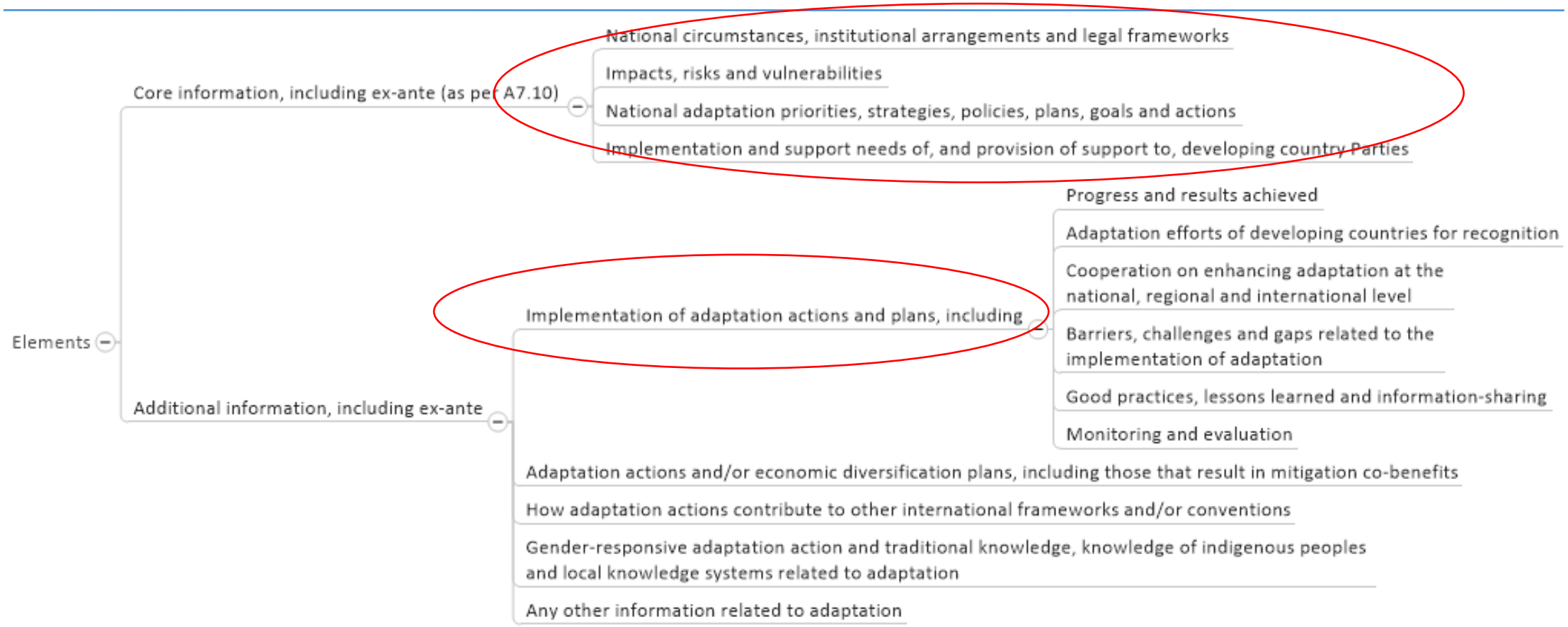
- Future global climate: scenario based projections and near-term information
- Global carbon and other biogeochemical cycles and feedbacks
- Short-lived climate forcers
- The Earth's energy budget, climate feedbacks, and climate sensitivity
- Water Cycle Changes
- Ocean, cryosphere, and sea level change
- Linking global to regional climate change
- Weather and climate extreme events in a changing climate
- Climate change information for regional impact and for risk assessment



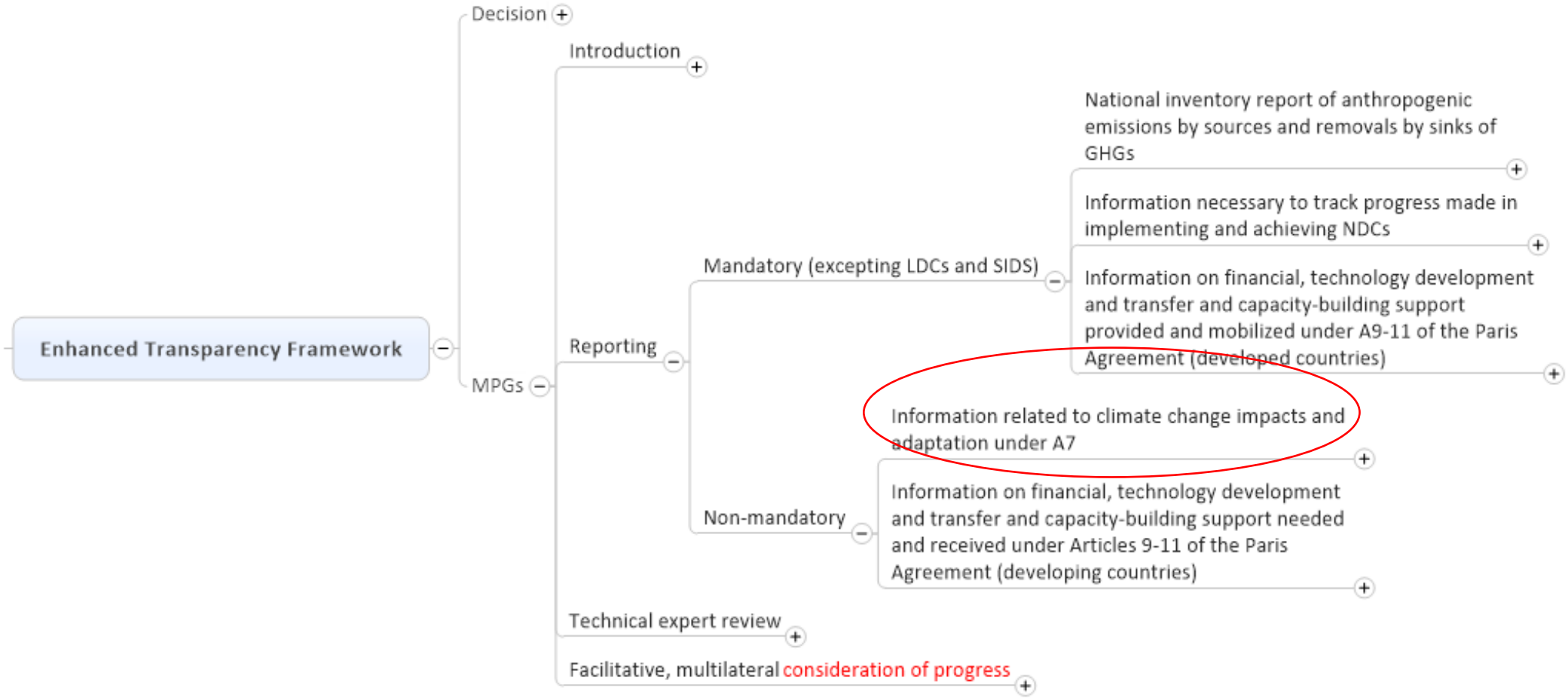
- **Challenges**: diversity of communication vehicles and their usage; potential duplication of information; and compatibility of timeframes of AdComs and BTRs

- The full flexibility would allow for learning-by doing on how the information will flow to GST

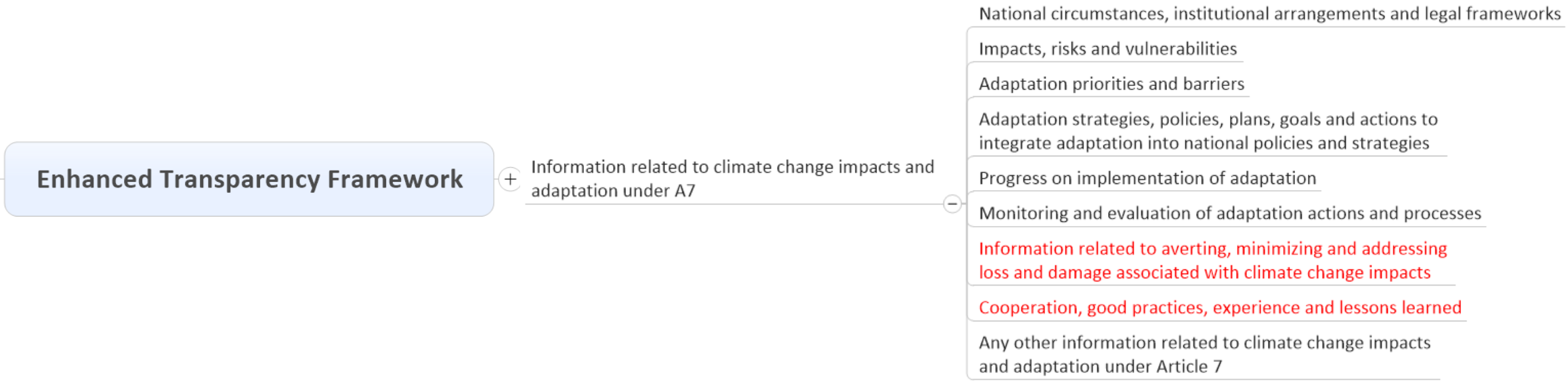
SYR 3 | Synthesizing the state of adaptation efforts, support, experience and priorities (2)



- AdComs will provide a wealth of information relevant for assessing progress, recognition of efforts, and adequacy and effectiveness of adaptation actions and plans

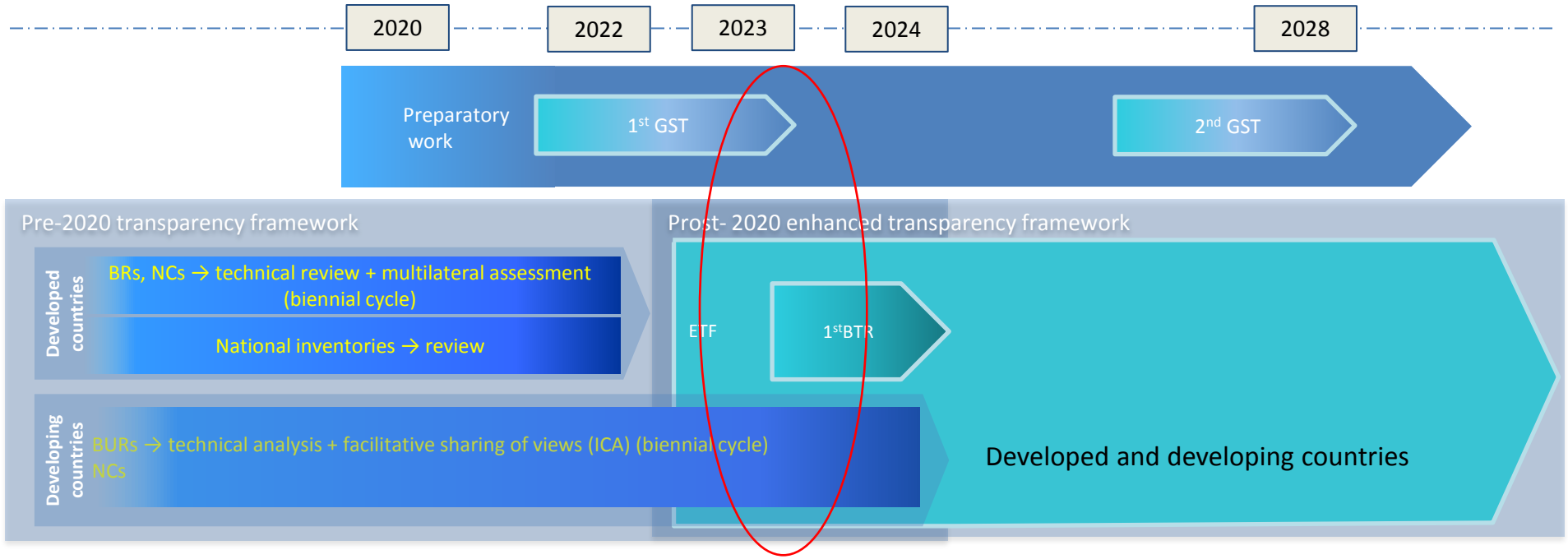


- The information on climate change impacts and adaptation is non-mandatory

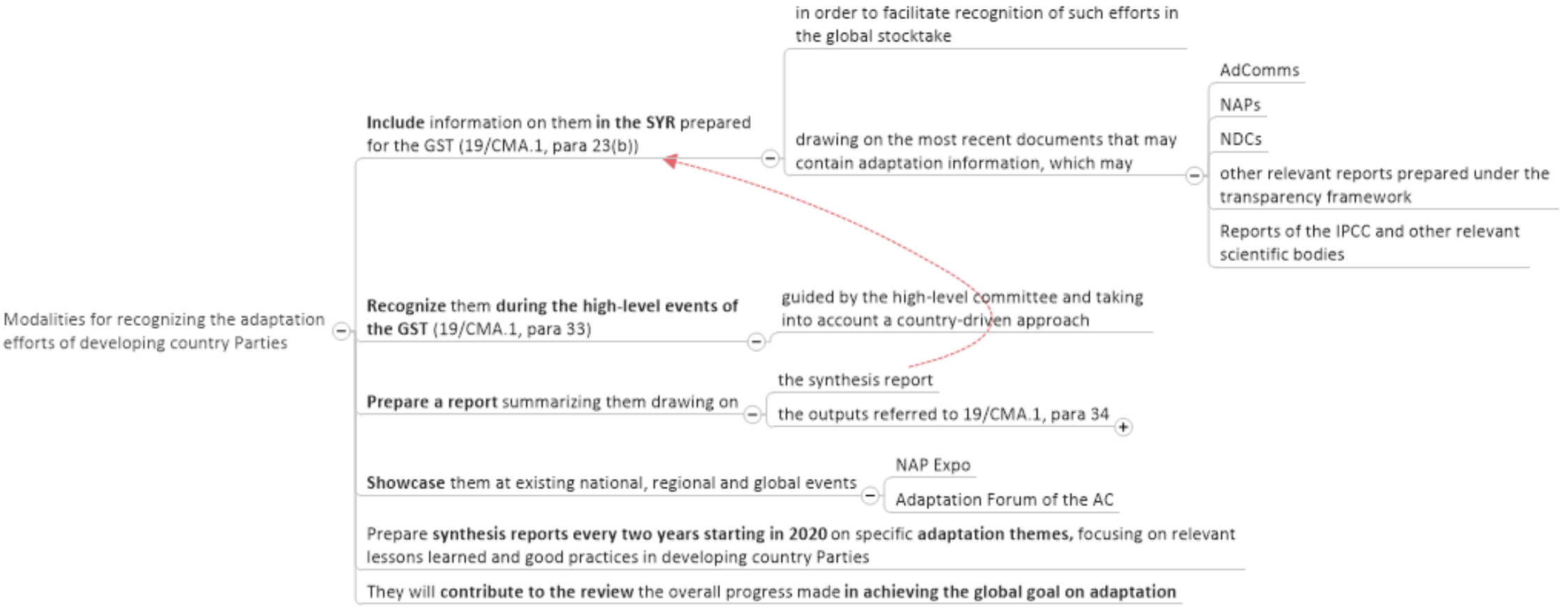


- Key input loss and damage
- Main input for monitoring progress on implementation of adaptation action and monitoring and evaluation of adaptation action and processes
- Main input for progress on implementation of adaptation action and cooperation, good practices, experiences and lessons learned

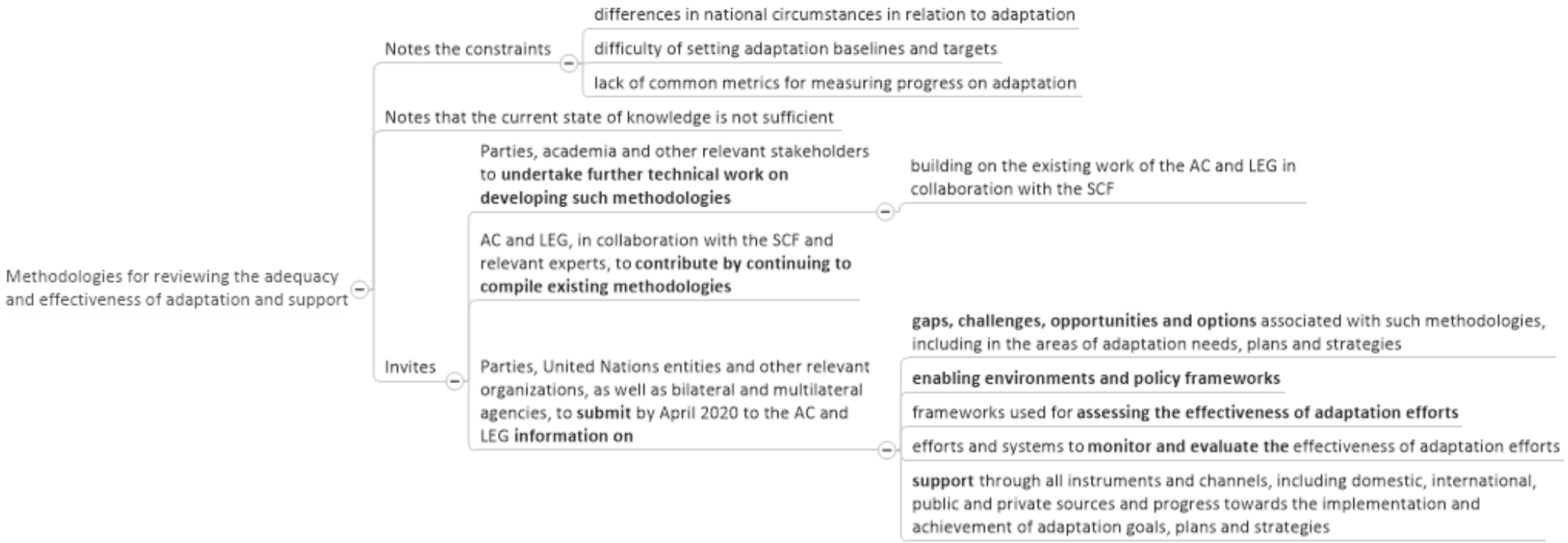
SYR 1 and 2 | Timing for phasing out the MRV system and the introduction of the enhanced transparency framework



- Parties to UNFCCC and Paris Agreement should submit their final BT reports no later than 31 December 2022 and the final BURs no later than 31 December 2024
- Parties shall submit their first BTR and NIR (if submitted as a stand-alone report) at the latest by 31 December 2024
- LDCs and SIDS may submit the information referred to in Article 13.7–10 at their discretion
- Streamlining NC + BTR → BTR/NC + supplemental chapters (RSO and A6) + adaptation (if not in BTR)
- **For the first GST** we will have to use information provided in the MRV (DC – implement of economy-wide emission reduction target, mitigation actions, LULUCF and market credits; dC – mitigation action, estimated outcomes and market mechanisms)



- These modalities are well integrated with the GST modalities and sources of inputs



- Further work is needed to develop these methodologies

NDCs

- 184 Parties submitted NDC1
- Communicate new or updated - 75 nations/37% of emissions plan to "enhance" their NDCs (Mar 2020)
- NDC partnership
- UNDP/UNFCCC support

LTS

- 13 Parties submitted LTS, including major emitters
- 53 Parties working on LTS
- 97 considering net zero emissions (19 at forefront pursuing plans to net zero by 2050)
- Partnership/ coalition?

Technology

- The technology framework under Article 10.4
- Innovation
- Implementation
- Enabling environments and capacity building
- Collaboration and stakeholders engagement

Article 6

- Role of CDR
- Bottom-up?
- Top-down?
- Non-markets mechanisms?

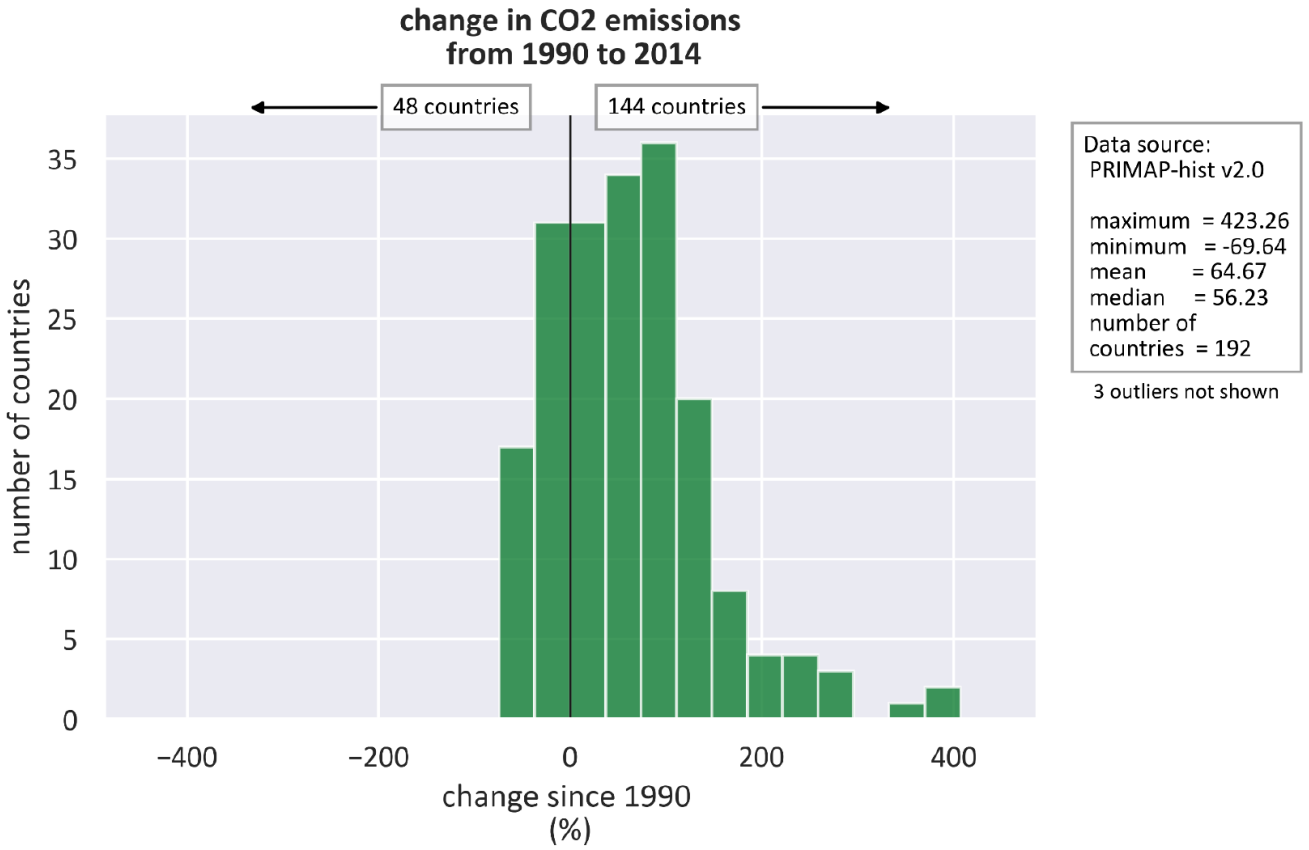
Performance distribution approach
Example 2: Changes through time

WHAT DO WE LEARN?

- Majority of countries have increased emissions since 1990
- Still, a substantial share have decreasing emissions
- Shows wide spread across countries

HOW DO WE ENABLE COMPARABILITY?

- Can put all countries into the same metric
- All countries are equally weighted
- Similar plot possible for comparison relative to 2000 or 2010



- It is important to **identify, understand and make use of all entry points** for the GCOS contribution to supporting Parties to implement the Paris Agreement

- There is a need to consider specific GST needs and assess if any changes are needed on the ECVs, ECV products or product requirements

Thank you!