

## Information on the SBSTA-IPCC special event on advice on how the assessments of the IPCC can inform the global stocktake

### Note by the Chair of the SBSTA

23 May 2016

#### I. Introduction

1. The Conference of the Parties (COP) requested the Subsidiary Body for Scientific and Technological Advice (SBSTA) to provide advice on how the assessments of the Intergovernmental Panel on Climate Change (IPCC) can inform the global stocktake of the implementation of the Agreement and to report on this matter to the Ad Hoc Working Group on the Paris Agreement (APA) at its second session.<sup>1</sup>

2. The COP also requested that the APA identify the sources of input for the global stocktake to develop its modalities and to report to the COP with a view to the COP making a recommendation to the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA) for consideration and adoption at its first session.<sup>2</sup> The APA is expected to initiate its work on this matter at its first session in May.

3. The latest reports of the IPCC have been identified as a source of input for the global stocktake.<sup>3</sup> The advice that the SBSTA will provide to the APA could further the level of understanding about this input (i.e., “what” and “when”), and contribute to developing the appropriate modalities (“how”) for its consideration under the global stocktake.

4. The COP also invited the IPCC to provide a special report in 2018 on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways.<sup>4</sup> In relation to this report, the COP:

(a) Encouraged the scientific community to address information and research gaps identified during the structured expert dialogue on the 2013–2015 review, including scenarios that limit warming to below 1.5 °C relative to pre-industrial levels by 2100 and the range of impacts at the regional and local scales associated with those scenarios.<sup>5</sup>

(b) Noted with concern that the estimated aggregate greenhouse gas emission levels in 2025 and 2030 resulting from the intended nationally determined contributions (INDCs) do not fall within least-cost 2 °C scenarios but rather lead to a projected level of 55 gigatonnes in 2030, and also noted that much greater emission reduction efforts will be required than those associated with the INDCs in order to hold the increase in the global average temperature to below 2 °C above pre-industrial levels by reducing emissions to 40 gigatonnes or to 1.5 °C above pre-industrial levels by reducing emissions to a level to be identified in the special report referred to above.<sup>6</sup>

5. The IPCC completed its fifth assessment cycle in 2014. At its forty-third plenary session held in Nairobi from 10–14 April 2016, it decided to complete the following products in its sixth assessment cycle:

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<sup>1</sup> Decision 1/CP.21, paragraph 100.

<sup>2</sup> Decision 1/CP.21, paragraphs 99 and 101.

<sup>3</sup> Decision 1/CP.21, paragraphs 99(b).

<sup>4</sup> Decision 1/CP.21, paragraph 21.

<sup>5</sup> Decision 10/CP.21, paragraph 8. SBSTA 43 made a similar encouragement five months earlier (FCCC/SBSTA/2015/2, paragraph 33). In the context of this note, this encouragement, and the references mentioned here, should be understood in the light of Article 2 of the Paris Agreement (see paragraphs 1 and 2 of the annex).

<sup>6</sup> Decision 1/CP.21, paragraph 17.

- (a) In response to the invitation by the COP mentioned in paragraph 4 above, a special report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways, to be prepared in the context of strengthening the global response to the threat of climate change, sustainable development and efforts to eradicate poverty;
- (b) A Special Report on climate change, desertification, land degradation, sustainable land management, food security and GHG fluxes in terrestrial ecosystems. The scoping process for this special report may consider challenges and opportunities for both adaptation and mitigation;
- (c) A Special Report on climate change and oceans and the cryosphere;
- (d) The Sixth Assessment Report. The latter consists of reports from the three IPCC working groups (physical science, adaptation and mitigation), a regional report, a methodology report and a synthesis report.

6. These products are expected to be completed at different times throughout the sixth assessment cycle. The first special report will be considered for adoption by IPCC in 2018 and the second and third special reports will be considered as early as possible during the assessment cycle. The methodology report will be considered in 2019, the AR6 outline in 2017, and the synthesis report in 2022.

7. The IPCC products that could inform the first global stocktake, as they become available, will depend on when the Paris Agreement will enter into force and when the global stocktake will start. The IPCC has requested its Secretariat to prepare proposals for aligning the work of the IPCC during its seventh assessment cycle with the needs of the global stocktake under the Paris Agreement and to submit these proposals for consideration at a Plenary session of the Panel no later than 2018.

8. Based on these dates and a seven-year cycle, the products of the next (seventh) assessment cycle of the IPCC would be expected to become available from 2027–2029.

9. The annex to this note provides an overview of the global stocktake, including its central provisions; purpose, character, frequency and outcomes; thematic provisions and cross-references; and preparatory work by the APA and SBSTA.

## **II. The special event of the SBSTA and the IPCC**

### **A. Goal of, and general approach to, the event**

10. In response to the request of the COP mentioned in paragraph 1 above, and given that the SBSTA has only two sessions for preparing and providing its advice to APA 2, I intend to organize a special event of the SBSTA and the IPCC on 18 May 2016.<sup>7</sup> The event would allow for an open exchange of views between Parties and IPCC representatives on how the IPCC assessments can inform the global stocktake.

11. This event aims to generate a better understanding of the information needs of the global stocktake that are relevant for the IPCC. This need for information could then be addressed by the IPCC as it plans for new approaches and deliverables in its sixth assessment cycle. In addition to helping the SBSTA formulate the above-mentioned advice to the APA, the event could contribute to informing about forthcoming IPCC products, synchronizing timeframes and informing the IPCC scoping meetings for special reports and for the sixth assessment report.

12. I prepared this information note to set the scene for the special event and frame questions to stimulate consideration of “what” and “when” will be provided by the IPCC in its sixth assessment cycle beyond what was already provided in the fifth assessment cycle, as well as “how” this input could inform the global stocktake.

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<sup>7</sup> <[http://unfccc.int/files/meetings/bonn\\_may\\_2016/application/pdf/updated\\_overview\\_schedule\\_with\\_unfccc\\_and\\_special\\_events.pdf](http://unfccc.int/files/meetings/bonn_may_2016/application/pdf/updated_overview_schedule_with_unfccc_and_special_events.pdf)>.

13. This event will also address possible options for using the IPCC assessment products and information to inform the global stocktake for consideration by Parties, without any prejudice towards the final result of discussions at SBSTA 44 on this matter.

14. After the event, I will prepare a summary report, which will be made available on the UNFCCC web site<sup>8</sup> before SBSTA 45.

## B. Organization of the event

### 1. Possible IPCC inputs into the global stocktake – the sixth assessment cycle and beyond (“what” and “when”)

15. A general presentation will be made by the IPCC on goals, approaches, products and timeframes of the sixth assessment cycle, including for the special reports mentioned in paragraph 5 (a-c). More specific presentations from the three Working Groups of the IPCC and the Task Force on Inventories will follow, focusing on issues relating to physical science, mitigation, adaptation and methodologies.

16. While noting that the IPCC’s sixth assessment cycle just started, the presentations will illustrate possibilities for addressing the information needs of the global stocktake, taking, as a baseline, the findings of AR5 and new scientific knowledge since the cut-off dates for AR5.

17. The global stocktake will play a central role in **taking stock of implementation** of the Paris agreement **and aggregating the efforts** of Parties, as well as in both **assessing collective progress** and in **informing Parties in enhancing action and support** as well as **international cooperation**, and can thereby contribute to accelerating progress (figure 1). In this context, the IPCC reports will play a key role not only in providing information on where we “should” be in addressing the challenge of climate change according to science but also where we “could” be if all policy drivers would be fully aligned.

18. The above-mentioned presentations will focus on clarifying the following, inter alia: the information needs of the global stocktake that could be addressed by the IPCC; how information from the IPCC could support the aggregation of efforts and the assessment and acceleration of progress towards the purpose of, and the goals set out in, the Paris Agreement; and when the IPCC reports should be completed to ensure that the timing of the IPCC’s process is synchronized with the first global stocktake and beyond.

19. Presentations will address possible inputs from the IPCC on **aggregating the efforts** of Parties. The IPCC is expected to continue providing relevant information on this matter such as trends in stocks and flows of greenhouse gas emissions, the effectiveness of past mitigation policies (e.g. as part of implemented nationally determined contributions (NDCs)) and the potential of current and increased adaptation<sup>9</sup> efforts to reduce the risks of climate impacts at the global, regional and sectoral levels.

20. In addition, a key input into the global stocktake on aggregation of efforts of Parties will come from the enhanced transparency framework for action and support and other relevant inputs from Parties (e.g. assessment of the progress on NAPs). The presentations and discussions at the event could address what role the IPCC could play in supporting and complementing this input, if any;<sup>10</sup> and how the IPCC processes could synchronize with the work on the enhanced transparency framework of action and support and with the periodicity of communicating and updating NDCs.<sup>11</sup>

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<sup>8</sup> <<http://unfccc.int/1077.php>>.

<sup>9</sup> “High adaptation”, as defined in AR5.

<sup>10</sup> For example, could the new scenarios based on RCPs and shared socioeconomic pathways support the harmonization of the NDCs submitted by Parties?

<sup>11</sup> Note that the first NDCs will be submitted with the instruments for ratification, the second communication and/or update NDCs are due in 2020, and subsequent NDCs are due in 2025 and five years thereafter (decision 1/CP.21, paras 23–24). CMA is requested to consider common timeframes at its first session.

21. On the **assessment of progress**, the presentations will address possible inputs from the IPCC that could inform the assessment of:

- (a) Collective progress made towards the purpose of the Paris Agreement, in accordance with its Article 2 in terms of:
  - i. Holding global warming to well below 2 °C above pre-industrial levels by the end of this century and by pursuing efforts to limit warming to 1.5 °C;
  - ii. Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production;
  - iii. Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development;
- (b) Collective progress made towards the long-term mitigation goals of reaching global peaking of greenhouse gas emissions as soon as possible, rapid emission reductions thereafter and achieving a balance between emissions and removals of greenhouse gases in the second half of the century;<sup>12</sup>
- (c) Progress and recognition of efforts made towards enhancing adaptive capacity, strengthening resilience and reducing vulnerability, with a view to contributing to sustainable development and ensuring an adequate response in the context of the temperature goal.<sup>13</sup>

22. In AR5, the IPCC concluded that the global average temperature increased by 0.85 °C above pre-industrial levels, and this value will be estimated again in AR6. It also started to quantify the carbon budget for holding global warming well below 2 °C and will continue to refine these estimates in AR6 based on the assessment of new research. The special report on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways will provide further clarity on these budget estimates. Does the global stocktake process need updates of the trends related to these values, as well as other climate change indicators such as mean sea-level rise, ocean acidification and sea-ice coverage, at a shorter time interval than the current seven years?

23. A major outcome of AR5 was the framework for assessing and managing key and emerging risks of climate change at global, regional and sectoral levels. How is the IPCC planning to further advance this framework and make it more relevant for assessing progress in, and recognizing efforts made towards, enhancing adaptive capacity, strengthening resilience and reducing vulnerability? How can the IPCC assessments inform the work on developing methodologies for reviewing the adequacy and effectiveness of adaptation and support?

24. In order to achieve the long-term temperature goal set out in Article 2 of the Paris Agreement, Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognizing that peaking will take longer for developing country Parties (Article 4, paragraph 1). It is, however, unlikely that the peak will immediately be followed by a rapid decline in emissions, suggesting that there might be a plateau with some upward and downward variation before a downward trend commences. In AR5, the IPCC did not provide explicit timeframes for the peaking of global greenhouse gas emissions for limiting global warming below 2 °C. Instead, it indicated three possible intervals for global annual greenhouse gas emissions in 2030 and the consequences of being in one of these intervals in terms of: the required annual emission reductions after 2030, the required rate of scaling up the share of low carbon technologies in 2050 and 2100 and the increase in medium- and long-term costs of mitigation. In addition to the IPCC, other information sources may need to be used to assess the progress made on reaching the global peaking of greenhouse gas emissions.

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<sup>12</sup> Paris Agreement, Article 4.1.

<sup>13</sup> Details on the functions of the global stocktake on adaptation are provided in Article 7.14 (a-c) (e.g., recognize adaptation effort of developing countries, enhance implementation of adaptation and review the adequacy and effectiveness of adaptation and support).

25. Available mitigation scenarios for limiting global warming, as agreed in Paris, are characterized by a temperature overshoot and large-scale application of CO<sub>2</sub> removal technologies, immediate mitigation action, a rapid scaling-up of the full set of technologies and development along a low-energy-demand pathway. How will the IPCC assess such scenarios in the context of risk associated with CO<sub>2</sub> removal technologies and their potential impact on food production and poverty eradication?

26. The assessment of collective progress within the global stocktake may require the identification of high-level indicators (or proxy indicators), as early warnings when milestones fall short of achieving the minimum desired threshold of progress towards the goals agreed upon in Paris (e.g., a growth in emission rates increasing instead of decreasing, increasing aggregated levels of financial flows into high-emissions infrastructures). How could IPCC contribute to such an effort?

27. In regards to the **accelerating progress** or strengthening “the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty”, the presentations could illustrate new approaches and information that the IPCC could provide on the “solutions space”.

28. Accelerating progress requires a deep understanding of the underlying drivers of global emissions and of the potential of different interventions in applying downward pressure on the trend. The IPCC is expected to continue to provide information on these drivers including, for example, on incentives and removal of disincentives for climate-compatible investment; the benefits of low-emission development; trade policies; decision-making by multinational corporations; consumer behaviour; and technology innovation.

29. The **special report** on the impacts of global warming of 1.5 °C above pre-industrial levels and related global greenhouse gas emission pathways could provide information from all three working groups of relevance for the global stocktake and its precursor, the facilitative dialogue in 2018.<sup>14</sup> AR5 focussed on near-term and end-of-century time frames (RCP2.6 to RCP8.5)<sup>15</sup> but it did not include an assessment of the avoided impacts of going below 2 °C. The community of scientists working on impacts did not make full use of the CMIP5 scenarios and the adaptation and the mitigation aspects (WGIII), including their risks for a 1.5 °C versus 2 °C limit of global warming. How will the special report address these issues?

30. The presentations, addressing the questions mentioned above, will be followed by a discussion between Parties and experts. I invite Parties to keep their interventions succinct to allow for a fruitful discussion, refrain from delivering prepared statements and to possibly provide us with additional guiding questions, as appropriate.

## 2. Modalities for the IPCC assessments to inform the global stocktake (“how”)

31. This part of the event will start with an introductory presentation summarizing, based on previous experience, possible options on how the IPCC’s latest reports can inform the global stocktake. Issues such as comprehensiveness, transparency, inclusiveness and potential resource requirements of these options will be addressed.

32. Given the complexity of the IPCC reports, different modalities may be suited for particular aspects of this input. Furthermore, a good coordination between the IPCC and UNFCCC will be required to maximize the benefits of the input provided by the IPCC. To this end, the SBSTA-IPCC Joint Working Group could play an important role in bringing together the relevant presiding officers and the secretariats

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<sup>14</sup> Decision 1/CP.21, paragraph 20.

<sup>15</sup> Representative Concentration Pathways (RCPs) scenarios considered by the IPCC for projecting future climate conditions (see the summary for policymakers in the contribution of Working Group I to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change, box SPM.1. Available at <[http://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5\\_SPM\\_FINAL.pdf](http://www.ipcc.ch/pdf/assessment-report/ar5/wg1/WG1AR5_SPM_FINAL.pdf)>).

of both processes with a view to ensuring coherence and coordination.<sup>16</sup> The groups could be extended to include presiding officers of all relevant bodies under the UNFCCC.

33. The presentation will also discuss lessons learned from the 2013–2015 review and the structured expert dialogue (SED), which could be of relevance for the identification of the sources of inputs and modalities for the global stocktake.

34. The presentation will be followed by a discussion among all participants, during which Parties may wish to intervene. I invite you to participate actively in the discussions and present your views on preferred modalities, bearing in mind our previous experience with considering the IPCC reports.

35. I will reserve time to make closing remarks.

36. Parties wishing to present views and help with the organization of this event are invited to contact the secretariat at <secretariat@unfccc.int> by 9 May 2016. An agenda will be made available on the UNFCCC's website prior to the workshop at unfccc.int/1077.

### **C. Date and venue**

37. The meeting will take place in Bonn, Germany, on Wednesday, 18 May 2016 from 15:00 to 18:00. Information about the room will be made available on the website.<sup>17</sup>

### **D. Virtual participation**

38. Participants outside of the conference venue will be able to view the event via webcast. Further details will be provided on the UNFCCC's website.<sup>18</sup>

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<sup>16</sup> In 1995, the COP, at its first session, invited the Subsidiary Bodies, in particular the SBSTA, to submit proposals for future cooperation with the IPCC (decisions 4/CP.1 and 6/CP.1). This led to the establishment the same year of a Joint Working Group (JWG) of the SBSTA and the IPCC. This informal group meets regularly to ensure coordination and exchange information on the activities of the two bodies. The JWG is composed of the Chairs of the SBSTA and IPCC, other presiding officers of the Convention and IPCC, and members of the secretariats. Meetings usually take place during the sessions of the SBs. The most recent meeting took place in Paris in December 2015.

<sup>17</sup> <<http://unfccc.int/1077>>.

<sup>18</sup> <<http://unfccc.int>>.

## Annex

### Overview of the global stocktake

#### I. Purpose and long-term goals of the Agreement

1. The Paris Agreement gave purpose and long-term direction to guide individual and collective efforts of all Parties, while recognizing “the need for an effective and progressive response to the urgent threat of climate change on the basis of the best available scientific knowledge”.<sup>19</sup> According to its Article 2, the Agreement aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by:

(a) Holding the increase in the global average temperature to well below 2 °C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 °C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change;

(b) Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production;

(c) Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate resilient development.

2. Article 2 further provides that the Agreement will be implemented to reflect equity and the principle of common but differentiated responsibilities and respective capabilities, in the light of different national circumstances.

3. The Agreement also includes specific goals for mitigation and adaptation:

(a) The long-term goal on mitigation: “In order to achieve the long-term temperature goal set out in Article 2, Parties aim to reach global peaking of greenhouse gas emissions as soon as possible, recognizing that peaking will take longer for developing country Parties, and to undertake rapid reductions thereafter in accordance with best available science, so as to achieve a balance between anthropogenic emissions by sources and removals by sinks of greenhouse gases in the second half of this century, on the basis of equity, and in the context of sustainable development and efforts to eradicate poverty”.<sup>20</sup>

(b) The global goal on adaptation: “Parties hereby establish the global goal on adaptation of enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate adaptation response in the context of the temperature goal referred to in Article 2”.<sup>21</sup>

#### II. Main functions, character, frequency and outcome of the global stocktake

4. In accordance with Article 14, paragraph 1 of the Paris Agreement, the CMA shall periodically take stock of the implementation of the Paris Agreement to assess collective progress towards achieving the purpose of the Agreement and its long-term goals (referred to as “global stocktake”). The global stocktake shall be conducted in a comprehensive and facilitative manner and in light of equity and the best available science.

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<sup>19</sup> Paris Agreement, preamble.

<sup>20</sup> Paris Agreement, Article 4.1.

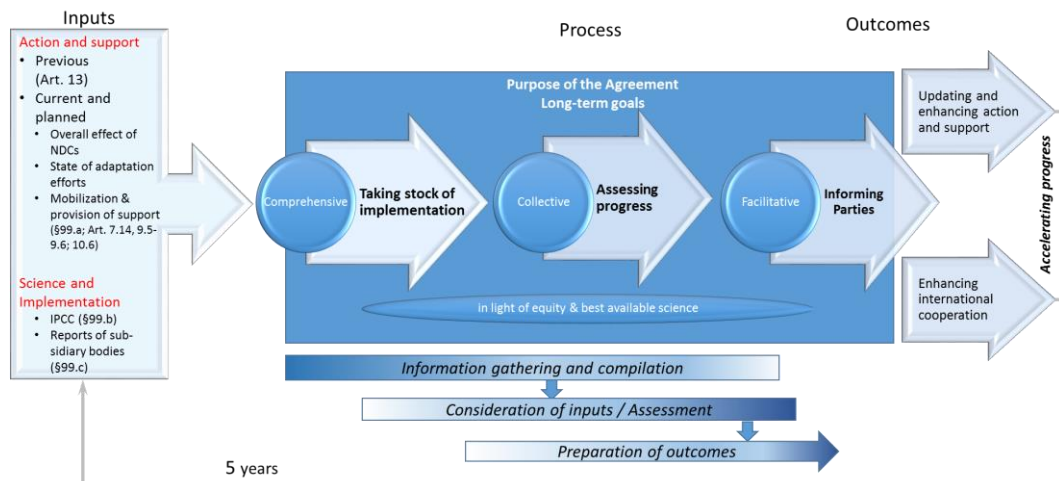
<sup>21</sup> Paris Agreement, Article 7.1.

5. The first global stocktake shall be undertaken in 2023 and every five years thereafter unless the CMA decides otherwise.<sup>22</sup>

6. The outcome of the global stocktake 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.<sup>23</sup>

7. Figure 1 below provides a schematic overview of the global stocktake, outlining the inputs and outcomes, as well as core functions including aggregating efforts and assessing progress against the purpose of the Paris Agreement and its long-term goals, and informing Parties with a view to accelerating progress.

**Figure 1:** Schematic overview on the global stocktake



8. Aggregation and assessment of Parties’ efforts and the continuous increase in ambition are a core feature of the Paris Agreement, which connects its components of nationally determined efforts to the long-term objectives. The global stocktake will perform this function in a comprehensive and facilitative manner, considering mitigation, adaptation and the means of implementation and support, and in the light of equity and the best available science.

### III. Specific functions, thematic aspects and cross-references

9. Further aspects and functions of the global stocktake are specified in various other Articles of the Paris Agreement, including with regard to:

- (a) Mitigation: Each Party’s NDC shall be informed by the outcomes of the global stocktake;<sup>24</sup>
- (b) Adaptation: The global stocktake shall, inter alia:<sup>25</sup>
  - i. Recognize adaptation efforts of developing country Parties;
  - ii. Enhance the implementation of adaptation action taking into account adaptation communications;
  - iii. Review the adequacy and effectiveness of adaptation and support provided for adaptation;

<sup>22</sup> Paris Agreement, Article 14, paragraph 3.

<sup>23</sup> Paris Agreement, Article 14, paragraph 3.

<sup>24</sup> Paris Agreement, Article 4, paragraph 9.

<sup>25</sup> Paris Agreement, Article 7, paragraph 14.



- iv. Review the overall progress made in achieving the global goal on adaptation.
- (c) Finance: The global stocktake shall take into account the relevant information provided by developed country Parties and/or Agreement bodies on efforts related to climate finance;<sup>26</sup>
- (d) Technology: The global stocktake shall take into account available information on efforts related to support on technology development and transfer for developing country Parties;<sup>27</sup>
- (e) Transparency of action: The framework for transparency of action shall inform the global stocktake;<sup>28</sup>
- (f) Transparency of support: The framework for transparency of support shall inform the global stocktake.<sup>29</sup>

### III. Preparatory work by the APA and the SBSTA

10. Regarding preparatory work, in addition to the request to the SBSTA mentioned in paragraph 1 of this information note, the COP, in decision 1/CP.21, requested the APA to identify and report to the COP the sources of input with a view to the COP making a recommendation for consideration and adoption at CMA 1, including:<sup>30</sup>

- (a) Information on:
  - i. The overall effect of the NDCs communicated by Parties;
  - ii. The state of adaptation efforts, support, experiences and priorities from national adaptation communications (referred to in Article 7.10 and 7.11 of the Paris Agreement) and reports referred to in Article 13.8 of the Paris Agreement (information related to climate change impacts and adaptation under Article 7);
  - iii. The mobilization and provision of support;
- (b) The latest reports of the IPCC;
- (c) Reports of the subsidiary bodies.

11. The COP also requested the APA to develop modalities for the global stocktake and to report to the COP, with a view to the COP making a recommendation to the CMA for consideration and adoption at its first session.<sup>31</sup>

12. Other bodies, in addition to the APA and the SBSTA, will have roles in the preparatory work for the global stocktake. Figure 2 gives examples of this in relation to adaptation. While noting that the modalities for the global stocktake are still to be developed, it is expected that most of these bodies will continue to have a role in the global stocktake beyond the preparatory phase.

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<sup>26</sup> Paris Agreement, Article 9, paragraph 6.

<sup>27</sup> Paris Agreement, Article 10, paragraph 6.

<sup>28</sup> Paris Agreement, Article 13, paragraph 5.

<sup>29</sup> Paris Agreement, Article 13, paragraph 6.

<sup>30</sup> Decision 1/CP.21, paragraph 99.

<sup>31</sup> Decision 1/CP.21, paragraph 101.

**Figure 2:** Roles of bodies under the Convention in the preparatory work on **adaptation** for the global stocktake

