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**Ad hoc open-ended working group on a science-policy panel
to contribute further to the sound management of
chemicals and waste and to prevent pollution**

First session

Nairobi, 6 October 2022 and Bangkok, 30 January–3 February 2023*
Agenda item 6**

**Preparation of proposals for the establishment of a science-policy
panel**

**Principal functions of the science-policy panel to contribute
further to the sound management of chemicals and waste and to
prevent pollution: considerations for a way forward**

Note by the secretariat

I. Introduction

1. At its resumed fifth session, held in Nairobi from 28 February to 2 March 2022, the United Nations Environment Assembly decided, by resolution 5/8, that a science-policy panel should be established to contribute further to the sound management of chemicals and waste and to prevent pollution, with details to be further specified according to the provisions in paragraphs 4 and 5 of the resolution. The Environment Assembly considered that “the panel should be an independent intergovernmental body with a programme of work approved by its member Governments to deliver policy-relevant scientific evidence without being policy prescriptive”.

2. By the same resolution, the Environment Assembly decided to convene, subject to the availability of resources, an ad hoc open-ended working group that would begin work in 2022, with the ambition of completing it by the end of 2024. The Assembly requested the Executive Director of the United Nations Environment Programme (UNEP) to provide a secretariat for the ad hoc open-ended working group and to prepare the analytical and summary reports necessary for its work.

3. In addition, in paragraph 2 of the resolution, the Environment Assembly considered that the principal functions of the panel should include:

(a) Undertaking “horizon scanning” to identify issues of relevance to policymakers and, where possible, proposing evidence-based options to address them;

(b) Conducting assessments of current issues and identifying potential evidence-based options to address, where possible, those issues, in particular those relevant to developing countries;

* The first session of the ad hoc open-ended working group on a science-policy panel to contribute further to the sound management of chemicals and waste and to prevent pollution is being held in two parts. The first part of the session was held in Nairobi on 6 October 2022, while the second part, namely the resumed first session, will be held in person in Bangkok from 30 January to 3 February 2023.

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(c) Providing up-to-date and relevant information, identifying key gaps in scientific research, encouraging and supporting communication between scientists and policymakers, explaining and disseminating findings for different audiences, and raising public awareness;

(d) Facilitating information-sharing with countries, in particular developing countries seeking relevant scientific information.

4. The present document sets out, for consideration by the ad hoc open-ended working group, options that further elaborate on the proposed functions of the panel. The document provides information on how similar functions have been defined and provided for in the context of other science-policy bodies. The options presented have been informed by the secretariat's review of relevant existing science-policy interfaces, notably the Intergovernmental Panel on Climate Change (IPCC), the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES), the UNEP International Resource Panel (IRP) and the UNEP Global Environmental Outlook (GEO) process, and of activities of members of the Inter-Organization Programme for the Sound Management of Chemicals (IOMC). They have also been informed by interventions made during the first part of the first session of the ad hoc open-ended working group, held on 6 October 2022; by information shared in the course of the webinar series convened by the secretariat; and by a variety of consultations and exchanges with stakeholders. The document is intended to be considered in conjunction with document UNEP/SPP-CWP/OEWG.1/4 on options for establishing the science-policy panel's scope, given that in determining the principal functions of the panel it becomes necessary to consider the panel's scope.

5. Section II of the document discusses the horizon scanning function. Section III sets out options for the assessment function. Section IV considers functions related to knowledge management, communication and information-sharing, and stakeholder engagement, as outlined in paragraphs 2 (c) and 2 (d) of the resolution. Section V proposes options for the consideration of capacity-building as an additional function in the light of requests for its inclusion made during the first part of the first session of the ad hoc open-ended working group. Finally, section VI presents considerations for a way forward.

II. Horizon scanning function

6. This section outlines some key elements of horizon scanning to facilitate a common understanding and provide a basis for the deliberations of the ad hoc open-ended working group on the proposed horizon scanning function of the science-policy panel.

A. What is horizon scanning?

7. Horizon scanning is a policy tool used to systematically review available data and information to detect, collect and interpret signals of possible early changes in a specific field. This is often done as part of a comprehensive foresight process that is commonly used across various sectors to identify potential medium- and long-term opportunities and risks. Many factors related to chemicals, waste and prevention of pollution could result in the emergence of important opportunities and risks that could directly or indirectly affect human health, the environment and general planetary health. Rapid advances in science and technology can affect, both positively and negatively, the course of the triple planetary crisis of climate disruption, nature and biodiversity loss and pollution and waste. It is therefore increasingly important to be able to identify signals of the emergence of important opportunities or risks at the global, regional and country levels at an early stage and, if needed, pre-emptively manage their occurrence.

8. Various surveillance approaches and tools have traditionally been used to identify and assess potential opportunities and risks, with a view to providing recommendations for possible future actions. While these traditional approaches are reasonably effective in identifying immediate opportunities and risks, there is an urgent need to also forecast important medium- to longer-term issues of concern to allow for effective preventive and management actions. Achieving this requires a shift from the traditional reactive approach to a more proactive, preventive approach that relies on effective identification and monitoring of important signals.

9. While there is no agreed definition, horizon scanning has been characterized as follows:

(a) “Horizon scanning is a process for finding and interpreting early indications of change in the external environment of an organization or field.”¹

(b) “Horizon scanning is a systematic process that aims to identify potential threats and opportunities relative to a given set of objectives or phenomena to improve societal preparedness.”²

(c) “Horizon scanning is a specific foresight methodology that utilizes various steps to identify issues at the edge of current thinking that may have significant impact in the medium- to long-term future.”³

10. **The establishment of a comprehensive horizon scanning and foresight process would allow for enhanced institutional capacity to detect emerging developments, trends and other signals of change, risks and opportunities as early as possible**, which in turn enables monitoring of progress and, if changes occur, optimal use of time to put in place policies that could mitigate potential adverse effects or leverage new advantageous science and technology. It provides an avenue for better anticipating the range of possible future developments with a view to identifying issues of relevance to policymakers and, where possible, proposing evidence-based options for addressing potential opportunities and risks. This in turn is expected to lead to improved resilience, enhanced capacity to develop more robust policies and strategies, and a decrease in risk exposure. In practice, it is also foreseeable that the panel’s horizon scanning function could feed into and inform the process of prioritizing activities and resources when setting the panel’s work programme.

11. The ad hoc open-ended working group is invited to consider modifying the horizon scanning function to include a comprehensive foresight process and provide information on how to leverage the function to potentially identify future assessment areas and define possible programmes of work.

B. Existing horizon scanning and foresight processes

12. Neither IPCC nor IPBES includes horizon scanning and foresight studies in its work programme. The secretariat therefore undertook a review of methodologies put in place under other intergovernmental organizations, specifically IOMC member organizations, several of which currently have robust horizon scanning and foresight mechanisms in place that have been used to bring together experts in relevant fields to analyse existing evidence and detect signals relating to emerging issues and new developments in their respective fields. This section provides an overview of the key features of the horizon scanning and foresight mechanisms and methodologies implemented by IOMC member organizations, which the ad hoc open-ended working group may wish to consider and which may be relevant for the conceptualization of the horizon scanning function under the new science-policy panel.⁴

13. The World Health Organization (WHO) recently published a document entitled “Emerging trends and technologies: a horizon scan for global public health”,⁵ which presents the findings of a global horizon scan conducted by a group of international experts on emerging technologies and trends relevant to global public health. The detailed methodology had three phases: recruitment of contributors and issues; scoring and refining; and deliberation and aggregation.

14. The Food and Agriculture Organization of the United Nations recently developed a foresight report about the future of food safety.⁶ The foresight methodology consisted of an exploratory approach whereby information was scanned and assembled from a wide variety of data sources, followed by prioritization, analysis and distribution of the scanned information. The three major steps of the approach were finding information, analysing it and communicating the relevant information.

¹ D. N. Bengston, “Horizon scanning for environmental foresight: a review of issues and approaches”, General technical report NRS-121 (Newtown Square, US Forest Service, 2013).

² W. J. Sutherland and H. J. Woodroof, “The need for environmental horizon scanning”, *Trends in Ecology and Evolution*, vol. 24, no. 10 (2009), pp. 523–527.

³ Food and Agriculture Organization of the United Nations, “Horizon scanning and foresight: an overview of approaches and possible applications in food safety” (Rome, 2014).

⁴ The summary is not intended to provide a comprehensive overview of foresight activities. The secretariat’s review was brief and emphasized intergovernmental initiatives; it did not cover the growing number of private-sector entities delivering variations on horizon scanning.

⁵ WHO, *Emerging Trends and Technologies: A Horizon Scan for Global Public Health* (Geneva, WHO, 2022).

⁶ Food and Agriculture Organization of the United Nations, *Thinking about the Future of Food Safety – A Foresight Report* (Rome, 2022).

15. The United Nations Development Programme has developed a foresight manual that introduces the concept of strategic foresight as an important practice in the context of the 2030 Agenda for Sustainable Development.⁷ This framework recognizes four distinct but interdependent phases of the foresight process: input, foresight, output and strategy.

16. UNEP carried out a foresight exercise for its publication of “21 Issues for the 21st Century.”⁸ The exercise resulted in a list of 21 emerging environmental issues identified through the foresight exercise, covering the major themes of the global environment, including food, land, freshwater, marine, biodiversity, climate change, energy, waste and technology, as well as important cross-cutting issues. The document was developed by a panel of experts in the natural, economic and social sciences over the course of eight months.

C. Comparative analysis of horizon scanning and foresight processes

17. **Overall, each of the approaches reviewed included horizon scanning in the context of an overarching foresight exercise.** This allowed each of the entities to gather the necessary information on signals and emerging issues, as well as to identify issues of relevance to policymakers and, where possible, propose evidence-based options to address them. The horizon scanning component of the exercise involved the systematic collection of information from various sources on issues potentially relevant to the topic at hand, followed by analysis and prioritization of the information gathered to distil it to the most pressing signals and emerging issues. Each entity used a different approach to analysis and prioritization: some processes used scoring by the relevant experts, while others had a more complex analysis and prioritization matrix that considered possible impacts, likelihood, and time, scale and novelty.

18. **There are also different approaches to collecting information.** Some entities called on the collective expertise of the expert panel formed to facilitate the foresight exercise, asking panel members to suggest topics for further investigation. Other entities had a more rigorous process for the monitoring of multiple sources such as scientific data, literature, social media, specialized websites and questionnaires, on the basis of which they then carried out the analysis and prioritization process. Yet another process calls for the inclusion of a diverse set of stakeholders from different disciplines and sectors, whose perspectives may be included right from the start. While that process was not mentioned by the entities reviewed, it is worth noting that specialized organizations that scan available data for signals based on scenarios can be employed to assist in the information collection process.

19. Some entities specified a final step in their foresight exercise, which consisted of proposing strategic options for addressing the signals and emerging issues identified through the horizon scanning component of the exercise. This step is in line with Environment Assembly resolution 5/8, which calls for a horizon scanning function “to identify issues of relevance to policymakers and, where possible, propose evidence-based options to address them”.

20. All the entities indicated that an expert group had been established to facilitate the implementation of the foresight exercises; however, the documents reviewed were largely silent on the process used to select the experts and the disciplines and perspectives they represented.

21. In general, the documents reviewed did not provide any indication of the time frame in which the foresight exercise was completed; only one indicated that the process had been completed over the course of eight months.

D. Proposals for a way forward

22. Most IOMC member organizations carry out horizon scanning in the context of a comprehensive foresight exercise, with a view to identifying signals and emerging issues of relevance to policymakers and, where possible, proposing evidence-based options to address potential opportunities and threats. **The ad hoc open-ended working group may wish to provide guidance on what it expects the horizon scanning function to achieve** and the context in which horizon scanning will take place. It may further wish to adopt a similar approach to that taken by the organizations highlighted above.

23. The ad hoc open-ended working group may wish to **consider what the expected output of the prospective horizon scanning function will comprise** and how the output will be used to support

⁷ United Nations Development Programme Global Centre for Public Service Excellence, *Foresight Manual: Empowered Futures for the 2030 Agenda* (Singapore, 2018).

⁸ UNEP, *21 Issues for the 21st Century: Results of the UNEP Foresight Process on Emerging Environmental Issues* (Nairobi, 2012).

the other functions of the science-policy panel – for example, by informing the development of rolling work programmes and possibly leveraging the horizon scanning function to potentially identify future assessment areas.

24. While the ad hoc open-ended working group will be invited to consider **the detailed institutional arrangements that may need to be put in place to implement the horizon scanning function** at its future sessions, preliminary consideration of and guidance on the key elements of such arrangements, such as the establishment of an expert group to support the implementation of horizon scanning functions and the scope of the horizon scanning function, would facilitate the development of options to be presented at future sessions.

25. Depending on the outcome of the discussion on the three issues highlighted above, the ad hoc open-ended working group may wish to consider requesting the secretariat to **develop a proposal** for the panel’s approach to horizon scanning and foresight processes.

III. Assessment function

26. According to paragraph 2 (b) of resolution 5/8, the Environment Assembly considered that the principal functions of the science-policy panel should include “conducting assessments of current issues and identifying potential evidence-based options to address, where possible, those issues, in particular those relevant to developing countries.” This section outlines some key elements of assessment to facilitate a common understanding and initiate the deliberations of the ad hoc open-ended working group on such a function.

A. What are assessments?

27. Global environmental assessments operate at the interface between science and policy, and address issues of societal importance. Assessments provide a space for science-policy bodies to assess and share legitimate, authoritative information on topics related to their scope of work. Assessments are typically extensive documents that build on existing peer-reviewed literature and other diverse sources of data that are publicly available, such as grey literature⁹ and indigenous and local knowledge. For example, IPCC prepares comprehensive assessment reports about the state of scientific, technical and socioeconomic knowledge on climate change, its impacts and future risks, and options for reducing the rate at which climate change is taking place.¹⁰ The new panel is envisaged as fulfilling an equivalent role in the fields of chemicals, waste and pollution prevention.

28. Assessments by other equivalent global bodies such as IPCC and IPBES provide a balanced review of the state of knowledge concerning climate change and biodiversity, respectively. Such assessments can empower national decision-making with evidence-based options for addressing issues and informing relevant international processes such as those under the United Nations Framework Convention on Climate Change and the Convention on Biological Diversity.¹¹ Depending on the scope of the new science-policy panel, the panel’s assessment function may result in a similar, but potentially more complex, relationship with bodies such as the secretariat of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the Stockholm Convention on Persistent Organic Pollutants, the secretariat of the Minamata Convention on Mercury, the Ozone Secretariat, WHO and the International Labour Organization. These considerations could be relevant to discussions on paragraphs 5 (a) and 8 of resolution 5/8.

29. The assessment function of various international science–policy bodies generates several types of assessments, including comprehensive (global), regional, thematic and methodological assessments. The assessments are sometimes accompanied by synthesis reports or technical summaries.

⁹ In the scholarly community, a widely accepted definition of grey literature is “information produced on all levels of government, academia, business and industry in electronic and print formats not controlled by commercial publishing[, that is,] where publishing is not the primary activity of the producing body” (International Conference on Grey Literature Luxembourg definition, 1997, expanded in New York, 2004). Examples of grey literature include technical or research reports, conference papers, some official publications, doctoral dissertations and other types of non-journal literature.

¹⁰ <https://www.ipcc.ch/about/preparingreports/>.

¹¹ UNEP, *Assessment of Options for Strengthening the Science-Policy Interface at the International Level for the Sound Management of Chemicals and Waste* (2020).

30. A designated decision-making body (in the case of IPCC and IPBES, the plenary) decides on the scoping, timing and process to be followed in conducting assessments of current issues. Such decisions typically result in the development of a programme of work for the science-policy body, a process which is discussed in more detail in document UNEP/SPP-CWP/OEWG.1/4, on the scope of the new science-policy panel. The scoping process (i.e., the process of outlining what will be included or addressed in the assessment) also needs to ensure that the issues to be addressed are relevant, particularly to developing countries, as called for in paragraph 2 (b) of resolution 5/8.

31. The sections that follow provide a brief overview of how science-policy bodies fulfil their assessment functions, distinguishing between comprehensive, thematic assessments and special assessments (and other outputs). Many of the features that influence the effectiveness of an assessment process depend on institutional design choices and features that the ad hoc open-ended working group may wish to consider in detail at its second session. Salient differences between IPCC, IPBES, IRP, the GEO process and the Montreal Protocol assessment panels are discussed in detail in document UNEP/SPP-CWP/OEWG.1/INF/5.

B. Comparative analysis: comprehensive assessments

32. Comprehensive assessments typically consist of one or more volumes broken into a series of chapters and have a conceptual framework (such as the drivers-pressures-state-impact-response framework) that guides the work.¹² Comprehensive assessments are conducted either on a cyclical basis (examples include IPCC assessment reports, the IRP Global Resource Outlook, ozone assessments) or on an ad hoc basis (examples include the Global Chemicals Outlook and the Global Waste Management Outlook, both produced by UNEP). They are typically initiated through pre-defined mandates (IPCC being an example) or by being prioritized in programmes of work (examples being IPBES and IRP). Comprehensive assessments typically take several years to complete, though there is some variation depending on the scale of the work and how it is organized.

33. Variations in time frame also reflect differences in the multistep procedures that govern the assessment process and the time elapsed between each step.¹³ Typically, steps include the nomination of experts, the election of experts who take on leadership roles, the scoping of issues to be considered (if that has not already been done through a horizon scanning exercise), the selection of experts who will lead or contribute to the preparation of the report, the convening of workshops, expert and/or government review(s), the finalization and acceptance of the main report, and potentially approval of the summary for policymakers.

34. Assessments are typically accompanied by one or more summaries for policymakers. In addition to emphasizing policy-relevant information contained in the assessment reports, such summaries use more accessible language and are typically made available in the six United Nations languages.¹⁴ The summaries may be produced concurrently with the development of the associated assessment report or after the completion or acceptance of the full report, and they may undergo a review/acceptance process separate from that of the full assessment report. For example, IPCC summaries for policymakers should be “prepared concurrently with the preparation of the main reports” and be “subject to simultaneous review by both experts and governments and to a final line by line approval by a session of the working group.”¹⁵

C. Comparative analysis: special assessments, thematic assessments and other outputs

35. The assessment functions of existing science-policy bodies are additionally fulfilled by special or thematic assessments. In such cases, science-policy bodies provide for their decision-making body (or the decision-making body of the institution to which they are subsidiary) to prioritize the production of special and/or thematic assessments. For example, the IPBES plenary decides which issues to prioritize for assessment when setting the platform’s work programme. In addition to global

¹² See document UNEP/SPP-CWP/OEWG.1(II)/INF/5 for examples.

¹³ See document UNEP/SPP-CWP/OEWG.1(II)/INF/5 for additional information on the procedures governing the production of existing assessments.

¹⁴ These translations can extend beyond the United Nation’s six languages. For example, the summary for policymakers of the IPCC report *Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change* is also available in Catalan, German, Hungarian, Korean and Thai. (In those cases, countries themselves have produced translations.) See <https://www.ipcc.ch/report/ar5/syr/>.

¹⁵ See “Principles governing IPCC work”, appendix A.

and regional assessments, assessments may cover cross-cutting issues (for example, biodiversity and climate change), special themes (for example, pollinators, pollination and food production, or values) and methods (for example, scenarios and models). It is noteworthy that the IPBES procedures for the preparation of platform deliverables provide for both a standard and a fast-track approach to assessments.

36. Some science-policy bodies, such as IPBES, also release guidelines or manuals, which are normative documents that guide data collection and compilation (sometimes required by a counterpart policy institution). Such methodology reports can be quite distinct from the assessment outputs but play a key role in contributing to the function of assessing knowledge. These types of outputs could also be considered as part of capacity-building or other functions that the ad hoc open-ended working group may wish to consider including in the scope and programme of work.

D. Considerations for the ad hoc open-ended working group

37. All the above-mentioned assessment processes produce assessments that are credible and provide relevant information for evidence-based decision-making by governments and other stakeholders. They differ, however, with respect to the involvement of Member States and other stakeholders, especially with respect to scoping, review and report acceptance and approval.

38. The ad hoc open-ended working group may wish to **consider whether one of the models for undertaking assessments is a suitable starting point for elaborating procedures** for preparing the deliverables of the new science-policy panel (see document UNEP/SPP-CWP/OEWG.1/INF/5 for a comparison of assessment processes). It may wish to task the secretariat with developing detailed procedures and guidelines based on that starting point, for the consideration of the ad hoc open-ended working group at its second session.

39. The ad hoc open-ended working group may wish to **consider a multi-track approach to assessments, which allows the panel to call for new assessments after the conclusion of a horizon scanning or foresight exercise**, or inputs from eligible stakeholders, including the types of stakeholders to be engaged. Such an approach could allow for a more rapid response to emerging, new or specific issues of concern and for assessments that might otherwise fall outside the existing programme of work.¹⁶ In a similar vein, the ad hoc open-ended working group may wish to consider the production of special or thematic assessments in addition to, or instead of, comprehensive assessments.

40. **The ultimate objective or intended impact of the assessment function of the panel should also be considered.** Global assessments and other related outputs represent substantial financial and human resource investments. It may be the case that the goal of the assessment function can be achieved without producing large-scale global assessments. It may also be that the intended impact of the assessment function cannot be achieved without providing for capacity-building, communications or other efforts that provide a bridge between the recommendations of an assessment and the intended impact of the assessment function.

41. Regarding the investment in human resources, the ad hoc open-ended working group may wish to **consider the human resources requirements associated with producing assessments.** Experts who agree to contribute in any capacity to the production of assessments for the new science-policy panel are likely to have other time-consuming obligations, which may include formal or informal roles with other bodies that may interact with the new science-policy panel (for example, as contributing authors for reports produced by UNEP or the secretariat of the Basel, Rotterdam and Stockholm conventions).

42. The ad hoc open-ended working group may also wish to **consider whether the science-policy panel, once established, might take on the periodic production of relevant comprehensive assessments currently produced by UNEP**, such as the *Global Waste Management Outlook* and the *Global Chemicals Outlook*, or whether such assessments should remain separate from the panel's work. Alternatively, assessments (or sections thereof) produced by the new panel could be utilized to strengthen relevant sections of such existing assessments. This would serve not only to strengthen the cooperation between the panel and other relevant bodies but also to amplify the uptake of the findings and recommendations of assessments produced by the panel, while also building a common narrative around key issues discussed in the areas of chemicals, waste and pollution prevention.

¹⁶ This is in line with IPCC practice for its special reports. Once topics are agreed on by IPCC member governments, special reports are produced by one of three working groups based on the topic's relevance to the groups and are later incorporated into the assessment report.

IV. Knowledge management, communication and information-sharing, and stakeholder engagement functions

43. As is indicated in paragraph 3 above, paragraphs 2 (c) and 2 (d) of resolution 5/8 call for the panel's principal functions to include the following two functions related to knowledge management, communication and information-sharing, and stakeholder engagement:

(a) Providing up-to-date and relevant information, identifying key gaps in scientific research, encouraging and supporting communication between scientists and policymakers, explaining and disseminating findings for different audiences, and raising public awareness;

(b) Facilitating information-sharing with countries, in particular developing countries seeking relevant scientific information.

44. To facilitate the deliberations of the ad hoc open-ended working group, the functions specified in paragraphs 2 (c) and 2 (d) of resolution 5/8 are grouped together in this section and discussed according to their six sub-functions:

(a) Providing up-to-date and relevant information;

(b) Identifying key gaps in scientific research;

(c) Encouraging and supporting communication between scientists and policymakers;

(d) Explaining and disseminating findings for different audiences;

(e) Raising public awareness;

(f) Facilitating information-sharing with countries, in particular developing countries seeking relevant scientific information.

45. The following sections provide an overview of the activities typically associated with knowledge management, communication and information-sharing, and stakeholder engagement, examples of how other bodies have delivered on the various associated sub-functions, and options for the ad hoc open-ended working group to consider as it discusses those sub-functions.

46. When looking to relevant models from existing bodies, the ad hoc open-ended working group may wish to consider that in issue areas such as climate change and biodiversity, the bulk of the knowledge being managed is publicly available, whereas in the arena of sound management of chemicals and waste and prevention of pollution, proprietary information may well make up a (significant) part of the information at hand.

A. Knowledge management

47. Knowledge management is a discipline that promotes an integrated approach to identifying, capturing, evaluating, retrieving and sharing information assets. Such assets may include global assessments (as developed by IPCC and IPBES), databases, documents, policies, procedures and previously uncaptured expertise and experience of individual workers.

48. Knowledge management practices can be considered as contributing to all the sub-functions listed above, with emphasis on sub-functions (a), (b), (c) and (f).

49. Knowledge management is connected to other functions discussed in this document. For example, the global assessments described in section III, which are common to other bodies, including IPCC and IPBES, rely on an extensive array of sources, including peer-reviewed secondary sources. Similarly, the horizon scanning function described in section II contributes to assessing and managing knowledge, while capacity-building, which is discussed in section V, uses knowledge platforms to share information. Knowledge management can also extend to the dissemination of methodologies and guidelines developed in connection with the assessment function, as described in section III.

50. Other science-policy bodies manage their knowledge through data and knowledge management policies. Experiences considered to be of value, including with respect to the collection and review of scientific data for reports and assessments, are discussed below.

1. Existing options: knowledge management policies

51. IPBES knowledge management is guided by a policy¹⁷ that ensures that data and knowledge are managed correctly and consistently. Objective 3 of the most recent IPBES work programme focuses on strengthening knowledge foundations through:

(a) Advanced work on knowledge and data, developing a web-based infrastructure in support of open data-sharing and information management and identifying and communicating gaps in knowledge and data arising from the completed deliverables of IPBES work programmes;

(b) Enhanced recognition of and work with indigenous and local knowledge systems, considering the special needs of indigenous and local knowledge holders through the implementation of the participatory mechanism.

52. The procedures for the preparation, review, acceptance, adoption, approval and publication of IPCC reports, contained in appendix A of the principles governing IPCC work,¹⁸ provide details for the preparation of the various types of IPCC reports.

53. Annex 3 to the policies and procedures of the IRP,¹⁹ setting out the guidelines for the external expert review process, ensures that IRP scientific publications use solid data, appropriate methodologies and a robust process as a means to uphold the panel's credibility.

2. Existing options: literature review

54. Annex 2 to appendix A of the principles governing IPCC work sets out the IPCC procedure for the use of literature in IPCC reports to ensure that the process is open and transparent.

55. Annex 4 to the IRP policies and procedures, setting out guidelines for the use of literature in IRP scientific publications, specifies that authors of scientific publications are required to critically assess information from any source and should give priority to peer-reviewed scientific, technical and socioeconomic literature if it is available.

3. Existing options: information-sharing platforms

56. The IRP Global Material Flows Database provides data to help governments, policy researchers and interested stakeholders understand and trace the linkages between economic growth and raw material usage.²⁰

57. The Convention on Biological Diversity has established a clearing-house mechanism to promote and facilitate technical and scientific cooperation within and between countries.²¹ The clearing-house mechanism is a multi-stakeholder global system that facilitates the exchange of information and expertise relevant to the entity adopting it.

58. A clearing-house mechanism is also used by the European Environmental Agency, the secretariat of the Basel, Rotterdam and Stockholm conventions and other international bodies to provide community members with the means to contribute and access up-to-date, quality information in a transparent, neutral, user-friendly manner.

59. The Minamata Convention's knowledge management platform,²² which is interoperable with other systems such as the United Nations Information Portal on Multilateral Environmental Agreements (InforMEA),²³ is designed to serve the parties to the convention and inform the public. The exchange of information among parties is regulated by paragraph 1 of article 17 of the convention.

60. The Global Environment Facility chemicals and waste portfolio²⁴ provides several examples of platforms. For instance, the Implementing Sustainable Low and Non-Chemical Development in Small Island Developing States (ISLANDS) programme,²⁵ planetGOLD,²⁶ the Strategic Approach to

¹⁷ <https://ict.ipbes.net/ipbes-ict-guide/data-management/data-management-policy>.

¹⁸ <https://www.ipcc.ch/documentation/procedures/>.

¹⁹ https://www.resourcepanel.org/sites/default/files/documents/document/media/policies_and_procedures_of_the_irp.pdf.

²⁰ <https://www.resourcepanel.org/global-material-flows-database>.

²¹ <https://www.cbd.int/chm/>.

²² <https://www.mercuryconvention.org/en>.

²³ <https://www.informeia.org/en>.

²⁴ <https://www.unep.org/gef/focal-areas/chemicals-waste>.

²⁵ <https://www.greengrowthknowledge.org/initiatives/gef-islands>.

²⁶ <https://www.planetgold.org/>.

International Chemicals Management (SAICM)²⁷ and Environmental Observatories for the Sound Management of Chemicals in Africa²⁸ have established communities of practice and knowledge management platforms through expert partners such as the Green Growth Knowledge Partnership,²⁹ the Natural Resources Defense Council³⁰ and the University of Cape Town.³¹ Communities of practice enable project countries and stakeholders to access academic resources and exchange experiences. The Environmental Observatories for the Sound Management of Chemicals in Africa project has also established the Professional Masters in Chemicals Risk Management programme, offered by the University of Cape Town.

4. Comparative analysis of existing options

61. For sub-function (a), “providing up-to-date and relevant information”, the ad hoc open-ended working group may wish to consider reviewing the IPBES, IPCC and IRP policies on data and knowledge management, as well as their guidance on assessing scientific information, to create a knowledge management and communications strategy and/or a policy on the use of literature.

62. For sub-function (b), “identifying key gaps in scientific research”, the ad hoc open-ended working group may wish to consider objective 3 of the IPBES rolling work programme to 2030, on strengthening knowledge foundations, to identify and communicate gaps in knowledge and data. Gaps may also be identified by third parties participating in other knowledge management activities that the ad hoc open-ended working group may wish to consider putting in place, such as communities of practice, knowledge platforms and webinars.

63. For sub-function (c), “encouraging and supporting communication between scientists and policymakers”, the ad hoc open-ended working group may wish to consider creating a web-based platform to provide stakeholders with relevant, up-to-date information. Such platforms usually include a gateway to a private space or community of practice to support communication among stakeholders via tools such as webinars, stakeholder surveys and consultations. Examples could be drawn from SAICM and the Environmental Observatories for the Sound Management of Chemicals in Africa, both funded by the Global Environment Facility. The ad hoc open-ended working group may also wish to consider aligning the panel with academic programmes such as the University of Cape Town’s Professional Masters in Chemicals Risk Management programme, to ensure that the panel’s knowledge is incorporated into academic courses and transmitted to students.

64. For sub-function (f), “facilitating information-sharing with countries, in particular developing countries seeking relevant scientific information”, the ad hoc open-ended working group may wish to establish a mechanism similar to the Convention on Biological Diversity clearing-house mechanism, to promote and facilitate technical and scientific cooperation among countries, or the IPBES participatory mechanism, so as to consider the special needs of indigenous and local knowledge holders, as well as endorsing the secretariat’s continued engagement with regions through consultations.

B. Communication and information-sharing

65. Communication is the mechanism for sharing tailored messages and products with target audiences. Information-sharing refers to the collection, management and distribution of information. Communication and information-sharing practices cover sub-functions (c), “encouraging and supporting communication between scientists and policymakers”, (d), “explaining and disseminating findings for different audiences”, (e), “raising public awareness” and (f), “facilitating information-sharing with countries, in particular developing countries seeking relevant scientific information”. Communication and information-sharing activities are predicated on the assumption that target audiences, tailored messages and effective tools are established to share knowledge and communication products.

66. Existing science-policy bodies deliver similar communication functions but through different approaches, including a stand-alone communication strategy and explicit incorporation of key elements of communication and information sharing in the work programme. Both approaches have been successful.

²⁷ <https://saicmknowledge.org/topic/knowledge-management>.

²⁸ <https://chemobsafrica.org/>.

²⁹ <https://www.greengrowthknowledge.org/>.

³⁰ <https://www.nrdc.org/>.

³¹ <https://www.uct.ac.za/>.

1. Existing options: communication strategies

67. IPBES includes communication and information-sharing in its functions. The platform identifies and prioritizes key scientific information needed for policymakers at appropriate scales and catalyses efforts to generate new knowledge by engaging in dialogue with key scientific organizations, policymakers and funding organizations. IPBES further addresses sub-function (f), “facilitate information-sharing with countries, in particular developing countries seeking relevant scientific information”, through its capacity-building activities, which are discussed in section V of this document.

68. The IPCC communications strategy³² focuses on communicating around assessment findings and methodologies, by providing clear and balanced information on climate change, including scientific uncertainties, without compromising accuracy.

2. Existing options: information sharing and dissemination

69. IPCC produces outreach materials and organizes outreach activities such as events and presentations by IPCC representatives at various national and international meetings to publicize the findings of its reports and disseminate them to its key audiences, including the scientific and policy communities worldwide.³³ To facilitate information-sharing with countries, IPCC has also established a system of national focal points.³⁴

70. IRP develops diverse materials to support the dissemination of its assessments, including a summary for policymakers, a report on the implications for business leaders, infographics, webinars, training tools and massive open online courses, videos and factsheets in six United Nations languages. IRP also works closely with other scientific panels to ensure that its work is cited in the work of others. Further, IRP hosts databases and tools on its website.

3. Existing options: brand awareness

71. The IPBES rolling work programme to 2030 includes “communicating and engaging” as an objective to strengthen the involvement of members and stakeholders and to increase the visibility of IPBES and the use of IPBES products, which it does through the development and implementation of a communication and outreach strategy and a stakeholder engagement strategy.

72. IRP brand recognition is still low among certain policy networks, non-governmental organizations and private-sector actors. IRP has proposed a strategy to engage with a selected group of core audiences in a more systematic and strategic manner. It includes a separate strategy for core audiences from the private sector.³⁵

4. Comparative analysis of existing options

73. For sub-function (c), “encouraging and supporting communication between scientists and policymakers,” the ad hoc open-ended working group may wish to consider **establishing a system of consultation with scientists and representatives from academic societies and a platform where scientists and policymakers can engage**, following the examples of IPCC and IPBES and through the stakeholder engagement and knowledge management practices outlined in this section.

74. For sub-functions (d), “explaining and disseminating findings for different audiences”, and (e), “raising public awareness”, the ad hoc open-ended working group may wish to consider **developing a communication strategy that defines audiences, messages and tools**. This might entail:

- (a) Identifying audiences through stakeholder engagement practices;
- (b) Tailoring messages according to the identified audiences;
- (c) Creating knowledge dissemination tools, such as a website with content and products such as assessments, infographics, webinars, training tools, massive open online courses, videos and factsheets, possibly available in the six United Nations languages;

³² The IPCC communications strategy was first adopted in 2012 and amended in 2016. It is available in all United Nations languages at <https://www.ipcc.ch/documentation/procedures/>.

³³ https://archive.ipcc.ch/news_and_events/outreach.shtml.

³⁴ <https://www.ipcc.ch/focal-points/>.

³⁵ See “2018–2021 IRP work programme”, sect. 5, on engaging more and better with IRP audiences.

(d) Planning dissemination and engagement with stakeholders according to a calendar of events, drawing inspiration from the IPCC website. International events may also be considered as a means of disseminating findings.

75. The ad hoc open-ended working group may wish to consider **establishing a relationship with, for example, the global press and scientific journals, to ensure a wider public dissemination of its products.**

76. For sub-function (f), “facilitating information-sharing with countries, in particular developing countries seeking relevant scientific information,” the ad hoc open-ended working group may wish to consider **using networks already present in the chemicals/waste/pollution prevention space**, such as the focal points for various multilateral environmental agreements, the national ozone units, the regional centres of the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and Their Disposal and the Stockholm Convention on Persistent Organic Pollutants, and the WHO Chemical Risk Assessment Network. Such networks would serve as already established channels to support the dissemination of information to target audiences.

C. Stakeholder engagement

77. Stakeholder engagement is the process used by an organization to engage relevant stakeholders to meet its objectives, and is covered by all six sub-functions in paragraphs 2 (c) and 2 (d) of resolution 5/8. Stakeholder engagement activities include identifying the relevant spectrum of stakeholders and engagement approaches for each stage of the policy process, from agenda setting to the understanding of problems and solutions. According to the stakeholders’ influence on the science-policy panel process, they can then engage via partnerships, participations, consultations, push communications and pull communications. The purpose of a stakeholder engagement plan is to bring diverse perspectives together, attract different expertise, strengthen the relevance of the panel’s deliverables, reach balance (gender, regional, sectoral and knowledge), deliver suggested high-quality products, and mobilize resources and in-kind support. Capacity-building, knowledge management and communication activities are also predicated on the assumption that a stakeholder engagement plan is in place.

1. Existing options: stakeholder engagement strategies

78. IPBES worked in partnership with the International Union for Conservation of Nature and Natural Resources and the International Council for Science (now the International Science Council), along with relevant stakeholders, including indigenous and local communities and the private sector, to develop a stakeholder engagement strategy. Through the “communicating and engaging” objective of its current work programme, IPBES aims to strengthen the involvement of its members and stakeholders. Stakeholder engagement complements IPBES communication activities to raise awareness, catalyse knowledge-generation, support capacity-building and inform policymaking in the public and private sectors as well as in civil society. Additionally, IPBES regularly holds stakeholder engagement days immediately prior to its plenary sessions.

79. Chapters 2 and 3 of the publication *Stakeholder Engagement and the 2030 Agenda: A Practical Guide*³⁶ focus on the principles and constituencies related to stakeholder engagement and provisions for participation, including “leaving no one behind,” and bring concrete examples, tools and methods that can be adapted by government representatives and other stakeholders in setting up and implementing stakeholder engagement plans.

80. IRP works with strategic partners and stakeholders to promote the sustainable management of natural resources. Strategic partners are active and qualified entities that provide IRP with support in developing and disseminating its publications, enhancing its policy and academic impact and creating synergies with other relevant stakeholders. Strategic partners are selected in accordance with the policies and procedures of the IRP.³⁷

81. WHO tracks and captures the perceptions of its external stakeholders at regular intervals to understand how they view the organization. Its stakeholders include ministries of health, government agencies, other government departments at the national level, other United Nations entities and influencers such as health partnerships, foundations, intragovernmental and non-governmental organizations, civil society, media, professional associations and WHO collaborating centres.

³⁶ Department of Economic and Social Affairs and United Nations Institute for Training and Research, *Stakeholder Engagement and the 2030 Agenda: A Practical Guide* (United Nations, 2020).

³⁷ https://www.resourcepanel.org/sites/default/files/documents/document/media/policies_and_procedures_of_the_irp.pdf.

2. Existing options: vulnerable groups and the private sector

82. IPBES has established a task force on indigenous and local knowledge systems in recognition of the importance of indigenous and local knowledge to the conservation and sustainable use of ecosystems. The platform engages with such groups through online dialogues, workshops and webinars and other such events.³⁸

83. IRP considers the role of private-sector actors in the management and use of natural resources critical. One of the strategic priorities for the IRP in the period 2018–2021 was to engage more and better with such actors. To ensure IRP credibility and independence, various models of engagement with private-sector core audiences were envisioned³⁹ for joint work on resources, report development and dissemination of findings.

84. For SAICM, in a draft compilation of recommendations for consideration by the International Conference on Chemicals Management at its fifth session, the SAICM co-chair suggested that to facilitate engagement of the entire chemicals value chain, in particular downstream user industry sectors and recyclers, the SAICM secretariat should develop, make publicly available and implement a private-sector outreach strategy and provide updates on progress to the conference.⁴⁰

85. The publication *Stakeholder Engagement and the 2030 Agenda: A Practical Guide* provides examples from various countries and regions demonstrating the challenges that stakeholders face in engaging with international systems, including with respect to language, cost of travel and marginalization.

3. Comparative analysis of existing options

86. Stakeholder engagement addresses all six sub-functions of paragraphs 2 (c) and 2 (d) of resolution 5/8.

87. The ad hoc open-ended working group may wish to consider **requesting the secretariat to develop a stakeholder engagement strategy** that identifies key stakeholders, assesses their impact or influence on the process and establishes approaches for interacting with them (for example, through a system of inclusion and consultation), drawing on the experiences of IPCC and IPBES. The ad hoc open-ended working group may wish to consider complementing such an approach with a communication and knowledge management strategy.

88. The ad hoc open-ended working group may wish to consider **creating communication and knowledge management platforms that could also contribute to stakeholder engagement**, such as communities of practice, webinars, consultations, calendars, conference participation, side events and meetings, trainings and massive open online courses, or other platforms mentioned in the knowledge management, communication and information-sharing and capacity-building sections of this document.

89. The ad hoc open-ended working group may wish to **determine how best to include underrepresented and vulnerable groups** (young people, indigenous people, women, etc.) alongside consideration of other key stakeholders in the panel's work. The ad hoc open-ended working group could draw on the work of the IPBES task force on indigenous and local knowledge for examples of ways to include indigenous and local knowledge in its practices, and from *Stakeholder Engagement and the 2030 Agenda: A Practical Guide* to identify challenges such groups may face in engaging with the science-policy panel.

90. The ad hoc open-ended working group may wish to consider **establishing a feedback mechanism** to capture stakeholders' perceptions at regular intervals that is similar to the WHO stakeholders' feedback mechanism outlined in paragraph 81 above. Such mechanisms could, for instance, include regular meetings or surveys.

91. The ad hoc open-ended working group may wish to **consider how to engage with the private sector** to include its perspectives on emerging issues, foster collaboration and enable more holistic contributions to policymaking. The IRP and SAICM models of engagement with the private sector may be considered to approach the sector across the entire chemicals value chain.

³⁸ <https://ipbes.net/node/36575>.

³⁹ https://www.resourcepanel.org/sites/default/files/documents/document/media/irp_private_sector_engagement.pdf.

⁴⁰ http://www.saicm.org/Portals/12/documents/meetings/IP4/2022/SAICM_IP.4_2_Rev.1_Compilation%20of%20recommendations%20for%20ICCM5%20co-chair%20.pdf.

V. Potential additional function to consider: capacity-building

92. The four principal functions mentioned in paragraph 2 of resolution 5/8 are described as being “among others”. During the first part of the first session of the ad hoc open-ended working group, some representatives called for an additional function of “capacity-building” (which can be referred to as “capacity development”⁴¹ in some contexts).⁴²

93. The United Nations Development Group defines capacity development as “the process whereby people, organizations and society as a whole unleash, strengthen, create, adapt, and maintain capacity over time.”⁴³ As such, capacity-building can take place at the individual, organizational and enabling-environment (society) levels.

A. Capacity-building functions provided for by existing science-policy bodies

94. Many science-policy bodies have integrated capacity-building even if it is not explicitly identified as a principal function in their initial mandate,⁴⁴ mostly focusing on capacity at the individual level (particularly related to the body’s work) and in some cases at the organizational level.⁴⁵ Existing activities can be grouped into three broad categories: activities that ensure the effective participation of scientists and other stakeholders in the science-policy panel’s assessment work; activities that engage and enable young people and early-career professionals; and more broad-ranging means of developing the capacity of individuals and organizations in a general sense.

95. In terms of activities that ensure the effective participation of scientists and other stakeholders in the body’s assessment work, IPCC, IPBES and the Stockholm Convention’s Persistent Organic Pollutants Review Committee have each developed guidance documents to support effective participation,⁴⁶ complemented variously by webinars,⁴⁷ e-learning courses⁴⁸ and regional workshops.⁴⁹

96. Activities to engage and enable young people and early-career professionals are often framed as enabling participation in the future work of the science-policy body. For example, IPCC has produced a webinar on how to get involved in its work as an early-career scientist⁵⁰ and IPBES offers fellowships that enable early-career individuals to work with and be mentored by leading experts in its assessments.⁵¹ IPBES has also conducted workshops to familiarize young people with its work and seek their feedback on its assessments.⁵² Such activities can also include activities aimed at developing the capacities of young people and early-career professionals in a more general sense. For example, IPCC provides scholarships to students from developing countries for research on climate change.⁵³ In addition, the UNEP GEO secretariat and its partners have initiated a global science diplomacy programme based on the Global Environmental Outlook and other environmental assessments, including the development of teaching materials for all educational levels and a fellowship programme

⁴¹ “While ‘capacity-building’ suggests building something new from the ground up, according to a pre-imposed design, ‘capacity development’ is believed to better express an approach that builds on existing skills and knowledge, driving a dynamic and flexible process of change, borne by local actors.” See European Parliament, “Understanding capacity-building/capacity development: a core concept of development policy”, briefing, April 2017.

⁴² https://enb.iisd.org/sites/default/files/2022-10/enb3701e_0.pdf.

⁴³ United Nations Development Group, “Capacity development: UNDAF companion guidance”.

⁴⁴ <https://www.ipcc.ch/site/assets/uploads/2018/09/ipcc-principles.pdf>;
https://www.resourcepanel.org/sites/default/files/documents/document/media/policies_and_procedures_of_the_irp.pdf;
<http://chm.pops.int/Default.aspx?tabid=2806>.

⁴⁵ https://ipbes.net/sites/default/files/ipbes-7-inf-7-add1_cb_rolling_plan.pdf.

⁴⁶ IPCC, “How to Participate in the IPCC” and “Principles for effective communication and public engagement on climate change: A Handbook for IPCC authors”; IPBES, “Guidance to assessment teams developed by the IPBES task forces”; Secretariat of the Stockholm Convention on Persistent Organic Pollutants, “Handbook for effective participation in the work of the POPS Review Committee” (Geneva, 2009) and “Stockholm Convention Pocket guide for effective participation in the work of the POPS Review Committee under the Stockholm Convention” (Geneva, 2021).

⁴⁷ <http://chm.pops.int/Default.aspx?tabid=4163&meetId=81B940E4-BD62-E511-AF1F-005056937F29&lang=en>.

⁴⁸ <https://ipbes.net/module-2-ipbes-assessment-process>.

⁴⁹ <http://chm.pops.int/Implementation/CapacityDevelopment/Workshops/Workshops/tabid/2318/Default.aspx>;
https://ipbes.net/sites/default/files/ipbes-7-inf-7-add1_cb_rolling_plan.pdf.

⁵⁰ <https://www.youtube.com/watch?v=L5Ri4GBhcKk>.

⁵¹ <https://ipbes.net/ipbes-fellowship-programme>.

⁵² <https://ipbes.net/ipbes-youth-workshop-2022>.

⁵³ <https://www.ipcc.ch/site/assets/uploads/2020/11/Trust-Deed-scholarship.pdf>.

to provide students with opportunities related to the role of science in informing multilateral environmental decision-making.⁵⁴ Another interesting example is the Professional Masters in Chemicals Risk Management programme launched by the University of Cape Town in 2022, supported through the Global Environment Facility.⁵⁵

97. The third type of activity, consisting of more broad-ranging means of developing the capacity of individuals and organizations in a general sense, includes such things as:

(a) Developing and deploying training materials and data: For example, IPBES and its strategic partners and contributing supporters have developed and disseminated many training materials based on the IPBES assessments,⁵⁶ and IRP has developed e-learning courses and videos to introduce broad key concepts of sustainable resource management.⁵⁷

(b) Facilitating connection and matchmaking: For example, IPBES builds and supports communities of practice (self-organizing groups of experts, policymakers and/or practitioners) to increase access to expertise and information on specific topics or focus areas.⁵⁸ In addition, IPBES prototyped a matchmaking facility in 2015,⁵⁹ similar to an online marketplace under the United Nations Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa, to connect capacity-related needs and solutions.

(c) Promoting and facilitating national and regional branches: For example, IPBES is developing guidance to support countries and (sub-)regions in establishing their branches.⁶⁰

B. Comparative analysis

98. This section outlines three aspects that may be relevant for the ad hoc open-ended working group to consider when deliberating on capacity-building: intended impacts; possible ways to incorporate capacity-building; and institutional arrangements for capacity-building.

1. Intended impacts

99. Existing activities typically have one of the following objectives:

- (a) Support the body's core work, particularly assessments.
- (b) Enhance uptake of the body's outputs by policymakers and stakeholders more broadly.
- (c) Enhance the capacity of the general public.

100. **Building capacity to carry out the body's work is useful for the body's effectiveness.** This is especially pertinent for science-policy bodies that experience a high-turnover of experts, whether due to term-limit provisions or the challenges of contributing to the body's work while also maintaining other commitments.⁶¹ Recently, the IPCC working group co-chairs for the sixth assessment cycle concluded that "extended processes have led to a drop-off in active participation [...] new participants face an ever increasing hurdle 'to get up the IPCC learning curve' which reduces the attractiveness of participating in IPCC reports," that "the absence of a diverse and motivated pool of experienced authors willing to take on the role of [coordinating lead author] could impact the quality of future IPCC reports" and that attention was required "to ensure that the early career researchers who occupy [the positions of chapter scientists] have clear and realistic roles and responsibilities." They further recommended that governments "consider supporting processes and tools to retain institutional memory."⁶² Similar conclusions were also reached in the latest review of IPBES, and activities on building scientific capacity related to the assessment function of that platform are expected to be strengthened in the future.⁶³

⁵⁴ <https://www.unep.org/global-environment-outlook/global-science-diplomacy-environment>.

⁵⁵ <http://ccbasilea-crestocolmo.org.uy/wp-content/uploads/2021/09/UCT-Prof-Masters-Chem-Risk-Mngmt-Printable-Flyer-2021.pdf>; <https://www.thegef.org/projects-operations/projects/9080>.

⁵⁶ IPBES/7/INF/7/Add.1.

⁵⁷ <https://www.resourcepanel.org/data-resources>.

⁵⁸ <https://ipbes.net/communities-practice>.

⁵⁹ <https://ipbes.net/call-proposals-prototype-ipbes-matchmaking-facility>.

⁶⁰ IPBES/7/INF/7.

⁶¹ IPCC-LVII/INF.12; Pia M. Kohler, *Science Advice and Global Environmental Governance: Expert Institutions and the Implementation of International Environmental Treaties* (Anthem Press, 2019).

⁶² IPCC-LVII/INF.12.

⁶³ IPBES/7/INF/18.

101. **Building capacity for the uptake of the body’s work can enhance its potential impact and reach.** More specifically, national uptake of the body’s work can contribute to enhancing policy coherence across different government ministries and broader environmental and societal priorities and thus can enhance enabling-environment capacity. Countries can also use the body’s work to justify their need to build infrastructural and technological capacity when approaching potential funders, including development banks and donor countries.

102. Capacity-building to enhance general capacity at the national and regional levels is important for the broader sound management of chemicals and waste and prevention of pollution; however, many institutions are already conducting capacity-building activities in those areas at the national, regional and global levels (examples being the Special Programme to support institutional strengthening at the national level for implementation of the Basel, Rotterdam and Stockholm conventions, the Minamata Convention and SAICM). The Basel and Stockholm conventions have endorsed (sub-)regional centres for capacity-building and technology transfer relating to the conventions’ implementation. While detailed mechanisms are still being negotiated, recommendations regarding SAICM and the sound management of chemicals and waste beyond 2020 include elements covering capacity-building. Other examples include the IOMC member organizations, their national and regional offices and their affiliates, such as the national cleaner production centres. Thus, before new activities are initiated, a careful consideration of gaps⁶⁴ and coordination with existing activities will be key to ensuring cost-effectiveness and avoiding duplication of work.

2. Possible ways to incorporate capacity-building

103. ***Incorporation through the programme of work.*** Capacity-building is not explicitly listed as a principal function under resolution 5/8, but can instead be achieved through direct inclusion within a science-policy body’s work programme. For example, the IPCC scholarship programme was established with the funds received from the 2007 Nobel Peace Prize. The Conference of the Parties to the Stockholm Convention mandated work on effective participation in the work of the Persistent Organic Pollutants Review Committee after certain parties expressed the need for it.⁶⁵ This way of incorporating capacity-building is generally on an ad hoc basis, with a narrow scope focused on specific matters.

104. ***Incorporation as a principal function in the initial mandate.*** By contrast, IPBES was established with a clear mandate on capacity-building that was then translated into an objective of its rolling work programme up to 2030, accompanied by a capacity-building rolling plan that describes strategies for addressing capacity-building needs and approaches for working with partners.⁶⁶ The IPBES approach is more comprehensive, covering a range of strategic directions from the outset, but still allows for flexibility during implementation as priorities evolve. The latest review of IPBES led to the conclusion that “almost no capacity-building activities have focused on the two other functions of the platform (policy support tool, and knowledge and data), confirming the overall focus on assessment in the current functioning of IPBES.”⁶⁷ This is likely due to IPBES’s inclusive institutional arrangement with the involvement of many strategic partners and contributing supporters to conduct capacity-building, particularly at the national and regional levels (see the next paragraph).

3. Institutional arrangement for capacity-building

105. **There are two ways to approach institutional arrangements.** While many of the aforementioned capacity-building activities are carried out by the bodies themselves, IPBES additionally issues open calls for support and thus mobilizes capacity-building at the national and regional levels by its supporting institutions.⁶⁸ IPBES also organizes a capacity-building forum that meets regularly with the aim of advancing the common agendas of its supporting institutions and facilitating longer-term strategic alignment of relevant ongoing activities. Supporting institutions are also invited to, for instance, periodically provide feedback on the orientation of the capacity-building

⁶⁴ One possible gap for consideration is a lack of training of scientists in areas related to the sound management of chemicals and waste and the prevention of pollution, particularly in the global South. To address this gap, lessons could be learned from the climate-change discussion; see International Centre for Climate Change and Development, “The role of universities in capacity building under the Paris Agreement”, policy brief, July 2016.

⁶⁵ UNEP/POPS/COP.3/12 and decision SC-3/9, para. 6.

⁶⁶ https://ipbes.net/sites/default/files/ipbes_capacity-building_rolling_plan_and_executive_summary_0.pdf.

⁶⁷ IBPES/7/INF/18, sect. 5.4.

⁶⁸ IPBES/7/INF/7/Add.1; https://ipbes.net/notification/call_for_contributions_to_amplify_the_work_on_capacity-building; https://ipbes.net/registration/contributions_to_the_work_on_capacity-building_under_IPBES.

rolling plan and the activities it contains and make offers of technical and financial support that could support implementation of the plan and be reflected in it.⁶⁹

C. Proposals for a way forward

106. Based on the review of the capacity-building activities of existing science-policy bodies, the ad hoc open-ended working group may wish to **deliberate on whether to include capacity-building as a principal function in the initial establishment of the science-policy panel**. Should it opt to do so, the ad hoc open-ended working group may also wish to **specify the types of activities to be included and consider tasking the secretariat with the preparation of specific institutional arrangements** (such as rules of procedure and guidelines) for delivering on that function.

VI. Suggested way forward

107. The ad hoc open-ended working group may wish to agree on a process for the development of a proposal on the functions of the panel, as requested by resolution 5/8. In doing so, it may wish to use the present document as a basis for its deliberations.

108. The group may wish to consider the options for a way forward presented under each of the relevant sections with a view to providing guidance on possible intersessional work and documents that could be prepared ahead of its second session.

109. The group may also wish to consider the overview of the current landscape of existing science-policy interfaces on the sound management of chemicals and waste and the prevention of pollution that is provided in document UNEP/SPP-CWP/OEWG.1/INF/4.

110. Furthermore, while the ad hoc open-ended working group will only be invited to consider the detailed institutional arrangements for the panel at its future sessions, a preliminary consideration of and guidance on the key elements of such arrangements would facilitate the development of options to be presented at future sessions. Document UNEP/SPP-CWP/OEWG.1/INF/7 provides an inventory of existing rules and procedures of selected science-policy bodies to facilitate a preliminary and informal discussion on the matter.

⁶⁹ <https://ipbes.net/ipbes-capacity-building-forum>.