

Annex

**TEMPLATE FOR COMMENTS ON THE REPORT OF THE AD HOC TECHNICAL
EXPERT GROUP ON SYNTHETIC BIOLOGY**

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Title of document reviewed:		REPORT OF THE AD HOC TECHNICAL EXPERT GROUP ON SYNTHETIC BIOLOGY
Comments on the draft documentation for SBSTTA-22:		
Page #	Para #	Comment
1	1	In decision XIII/17, COP13 "... considers [the work of the AHTEG] useful as a starting point for the purpose of facilitating scientific and technical deliberations under the Convention and its Protocols", but does not "welcome the conclusions and recommendations of the report of the AHTEG as a basis for further discussion". The wording in the COP decision is not as positive as appears in this document (CBD/SYNBIO/AHTEG/2017/1/3).
3	14	This section should start with a reminder of the operational definition of Synthetic Biology, considered here to be: "synthetic biology is a further development and new dimension of modern biotechnology that combines science, technology and engineering to facilitate and accelerate the understanding, design, redesign, manufacture and/or modification of genetic materials, living organisms and biological systems".
3	14	What is supporting the statement of an accelerated rate of development? Same for the increased number of organisms. Are there publications indicating this?

3	15	The operational definition of synthetic biology (SB) listed above being quite vague and not corresponding to defined fields of science, it would have been helpful to list the scientific disciplines covered by the “recent technological developments” listed here, as well as precise examples and citations of the “developments mentioned. The list as it is lacks scientific credibility. What are the techniques mentioned in a)? In b) and f), which organisms are covered by these statements? Statement e) is unsubstantiated and not credible without a reference; In statement g), what is the link between machine learning, AI, robotics, big data and novel organisms? The four activities listed have very broad applications in many different fields of science and economy and the link to novel organisms is not obvious. In statement i), there is a mention of “modified algae”; if the intent is to cover genetically modified algae, this should be stated. Algae could have been modified in many ways that are not pertinent to this discussion. Again, a reference or more precision would have been helpful for statement j). What are “whole cell and cell-free sensors”?
3	16-17	Need a reference to support the statement that developments within the disciplines covered by the definition are “ever increasing”. This statement is not supported by evidence.
3	18	Would these containment measures and strategies be different than existing ones targeting invasives or pests? If so how, and why?
3	19	What is meant by “potential dual use”? This statement has to be again supported by an example or a reference.
4	22	This paragraph introduces for the first time a distinction between two different types of genetic engineering (“classical” vs non-classical). What does “classical” mean in this case? It is not a scientific term. This distinction is puzzling, seen that all types of genetic engineering seem covered by the operational definition cited above.
4	23-24	These two paragraphs conclude that there is no factual, demonstrated evidence of benefits or adverse effects of SB vs the three objectives of the Convention. Risks and benefits are potential, but not yet actual.
4	25-26	Consideration of “potential benefits and adverse effects” and “potential impact” is out of scope in a section requesting “evidence of benefits and adverse effects”. This is a place for factual evidence, not hypothesis. These considerations could have been included in a different section (entitled “Potential impacts and effects”, for example).
5	27-29	As no mention is made of any organism that cannot be considered as an LMO, this section concludes de facto that ALL (and not “most”) existing examples of organisms derived from technologies covered by the operational definitions are considered LMOs as defined in the Cartagena protocol. This is a major finding of the AHTEG and should be clearly stated in this report.
6	32	The statement that existing tools should be “updated and adapted” should be followed by a rationale for doing so.
6	34	Why would this be needed? If the product is indistinguishable from the natural version, why is it a risk?
6	39	Seen the conclusion of paragraphs 27 to 29, it is assumed that risk management measures, safe use and best practices applying to LMOs also apply to organisms, components and products of SB.



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7	40	This paragraph should be reworded. The general principles and methodologies under the Cartagena Protocol (etc) apply to all <i>existing</i> examples of organisms derived from technologies covered by the operational definitions (see para 27-29). They constitute a good basis for <i>potential</i> new organisms that would not be considered LMOs.
7	45	This statement is valid for the release of any organism or substance exogenous to an environment.

1. Completed forms can be sent to Secretariat via e-mail at synbio@cbd.int or submitted online at <http://bch.cbd.int/managementcentre/edit/submission.shtml>

2. Additional rows can be added to this table by selecting “Table” followed by “insert” and “rows below”