

Part I. Endorsement of submission

Name of Country/Organization:

Testbiotech

Name of CBD National Focal point/Head of Organization endorsing:

Christoph Then

Signature of the CBD National Focal Point/ Head of Organization:



Date: 24 November 2023

Part II. Submission of information

In submitting information, kindly provide the following information on one or more of the 12 trends and issues in synthetic biology as follows:

1. Trend and issue in synthetic biology chosen

Interaction of synthetic biology organisms in the environment and potential for cumulative effects

2. Potential positive and potential negative impacts on the three objectives of the Convention

a. Conservation of biological diversity

Synbio organisms have the capacity to trigger another man-made crisis, contribute to further destabilisation of ecosystems and threaten our livelihoods: similarly to environmental pollution with plastics and chemicals, it does not necessarily have to be a specific genetically engineered organism that causes the problems. Rather, it may be the totality of the effects of GE organisms and their interactions that are critical. In this context, many future generations may have to deal with the environmental problems or organisms able to persist in the environment for a very long time, in some cases for a potentially unlimited time.

b. Sustainable use of its components

c. Fair and equitable sharing of the benefits arising out of the utilization of genetic resources

3. Potential gaps or challenges for risk assessment, risk management and regulation, including availability of tools for detection, identification and monitoring

Risk assessment:

If released, not only the risks of the individual Synbio organisms have to be considered, but also the interactions of NGT plants within shared environments (see Koller et al., 2023).

Risk Management:

Measures should be taken to address and monitor potential adverse effects that cannot be examined on the level of individual events such as combinatorial, cumulative and long-term effects. These measures should allow to control the scale of releases to reduce systemic risks for the ecosystems. (Koller et al., 2023, Testbiotech 2023).

4. Additional relevant considerations (e.g., socioeconomic, ethical, cultural, human health, intellectual property, liability and redress, IPLCs, public engagement, among others)
5. Timeframe to commercialization or release into the environment
6. Potential linkages to the Kunming-Montreal Global Biodiversity Framework and potential contribution to other internationally relevant goals and targets

Submission of supporting documentation:

For any publication that you may want to share as part of your submission, kindly include:

1. Name of publication(s), author, date and DOI or URL link.

Koller, F., Schulz, M., Juhas, M., Bauer-Panskus, A., Then, C. (2023) The need for assessment of risks arising from interactions between NGT organisms from an EU perspective. *Environ Sci Eur*, 35(1), 27. <https://doi.org/10.1186/s12302-023-00734-3>

Testbiotech (2023) Genetic engineering in agriculture: between high flying expectations and complex risks, The use of genetic engineering in agriculture requires a comprehensive technology assessment, Testbiotech report, <https://www.testbiotech.org/node/3044>

2. Attach in pdf format any publication you have listed above.