

IPBES template for the submission of requests, inputs and suggestions on short-term priorities and longer term strategic needs that require attention and action by IPBES as part of its future work programme.

Name and contact details of individual submitting requests/inputs/suggestions:

Date of submission:

Submission from: IPBES member:

NORWAY

General comments/input

First of all Norway would like to give honour to the whole IPBES "system" - expert groups and task forces, bureau, MEP, secretariat incl TSUs, countries, partners and stakeholders – for the hard work and great progress in implementing the first work programme. An impressive number of deliverables have been completed and have set IPBES on the right path. There are of course lessons learnt that should lead to adjustments in how IPBES works, and we are certain that the internal and external review will guide the IPBES plenary in those matters.

Modalities (ref doc IPBES/6/11)

Working document IPBES/6/11, prepared by the MEP and bureau for IPBES-6, raised a number of different issues related not only to the possible structure/content of the next work programme (the rolling work programme), but also the working modalities. Norway has some general comments related to the suggestions made in document IPBES/6/11:

- It is important that IPBES considers the most important lessons learnt during the implementation of the first work programme, with the aim of continuously improving the way IPBES works. In Norway's opinion two of these lessons, which are interlinked, are:
 - Avoid overloading the work programme when designing and approving the second programme. There are several reasons for this (both budgetary and capacity), but also to avoid "locking IPBES in" for an overly long time period
 - Allow for more flexibility with regards to the frequency IPBES opens for new requests/input to the work programme (allow for a "rolling" plan). This will allow IPBES to be able to pick up and produce knowledge assessments on new and emerging issues. This can only be achieved if the next programme is not overloaded at the outset
- Norway does support that IPBES, as much as possible, aims for a second work programme/a rolling programme that is structured in a more integrated manner with regards to the four functions of IPBES
- Norway does agree that the 2020-2030 period of the rolling work programme will need to speak to/support the efforts to implement the follow-up to the Strategic Plan for Biodiversity

2011–2020, the 2030 Agenda for Sustainable Development, including the Sustainable Development Goals, and the Paris Agreement on Climate Change

- Relating to the previous point we do agree that the suggestion to focus on the role of marine and terrestrial biodiversity and nature's contributions to people in regard to nexus issues, such as food and water; food, water and health/nutrition etc is a good one. We have attempted to place our specific requests to IPBES under such nexus issues
- Norway does request that IPBES include plans for a new global assessment at some stage during the 2020-2030 period of the rolling work programme e.g. in 2028 or 2029 to support the development of any follow-up to the Strategic Plan for Biodiversity 2011–2020 and the Sustainable Development Goals beyond 2030. We do however agree that there is reason to look at lessons learnt with regards to integration of regional and global assessments and to consider producing a single assessment that integrates the regional and global components
- IPBES should continue and evolve its work on policy support tools. This could be done through methodological assessments focusing on the effectiveness of various policy instruments and policy support tools, either as stand-alone reports, such as on governance and institutions, or as part of an assessment with a broader theme.
- Norway also supports the continued follow-up of the capacity building rolling plan and the continued involvement of new and existing partners to support implementation of the plan. Future Forum meetings could be used to involve partners further.

Requests from Norway to the second work programme (the rolling work plan 2020-2030)

Concerning SBSTTA recommendation CBD/SBSTTA/REC/22/10

As a party to the convention on biological diversity Norway would reiterate some of the points made by the 22nd meeting of the SBSTTA. The following topics should be considered by IPBES either as stand alone documents or integrated in thematic/nexus assessments where appropriate:

- Understand and assess the behavioural, social, economic, institutional, technical and technological determinants of transformational change, and how these may be deployed to achieve the 2050 Vision for Biodiversity;
- Develop a multi-disciplinary approach to understand the interactions of the direct and indirect drivers of biodiversity loss;
- Undertake methodological assessments on the effectiveness of various policy instruments and policy and planning support tools for understanding on how to achieve transformational change, and to characterize and quantify successful approaches and cases of the conservation and sustainable use of biodiversity, and their impacts;
- Assess the potential positive and negative impacts of productive sectors and undertake a methodological assessment of the criteria, metrics and indicators of the impacts of productive sectors on biodiversity and ecosystem services as well as the benefits derived from biodiversity and ecosystem services, with a view to enabling business to reduce such negative impacts and to promote consistency in assessment and reporting, taking into

account the direct and indirect pressures on biodiversity as well as the interconnections between them

- One possible case for such an assessment could be the emerging issue of deep sea mining. There is increased interest world wide for developing new solutions for evaluation, exploration and extraction of sea-based minerals. Activities have so far been concentrated along the coastline, however, deep sea mining is gathering increased interest. Further knowledge and knowledge analysis on i.a. the status of marine biological diversity and ecosystems & ecosystem services in areas that are of interest to the deep sea mining industry and the possible effects of such industries, would provide a basis for consideration of positive and negative effects and a basis for policy options.

Existing knowledge is found amongst others in the World Ocean Assessment and through the Joint Assessment and Monitoring Programme (JAMP) of the Convention for the Protection of the Marine Environment of the North-East Atlantic (the 'OSPAR Convention) and through activities by the International Council for the Exploration of the Sea (ICES).

Concerning further utilization of the first cycle of assessments

- As an element of the rolling work programme IPBES should also consider further use of the regional, thematic and methodological assessments (and the upcoming global assessment). They could be the basis for several "low hanging fruits", such as technical papers on i.a. drivers of change, an analysis of the effectiveness of various policy instruments and policy and planning support tools and more. The current IPBES rules of procedure does allow for the development of such technical papers and this should be explored further.

Biodiversity – climate nexus

Norway agrees with the statement in SBSTTA recommendation CBD/SBSTTA/REC/22/10 that highlights the need to further enhance cooperation between IPBES and the Intergovernmental Panel on Climate Change (IPCC), by promoting coherence between the scenarios and related assessments prepared in the context of biodiversity and climate change, **including consideration of joint assessment activities.**

Norway's first request to the second (the rolling) work programme of IPBES is to conduct an assessment under a biodiversity –climate nexus. Two relevant topics for an assessment is an analysis of the impact on biodiversity and ecosystems due to increased use of biomass/biofuels and secondly an analysis of the impact due to various methods of carbon capture storage (i.a. BECCS).

The IPCC underlines that a considerable societal change is needed in order to reach global climate targets. Various climate models point to a considerable increased use of biological resources, in particular forests and land areas that provide many ecosystem services and habitats for biological

diversity. The IPCC points to many unresolved questions with regards to the potential to combine nature based solutions with a sustainable land management. At the same time the IPBES regional assessments point to the fact that Western-Europe has an ecological footprint where we use more than five times more than nature's ecological limits and this is true (with varying magnitude) also in other regions.

In a long term perspective climate change represents a threat to biological diversity. At the same time, various mitigation measures and nature based solutions to combat climate change in themselves represent a (negative) driver for biodiversity and ecosystem services. The transition to a low carbon society must also consider various nature based solutions, however, this must be implemented in a sustainable manner also taking into account effects on land, ecosystems, ecosystem services and biodiversity. In order to manage this balancing act more knowledge and knowledge analysis is needed. Norway suggest the following two cases for a biodiversity – climate change assessment: 1) Impact on biodiversity and ecosystems due to increased use of biomass (one of the measures in a low carbon society strategy); and 2) Impact on biodiversity and ecosystems due to various methods of carbon capture storage.

Case/topic 1: Impact on biodiversity and ecosystems due to increased use of biomass (one of the measures in a low carbon society strategy)

Relevance

One of the functions of the IPBES is to assess the existing knowledge on the status of biodiversity and ecosystem services. The transition to a low carbon society will most likely lead to an increased use of biomass. There is a need for increased knowledge on how this will effect ecosystems and also which mitigation measures that may be relevant.

Urgency

The phasing out of fossil energy will rapidly lead to an increased pressure on ecosystems that already are under pressure. There is therefore an urgent need for increased knowledge on this issue.

Scale of impact

The assessment will be very relevant for national decision makers when designing policies with the aim of reaching targets under the CBD, UNFCCC and the Paris agreement

Geographic scope

All regions, however, the assessment will perhaps be particularly relevant for regions facing challenges of permanent deforestation and wetland drainage due to the production of biofuels.

Complexity

The assessment will be of high complexity, amongst others due to the need to consider both climate measures and biodiversity/ecosystem impacts in a way that the IPCC and IPBES has perhaps not done previously (to a large extent). This complexity also highlights the need to consider literature that deals with the crosscutting nature of this issue, as there will probably be a majority of literature that deals with "either/or" (*either* from a climate change perspective *or* from a nature conservation/biodiversity perspective).

Case/topic 2: Impact on biodiversity and ecosystems due to methods of carbon capture storage

Knowledge analysis and identification of knowledge gaps related to measures of carbon capture storage, e.g. use of BECCS

Relevance

The theme is relevant as a cross-cutting issue for IPCC and IPBES.

IPCC underlines the need not only for reduction of emissions, but also for measures of carbon removal (negative emissions) from the atmosphere – carbon capture. Production of bioenergy with carbon capture and storage, BECCS, is presented as one of several measures. Several research teams agree that this may be a feasible method, although one with clear limitations (amongst others) with regards to land use limitations (ref attached publications)

- Glenn Peters, CICERO: https://energiogklima.no/blogg/stylised-pathways-to-well-below-2c/?utm_source=Energi+og+Klima+og+Klimastiftelsens+e-postliste&utm_campaign=161340e9d0-RSS_EMAIL_CAMPAIGN_NYHETSBREV&utm_medium=email&utm_term=0_95967e5ed6-161340e9d0-520841917
- Article in Climate Policy by Asbjørn Torvanger, CICERO
- Article in ERL by Helene Muri UIO/NTNU

Urgency

There is an urgent need for the assessment due to the fact that it is very challenging/impossible to reach the 1.5 degree target without negative emissions. Many different measures are discussed in this respect, however, the proposed measures are often described from the technical side only lacking assessments of the impact on land use and effects on biodiversity and ecosystems.

A knowledge synthesis and analysis is needed on the environmental and societal limitations and possibilities from the use of carbon capture and storage, including an analysis of necessary global and national regulations which is recommended before CCS is used on a large scale (presented as policy options)

Scale of impact

National, regional and global. The assessment will amongst others be useful for sectors (such as the agricultural and private sector) planning to implement CCS measures in order to reduce carbon emissions, e.g. agriculture and forestry. The assessment will inform (environmental) risk and (societal) benefit analysis preceding implementation of CCS measures.

Geographic scope

Global and also national in countries that are testing various CCS measures

Complexity

High complexity and will require a transdisciplinary approach

Availability of literature and experts

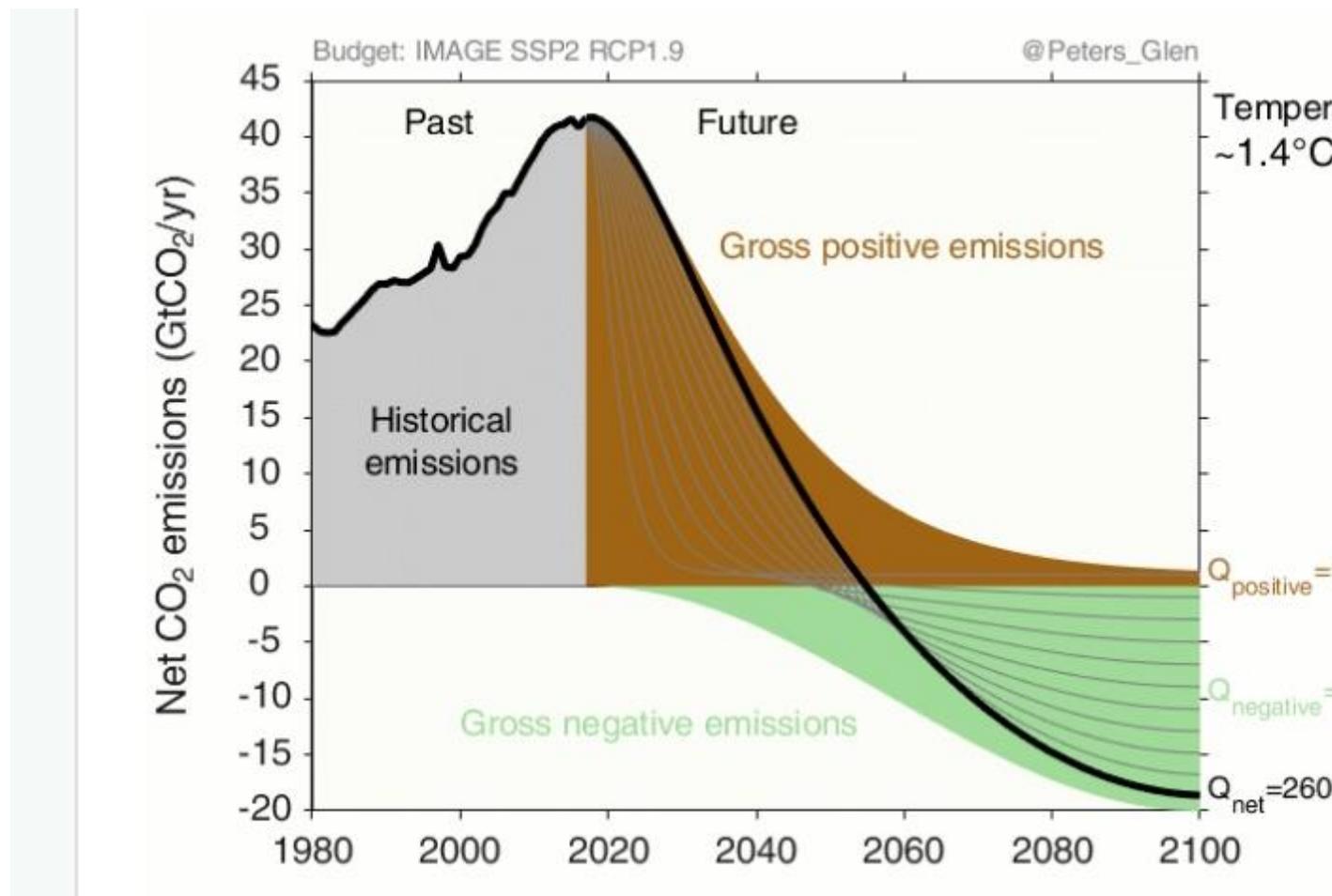
Several countries have studies of BECCS.

An overview in Google scholar also shows:

https://scholar.google.no/scholar?q=negative+emission+technology&hl=no&as_sdt=0&as_vis=1&oi=scholart

Article from the Guardian - <https://www.theguardian.com/sustainable-business/2017/may/05/negative-emissions-tech-can-more-trees-carbon-capture-or-biochar-solve-our-co2-problem>

Upcoming IPCC report on the 1.5 degree target



Illustrasjon: Glenn Peters; CICERO

Biodiversity – food security/agriculture nexus

The second nexus assessment Norway believes should be done by IPBES, is an assessment of the biodiversity – food security nexus. Agriculture should be one of the case studies in such a nexus, marine issues could be another. Both are highly relevant for food security issues.

Biodiversity – agriculture

The 8th Trondheim Conference on Biodiversity (2016) was titled "Food systems for a sustainable future: Interlinkages between biodiversity and agriculture".

Food security now and in the future is one of the big issues of our time, and an issue with multiple dimensions. Availability of food and nutrition, and equitability in access to them, are major issues in a world where so many people are still under-nourished. Ensuring availability of and access to adequate food and nutrition for a growing population is therefore a critical issue for Governments, and one which has potential security implications if sufficient food is not available. Agriculture - the production of crops and livestock - is also a major economic activity, and one in which big business is engaged. At the same time agriculture is critical to local livelihoods, to the lives of rural populations, and to the lives of many farmers, as well as to the private sector.

Some of the key facts from the Co-chairs report from the conference illustrates the broad dimensions of the interrelationship between agriculture and biodiversity:

- by 2030 world population will be 8.5 billion and food demand will have increased by 50%
- even today (2016) 795 million people are under-nourished and just 3 crop species (wheat, rice and maize) represent 48% of average daily calories consumed
- 70% of essential crop wild relative species are in need of protection and 17% of livestock breeds are known to be at risk of extinction, another 58% are yet to be assessed
- drivers linked to agriculture account for 70% of the projected loss of terrestrial biodiversity and globally 33% of our soils are degraded
- greenhouse gas emissions from agricultural systems contribute 11% of total global warming potential

The figures above suggest that continuing to produce food and feed people in the way we have is not sustainable. Yet we have many examples of sustainable agricultural practices.

Co-chairs report: ([http://www.miljodirektoratet.no/Global/English/Arrangements/TK8/TC8%20Co-Chair%20Report%20\(FINAL\).pdf](http://www.miljodirektoratet.no/Global/English/Arrangements/TK8/TC8%20Co-Chair%20Report%20(FINAL).pdf))

An IPBES assessment on agriculture and biodiversity could address several dimensions of biodiversity/food security/agriculture complex, amongst those a knowledge analysis of production forms, soil biodiversity, genetic diversity

Production forms

One of the recommendations from the 22nd meeting of SBSTTA is to "Assess the potential positive and negative impacts of productive sectors". This includes amongst others agriculture and a number of issues regarding the impact of agriculture on biodiversity and vice versa is relevant for such an assessment.

A number of major assessments exist on the relationship between agriculture and biodiversity, but there is still a need for a better understanding of how different production forms (positively and negatively) affect biodiversity.

Global threats against biodiversity include land management and land conversion issues leading to habitat loss, pollution, climate change and overexploitation. Land use for agriculture and use of pesticides, fertilizers and other inputs are linked to all of these factors. Some agricultural practices that are ecologically imbalanced may have a high food production rate leading to a lower need for conversion of new lands. And intensive production systems may be combined with mitigating measures such as "set-aside". On the other end of the scale there are extensive production forms such as grazing, that may be more ecological friendly ("input-optimization"), however can also lead to overexploitation and low production. Both these systems can lead to land degradation, ref the IPBES thematic assessment on land degradation and restoration.

There are also approaches which are thought to be more sustainable, such as *ecological intensification* – which again may have positive effects on biodiversity but is also more labour intensive.

It would be useful to have an assessment of different production systems (intensive, extensive, agroecology). Such an assessment needs face different scales in time and space and consider issues such as land needs, effects on habitats incl soil biodiversity, downstream effects, options for compensation measures, use of externalities (fertilizer, pesticides) and their effects on biodiversity, yields and nutrition. For each of the practices it would be useful to have an assessment of status, best practices, context dependencies and mitigation measures.

Issues of metrics, indicators, assessment and reporting is also relevant.

A knowledge status on these issues would give a better foundation for decision makers when considering agricultural policies and when considering different production forms. This is a study of global interest.

Relevante literature:

TEEB for Agriculture <http://teebweb.org/agrifood/>

IAASTD <https://www.globalagriculture.org/report-topics/about-the-iaastd-report.html>

IPBES-assessments on pollination and land degradation and restoration.

Soil ecology

The soil biological diversity is not very visible, but has a major role for global ecosystems and also for agriculture. In the recent years the role and status of global soils and land has been given increased attention. Amongst the global initiatives and knowledge assessments is the upcoming IPCC report on land, the IPBES assessment on land degradation and restoration, the "Global Soil Partnership" by FAO and FAO's report "Status of the world's soil resources". Many of these reports focus on physical and chemical conditions and threats, such as soil erosion, etc.

We would find useful to supplement these reports with an knowledge analysis of the status for soil biodiversity, and challenges and solutions for soil biodiversity. Also policy options on how to best protect soil biodiversity, increase humus, avoid soil compaction and more

Genetic resources

Global reports on status and trends for the world's genetic resources for agriculture and food production is produced by the Commission on genetic resources for food and agriculture under FAO.

There is still a need for increased understanding of genetic diversity – beyond the sector specific focus. The importance of wild crop relatives has increased in light of climate change and the need for adapting the food production related to this. Increased knowledge on the importance of genetic diversity in wild species, could lead to more targeted policies on conservation and sustainable use of biodiversity.

Effectiveness of various policy instruments

Effectiveness of various policy instruments and policy and planning support tools in relation to approaches that are best suited to achieving local ownership and understanding with regards to different measures that are implemented to achieve conservation and sustainable use of biodiversity. Which incentives lead to increased efforts on the part of local communities/land owners/farmers? Which measures (economic, legal, technical, political) are optimal? What are the necessary requirements? There are a number of national measures and management cases where local communities and land owners are the central force for management of biological diversity – what are the lessons learnt?

Marine biodiversity

Climate change and ocean acidification affect marine ecosystems and marine biodiversity worldwide. Several knowledge assessments on these issues exist (e.g. Global Biodiversity Outlook, World Ocean Assessment (WOA), IPCC), however, there is still a need for increased knowledge on oceanographic changes (temperature, ocean currents, saline levels, increased sea levels, acidification etc) and on the effects of these changes on marine biodiversity and ecosystems. The UN World Ocean Assessment (2015) highlights a number of knowledge gaps.

IPBES may contribute to increase the knowledge on the effects on marine biodiversity and ecosystem services. This could also be linked to an assessment on biodiversity – food production, an assessment on climate change and/or a global assessment.