



## ToRs for Joint HELCOM/Baltic Earth Expert Network on Climate Change (EN CLIME)

Adopted by HELCOM Heads of Delegation 55-2018

### Background

Two major thematic climate change assessments have been released by HELCOM, the first in 2007 followed by one in 2013. Both reports have been prepared in close collaboration with BALTEX and its successor programme, Baltic Earth.

The HELCOM 2013 Ministerial Meeting in Copenhagen agreed to make the assessment of regional climate change and its implications on the Baltic Sea ecosystem a regular activity. According to the Roadmap of HELCOM activities on the ecosystem-approach (cf. [HOD 54-2018 document 3-5](#)), as well as the [State and Conservation work plan](#) the next climate change assessment is scheduled to start in 2018.

At the STATE & CONSERVATION 7-2017 meeting a document on future dedicated work on climate change was tabled (cf. [STATE & CONSERVATION 7-2017 document 4N-3](#)). STATE&CONSERVATION 8-2018 welcomed the further elaborated plan for climate change work (cf. [HELCOM STATE&CONSERVATION 8-2018 document 8J-2](#)), supported the suggested approach and emphasized the need to link the climate change work to the Baltic Sea Action Plan and other HELCOM targets and measures. The meeting also emphasized that, as climate change is a cross-cutting issue, the proposed EN CLIME would need to have an inclusive working structure and prioritize close cooperation with both internal (e.g. Expert Networks) and external partners (e.g. Baltic Earth initiating work on BACC 3). The meeting agreed on the climate change fact sheet as the aim of the HELCOM climate change assessment work. The meeting discussed the timeframe of the work, and suggested that the Secretariat aligns this work to take into account the upcoming work on the update of the Baltic Sea Action Plan. The meeting further discussed the list of priority areas, and concluded that the list is appropriate, if quite ambitious.

HOD 54-2018 considered the proposed HELCOM work on climate change (cf. [HELCOM HOD 54-2018 document 4-20](#)) and emphasized the importance of the practical nature of the work and linking the work to that on indicators and measures and especially updating of the BSAP. The Meeting supported the proposed direction of the work and agreed that the dedicated work on climate change will begin in 2018.

State and Conservation 9-2018 reviewed the draft Terms of Reference (ToR) for EN CLIME and the proposed work plan (cf. [HELCOM STATE&CONSERVATION 9-2018 document 10J-2](#)). The meeting took note that the majority of the Contracting Parties strongly supported the proposed work process as well as the draft ToRs. The meeting in principle endorsed that the proposed work process, the draft ToRs and the founding of an Expert Network on Climate Change, and invited the Secretariat to submit the document to the Baltic Earth Science Steering Group meeting for further comments.

Previous HELCOM climate change assessments have been conducted in close cooperation with Baltic Earth (formerly known as BALTEX). Characterisation of different pressures on the natural and human-shaped environment of the region, such as climate change, and synthesis of the state of scientific knowledge about their causes and impacts, has been a core goal of BALTEX in their climate change assessments (BACC I and II). BALTEX was succeeded by [Baltic Earth](#), which in turn inherited the scientific legacy and researcher network. Baltic Earth represents a new, more holistic perspective on the Baltic Sea region, encompassing processes in the atmosphere, on land and in the sea, as well as processes evoked by and feeding back on human activity.

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The Baltic Earth Grand Challenges (GC's) are the central topics around which the science encompassed by Baltic Earth revolves. These topics reflect current issues which scientists feel have a strong relevance for the scope and vision of Baltic Earth. Dedicated Working Groups form the working level of the Grand Challenges focusing on the following overarching topics:

1. Salinity dynamics in the Baltic Sea
2. Land-Sea biogeochemical linkages in the Baltic Sea region
3. Natural hazards and extreme events in the Baltic Sea region
4. Sea level dynamics in the Baltic Sea
5. Regional variability of water and energy exchanges
6. Multiple drivers for regional Earth system changes

In addition, Working Groups on the "Coupled Regional Climate System Models", "Outreach and Communication" and "Education" are in place within the organization. Detailed descriptions of the Grand Challenges can be found in the "Baltic Earth Science Plan 2017".

Baltic Earth Assessment Reports (BEARs) are planned comprehensive assessment reports for the Grand Challenge topics. A special case is the report on "Climate change and impacts in the Baltic Sea region", which represents what generally is expected to be BACC III. This however, would largely follow the format of the other BEARs, i.e. not a full book format, but a comprehensive assessment of new information on the subject since BACC II. The time line for the Baltic Earth reports is to start in late 2018 and end by the end of 2020. A detailed time line and writing instructions will be discussed and formulated at the BEAR author meeting in Tallinn, 28 November 2018.

The Baltic Earth Science Steering Group (BE SSG) and the Baltic Earth Science Advisory Board (BE SAB) has taken note of the HELCOM plans and participation of Baltic Earth in the proposed expert network on climate change was very much endorsed by both groups.

### Purpose

To function as a coordinating framework and a platform to harness the expertise of leading scientists on both direct and indirect effects of climate change on the Baltic Sea environment, and to make this expertise available to, and open up for closer dialogue with, policy makers. Through this, ensure that new scientific findings on climate change and its impacts on oceans and seas should be visible in HELCOM, as well as find their way into HELCOM decision-making and the day to day work.

The Expert Network will handle the operational production and delivery of the scientific products of the dedicated work on climate change, e.g. the fact sheet and supporting material, as well as other tasks agreed by State and Conservation Working Group and the Baltic Earth Science Steering Group and assigned to the group.

### Scope

The overall scope of the group is to facilitate the regional cooperation in relation to climate change and its impacts, including transferring quality assured science to end users, and to provide clear guidance on the level of confidence in information which is presented. The work can also vicariously support the identification of knowledge gaps and identification of possible future research priorities. The main goal is to condense the large body of scientific research into a form that is directly utilizable in developing HELCOM core indicators, updating and implementing BSAP, and in preparation of future HELCOM Assessments on climate change.

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## Benefits

The principal benefits of EN CLIME are to have:

- a) stronger links between leading partners on climate change in the region, and a recognized authoritative voice on marine climate change issues.
- b) improved transfer of valuable information
- c) a clear mechanism for demonstrating organisational commitment to addressing climate change.
- d) a swift transfer of research results and products between partners and to the policy level.
- e) improved advice on necessary actions and measures and on how HELCOM's policies could be adapted in order to support resilience of the Baltic Sea to the climate change.

## Objectives

The objectives of EN CLIME are to:

1. Develop concepts for scientific products as requested or identified by the HELCOM State and Conservation WG and Baltic Earth Science Steering Group.
2. Oversee the production of HELCOM climate change science outputs (fact sheet; supporting material).
3. Identify, where needed, additional scientific experts who are most appropriate to provide input to the scientific evidence base for products.
4. Develop ideas for the format and style of final deliverables.
5. Develop briefing material for contributing authors.
6. Ensure that the messages provided in the scientific products are concise and easily understandable by the intended target audience.
7. Contribute to proof reading of final products.
8. To collaboratively frame user requirements for the next set of regional climate projections, and ensure their usability in the policy context.

## Reporting

The Chair(s) of the EN CLIME will report back to the State and Conservation WG and the Baltic Earth Science Steering Group on the activities of the network. For State and Conservation WG this will take the form of an agenda item at WG meetings. For all scientific products, EN CLIME will present a production plan for sign off by the State and Conservation WG and the Baltic Earth Science Steering Group. Once the production process is completed, State and Conservation WG and the Baltic Earth Science Steering Group will be requested to endorse the final products for publication.

## Membership

The EN CLIME will consist of representatives of HELCOM and Baltic Earth in the form of topic experts. The membership will be based on nominations from both organizations (initial nominations to be made available to the HELCOM Secretariat by 22 January 2019), as well as any interested parties from State and Conservation WG. State and Conservation contacts will be invited to nominate national experts for the work, supporting full coverage of the identified parameters.

Baltic Earth nominations are foreseen to primarily consist of the assigned lead authors for the Grand Challenges. These nominations will be shared with Contracting Parties prior to the national nomination process, to facilitate the identification of possible gaps in expertise etc.

The involvement of other expertise with the respective organizations structures will be further explored based on the list of identified parameters as the work progresses. The HELCOM Secretariat together with the EN CLIME Chair(s) will evaluate the coverage of required technical expertise and communicate with the respective organisation on any additional need for expertise in the group. The aim is to ensure sufficient expertise for all identified parameters to be covered. The Expert Network will work in close collaboration with relevant other HELCOM Working Group's, such as PRESSURE and MARITIME, and Expert Networks, as well as potential other partners. The network will be open to Observers according to HELCOM procedures.

The EN CLIME lead authors and Chair(s) will liaise with the outside experts for the peer review process to provide quality assurance to scientific products, ensuring they are based upon the best available science and presented in a balanced way.

The Chair(s) of EN CLIME will commit to assisting the Secretariats and partaking in dissemination activities.

### Workplan

The work plan is valid for a three year period (beginning 2019).

### Validity of ToRs

The work of the group is open ended. The Terms of Reference are to be subjected to review and, as appropriate, revision by the expert network, endorsement by the HELCOM State and Conservation Working Group and approval by the Baltic Earth Steering group and HELCOM Heads of Delegations.

### Organization of work

The network will report to and receive guidance from the State and Conservation Working Group and the Baltic Earth Science Steering Group. The EN can request inputs from the State and Conservation WG and the Baltic Earth Science Steering Group as appropriate

The mode of work for the expert network will include correspondence and online meetings facilitated by the HELCOM Secretariat, with a physical meetings taking place as needed. Sub groups might be defined in order to work more thematically. Chair(s) will be elected by the members of EN-CLIME. The products will be handled at HELCOM Meeting Portal workspaces dedicated to this purpose. The HELCOM Secretariat will provide administrative support to the network and will design and publish the fact sheet.

In the current plan no additional resources are foreseen to be required at the HELCOM Secretariat. This could require re-evaluation once the final process and division of labor is in place.

## Annex 1: Work Plan of EN CLIME

This work plan is valid for a three year period (beginning January 2019) and is to be reviewed and revised by the network and approved by the HELCOM State and Conservation Working Group and Baltic Earth Science Steering Group. The proposed process has been elaborated in close cooperation with the Baltic Earth Science Steering Group Chair.

Note that the first meeting of the network is preliminarily planned for 29 January 2019 and will be an online meeting.

| Action   | 2018 | 2019 |    |    | 2020 |    |    |    | 2021 |    |    |    |     |
|--|------|------|----|----|------|----|----|----|------|----|----|----|-----|
|  | Q 4  | Q1   | Q2 | Q3 | Q4   | Q1 | Q2 | Q3 | Q4   | Q1 | Q2 | Q3 | Q 4 |
| Map identified parameters to expertise under the different organisations. (Baltic Earth/HELCOM Secretariat/HELCOM WGs)   |      |      |    |    |      |    |    |    |      |    |    |    |     |
| Engage the experts (Baltic Earth experts and additional experts based on identified needs and gaps) to take part in EN CLIMEs work to provide up-to-date supporting material and key messages addressing the identified parameters |      |      |    |    |      |    |    |    |      |    |    |    |     |
| Nominated experts for the network by 22 January 2019.  |      |      |    |    |      |    |    |    |      |    |    |    |     |
| First meeting of EN CLIME (29 January 2019, online)  |      |      |    |    |      |    |    |    |      |    |    |    |     |
| Agree on the content and scope of the fact sheet (EN CLIME with HELCOM Secretariat-> S&C).   |      |      |    |    |      |    |    |    |      |    |    |    |     |
| Summarize and simplify draft key messages from already existing material and provide confidence assessments of draft key messages (EN CLIME).  |      |      |    |    |      |    |    |    |      |    |    |    |     |
| Simultaneously produce supporting material for the key messages, e.g. in the form of publications or thematic assessments. (EN CLIME)  |      |      |    |    |      |    |    |    |      |    |    |    |     |
| Peer review the collated key messages (using existing peer review structure within Baltic Earth, expanded to cover additional parameters as needed)  |      |      |    |    |      |    |    |    |      |    |    |    |     |

| Action   | Q 4 2018 | Q1 2019 | Q2 2019 | Q3 2019 | Q4 2019 | Q1 2020 | Q2 2020 | Q3 2020 | Q4 2020 | Q1 2021 | Q2 2021 | Q3 2021 | Q 4 2021 |
|--|----------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|----------|
| Revise the key messages in light of peer review comments. (EN CLIME and HELCOM Secretariat)  |          |         |         |         |         |         |         |         |         |         |         |         |          |
| Peer review the draft key messages (using existing peer review structure within Baltic Earth, expanded to cover additional parameters as needed) |          |         |         |         |         |         |         |         |         |         |         |         |          |
| Present draft key messages to State and Conservation for endorsement. (State and Conservation WG)  |          |         |         |         |         |         |         |         |         |         |         |         |          |
| Present product to Heads of Delegation for approval  |          |         |         |         |         |         |         |         |         |         |         |         |          |
| Publish fact sheet and supporting materials. (HELCOM Secretariat)  |          |         |         |         |         |         |         |         |         |         |         |         |          |
| Joint launch event(s). BalticEye Baltic Sea Breakfast  |          |         |         |         |         |         |         |         |         |         |         |         |          |
| Contribution by EN CLIME to BSAP update  |          |         |         |         |         |         |         |         |         |         |         |         |          |