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<b>Document title</b>	Initiation of HELCOM action for further consideration to intensify HELCOM work to reduce airborne transboundary nitrogen input from outside of HELCOM area, in particular the Gothenburg Protocol
<b>Code</b>	4-3
<b>Category</b>	CMNT
<b>Agenda Item</b>	Coordination and information related to the implementation of the ecosystem approach and related policies
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### Background

In the process of regional coordination of programmes of measures in 2015, a number of actions for further consideration within HELCOM were identified including the action 'Intensifying HELCOM work to reduce airborne transboundary nitrogen input from outside of HELCOM area, in particular the Gothenburg Protocol'.

HELCOM 37-2016 agreed on the actions and requested the identified responsible working groups ([document 4-15](#)) to consider how to initiate the actions (para 4.12). For this particular action Gear was identified as responsible subsidiary body to initiate the action and the Pressure Working Group to continue as part of their work plan.

Attachment to this document contains HELCOM input to the Thirty third session of the Executive Body for the Convention on Long-range Transboundary Air Pollution on HELCOM efforts to assess and prevent airborne pollution of the Baltic Sea, made in 2014.

### Action required

The Meeting is invited to discuss the action and plan as appropriate.

## Initiation of HELCOM action for further consideration to intensify HELCOM work to reduce airborne transboundary nitrogen input from outside of HELCOM area, in particular the Gothenburg Protocol

Intensifying HELCOM work to reduce airborne transboundary nitrogen input from outside of HELCOM area, in particular the Gothenburg Protocol	
HELCOM type of action	a) v. Joint actions with the aim of influencing international regulations
Type of coordination	4 - Joint regional action in relation to third parties
Short description of the action / measure	<p>Airborne nitrogen deposition originating from outside HELCOM area is a significant source of nitrogen input to the sea. This source is managed under the Convention on Long-Range of Transboundary Air Pollution (CLRTAP) and more specifically its Gothenburg Protocol. Prompted by BSAP, HELCOM has previously informed bodies implementing the Protocol of eutrophication requesting action. This has not resulted in desirable action.</p> <p>In this initiative HELCOM will engage firstly in resolving the most effective ways of influencing the work under the Protocol. Most likely that will involve both national contacts as well as the formal bodies responsible for the Convention. In the second step appropriate action will be taken, using HELCOM material, such as eutrophication indicators, PLC- and LOAD input related assessments and indicators, as well as the MAI/CART related follow-up information as the basis.</p> <p>There is also a linkage to the NEC Directive in this work for those CPs that are also EU Member States.</p>
Spatial coverage	Whole Baltic Sea air basin
Recommended start and duration, if appropriate, of action / measure (temporal coverage)	2016-2021
Contribution of the action / measure to achieve the target	The initiative has substantial potential to contribute to the reduction of input of nitrogen to the Baltic Sea and to improve eutrophication status.
Proposed activities for implementation ( <u>very</u> briefly)	As a starting point, GEAR supported by PRESSURE and STATE & CONSERVATION could design the work in further detail and identify which bodies in HELCOM should assist in carrying out the work.
Obstacles to implementation (at regional and CP level)	No right communication channels will be opened and right people found and initiative stays idle.



Baltic Marine Environment  
Protection Commission

1 December 2014

Ms. Albena Karadjova  
Secretary to the Executive Body for the  
Convention on Long-range Transboundary Air Pollution  
United Nations Economic Commission for Europe  
Palais des Nations  
CH-1211 Geneva 10

Dear Ms. Albena Karadjova,

I would like to thank you for the invitation to the thirty-third session of the Executive Body for the Convention on Long-range Transboundary Air Pollution, to be held in Geneva, 8-12 December 2014.

Unfortunately the session overlaps with the 47<sup>th</sup> Meeting of the HELCOM Heads of Delegation in Helsinki, which I need to attend.

It is regrettable as it would have been an opportunity for me to present the latest work of the Baltic Marine Environment Protection Commission – HELCOM, in relation to transboundary air pollution and possibly exchange views on how closer co-operation between HELCOM and UNECE CLRTAP could be established.

HELCOM has recently revised its Nutrient Reduction Scheme based on new knowledge and information, as part of our efforts to fight eutrophication of the Baltic Sea. Nitrogen deposition from distant sources, from outside the Baltic Sea, has been singled out as a significant source of inputs to the marine environment. HELCOM is interested to renew/initiate a dialogue with the Executive Body for the Convention on Long-range Transboundary Air Pollution in order to follow up and contribute to the work to address transboundary air pollution.

I would like to offer the attached short report on HELCOM efforts to assess and prevent airborne pollution of the Baltic Sea as an informal document for the session.

I would appreciate a possibility to attend one of the next sessions of the Executive Body, including receiving information on the dates of 34<sup>th</sup> session as soon they are as set.

I wish you a fruitful meeting.

Yours sincerely,

Monika Stankiewicz

Monika Stankiewicz  
Executive Secretary



1 December 2014

## Activities of the Baltic Marine Environment Protection Commission (Helsinki Commission / HELCOM) related to transboundary air pollution

### Almost three decades of assessing pollution inputs to the Baltic Sea

Since the establishment of the Convention for the Protection of the Marine Environment of the Baltic Sea Area (Helsinki Convention) in 1974, HELCOM has been working to reduce the inputs of nutrients and hazardous substances to the sea.

Through coordinated monitoring, HELCOM has, since the mid-1980s been compiling information about the magnitude and sources of nutrient and hazardous substance inputs into the Baltic Sea. By regularly compiling and reporting data on pollution loads, HELCOM is able to follow the effectiveness of measures and the progress towards politically agreed pollution reduction input goals.

The first HELCOM Recommendation<sup>1</sup> on monitoring of airborne pollution load was adopted in 1986 (HELCOM Recommendation 7/1) and has since been revised numerous times. The current valid recommendation, [Recommendation 24/1](#), was adopted in 2003. The first assessment on airborne pollution load to the Baltic Sea covering 1986-1990 was published in 1991<sup>2</sup> and updated assessments have been published at regular intervals, the latest being the [Review of the Fifth Baltic Sea Pollution Load Compilation for the 2013 HELCOM Ministerial Meeting](#).

### Cooperation with EMEP

The European Monitoring and Evaluation Programme (EMEP) under the Convention on Long-range Transboundary Air Pollution (CLRTAP) has acted as a data consultant for HELCOM concerning atmospheric pollution inputs to the Baltic Sea since 1998. EMEP MSC-W and EMEP MSC-E model the deposition of nitrogen, cadmium, lead, mercury and PCDD/Fs to the Baltic Sea based on emission data reported by the Contracting Parties within the framework of CLRTAP. Every year, EMEP produces an annual report for HELCOM on emissions of these substances from different sources and the modelled depositions to the Baltic Sea.

In addition, on a case by case basis, HELCOM has contracted EMEP to make more detailed assessments, such as [Estimation of atmospheric nitrogen deposition to the Baltic Sea in the periods 1997-2003 and 2000-2006](#) (in 2008) and [Effects of Revised Gothenburg Protocol on Nitrogen Deposition to the Baltic Sea](#).

### HELCOM nutrient reduction scheme – new focus on transboundary air pollution

Eutrophication, caused by excessive inputs of the nutrients nitrogen and phosphorus to the sea, is one of the main environmental problems of the Baltic Sea. Although HELCOM has been working to reduce the inputs of nutrients to the sea for four decades now, a new strategic approach was taken in 2007 with the adoption of the HELCOM nutrient reduction scheme as part of the [HELCOM Baltic Sea Action Plan](#). The scheme is a regional approach to sharing the burden of nutrient reductions to achieve the goal of the Baltic Sea unaffected by eutrophication and consists of two main components:

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<sup>1</sup> HELCOM makes Recommendations on measures to address certain pollution sources or areas of concern which are to be implemented by the Contracting Parties through their national legislation.

<sup>2</sup> Airborne pollution load to the Baltic Sea during, 1986-1990. Published in 1991 in the HELCOM Baltic Sea Environment Proceedings series (BSEP No. 39)

1. Maximum Allowable Inputs (MAI) of nutrients, indicating the maximum level of inputs of water- and airborne nitrogen and phosphorus to Baltic Sea sub-basins that can be allowed to fulfil environmental targets for a sea unaffected by eutrophication;
2. Country-Allocated Reduction Targets (CART), indicating how much nutrient inputs the HELCOM countries need to reduce compared to a reference period (1997-2003).

The MAI and CART have been revised and updated making use of newer and more complete data, improved scientific basis (environmental targets and models) and different allocation principles. According to the new MAI and CART, which were adopted in 2013, the maximum annual nutrient input to the Baltic Sea that can be allowed and still make it possible to reach good environmental status with regard to eutrophication is about 21,700 tonnes of phosphorus and 792,200 tonnes of nitrogen.

The scheme recognizes the contribution of nutrient inputs also from non-HELCOM Contracting Parties, such as waterborne inputs from upstream countries in the drainage area, air emissions from Baltic Sea shipping as well as transboundary air pollution from outside the Baltic Sea region. A quarter of the total nitrogen input to the Baltic Sea is airborne, and of this about 40% originates from sources outside the Baltic Sea catchment area.

In order to address this significant source of nitrogen inputs to the Baltic Sea, the Contracting Parties, in the Baltic Sea Action Plan, agreed that their governments make use of the assessments of the inputs and effects of airborne nitrogen to the Baltic Sea in the revision of the emission targets for nitrogen under the 1999 Gothenburg Protocol of the CLRTAP and the EU Nitrogen Emission Ceilings (NEC) Directive.

The 2013 nutrient reduction scheme takes into account expected reductions of 18,720 tonnes of airborne nitrogen from non-Contracting Parties, assuming full implementation of the 1999 Gothenburg Protocol by 2020, as well as reductions of 6,930 tonnes of airborne nitrogen inputs from shipping over thirty years.

The elaboration of the nutrient reduction scheme as well as the development of a system for follow-up on progress towards reaching the reduction targets has involved close cooperation with EMEP and revision of their data deliverables to HELCOM. Nowadays the EMEP data products include more details (inputs from each HELCOM country to the different Baltic Sea sub-basins) as well as normalized annual depositions. This has allowed for better inclusion of atmospheric inputs in the revised (2013) nutrient reduction scheme and countries have even been allocated reduction requirements to distant basins based on their contribution of atmospheric inputs. Improved data on atmospheric inputs allows the HELCOM Contracting Parties to account for reductions in atmospheric emission towards reaching their reduction targets, something that is important especially for those countries whose inputs are predominately from airborne sources. The use of normalized input data also allows for better evaluation of the effectiveness of measures since it reduces the influence of meteorological conditions and hence reduces interannual variation of inputs.

The full implementation of the HELCOM nutrient reduction scheme (and reaching a good eutrophication status in the Baltic Sea) is dependent not only on actions taken by the HELCOM Contracting Parties, but also on successful implementation of commitments under other legislative frameworks. It is worth noting, however, that full implementation of the 1999 Gothenburg Protocol (and EU NEC directive) by CLRTAP Contracting Parties may not necessarily directly result in the reaching of the HELCOM nutrient reductions scheme targets. Germany has presented<sup>3</sup> information of possible different scenarios for implementing nitrogen emission reduction measures under the Gothenburg Protocol in Germany and their results suggest that depending on where in Germany measures are taken there are different effects on deposition to the Baltic Sea and hence reaching of their HELCOM reduction targets.

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<sup>3</sup> [Document 9-9](#) of the Meeting of HELCOM LOAD 7-2014

## **Assessment of atmospheric inputs of hazardous substances**

Transboundary atmospheric inputs of hazardous substances are also of relevance for the Baltic Sea and of interest to HELCOM. The Baltic Sea Action Plan identified [11 hazardous substances or substance groups of specific concern](#) to the Baltic Sea substances.

HELCOM is currently developing “state indicators” for assessment their presence in the marine environment, but it is equally important to also develop “pressure indicators” which assess trends in the inputs of these substances to the sea. Mercury, cadmium and PCDD/Fs (which are included on the list) are already assessed for HELCOM by EMEP MSC-E. Work is on-going to identify other substances for which atmospheric input is an important pathway to the marine environment and in 2015 EMEP MSC-E will present (on a test basis) data products on air emissions and atmospheric deposition of PCB-153.

## **Conclusions**

There has been good cooperation between HELCOM and EMEP, and HELCOM has benefited from the work being carried out under CLRTAP. Although implementation of the 1999 Gothenburg Protocol will result in reductions in atmospheric deposition of nitrogen to the Baltic Sea, reaching the HELCOM nutrient reduction targets will only be possible if nutrient reduction measures are implemented in a way that takes into account emission sources that affect the Baltic Sea.

With best wishes for continued fruitful cooperation.