Für Mensch & Umwelt

Umwelt Bundesamt

6th Joint EMEP SB/WGE meeting, 14 – 17 September 2020

Protection of Marine Ecosystems in the Review of the Gothenburg Protocol

Gudrun Schütze, Markus Geupel, Wera Leujak
German Environment Agency

Why to include marine ecosystems?

- Marine Ecosystems and in particular coastal areas are sensitive to eutrophication by nitrogen.
- Air pollution is relevant: About 20-30% of current nitrogen loads to the Baltic Sea result from atmospheric deposition, improvements needed soon.
- CLRTAP: Considered in Integrated Assessment Modelling are i. a.
  - critical loads for terrestrial and freshwater ecosystems
  - flux-based critical levels for generic crop species
  - health related effects,

  but no thresholds to protect marine ecosystems yet.
- Interlinkage of air quality and marine protection policies would enhance effectiveness of both policy areas.

39th EB meeting, December 2019:

- **Air pollution effects on marine ecosystems are considered as an "element meant to address gaps" in the review of the GP (ECE/EB.AIR/144/Add. 1)**

There is already cooperation between OSPAR/HELCOM and CLRTAP

Baltic Sea Action Plan 2007-2021

WE DECIDE that the governments of the HELCOM Contracting Parties shall **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 1979 UNECE Convention for Long-Range Transboundary Air Pollution.**

WE AGREE that HELCOM Contracting States that are also EU Member States, in order to strengthen the emission targets for nitrogen under the EU National Emissions Ceilings Directive (Directive 2001/81/EC), will aim to include also emissions from ships and the **achievement of ecological objectives for eutrophication in the marine environment**.

WE ALSO AGREE that all HELCOM Contracting Parties **will aim to do so likewise for the emission targets in the 1999 Gothenburg Protocol under the UNECE Convention for Long-Range Transboundary Air Pollution.**

North East-Atlantic Environment Strategy 2010-2020 –Eutrophication segment

promote consideration of marine eutrophication to be taken into account in:

(i) setting **emission targets for nitrogen** under the EU National Emission Ceilings Directive and the **Gothenburg Protocol to the UNECE Convention** on Long-Range Transboundary Air Pollution (LRTAP);

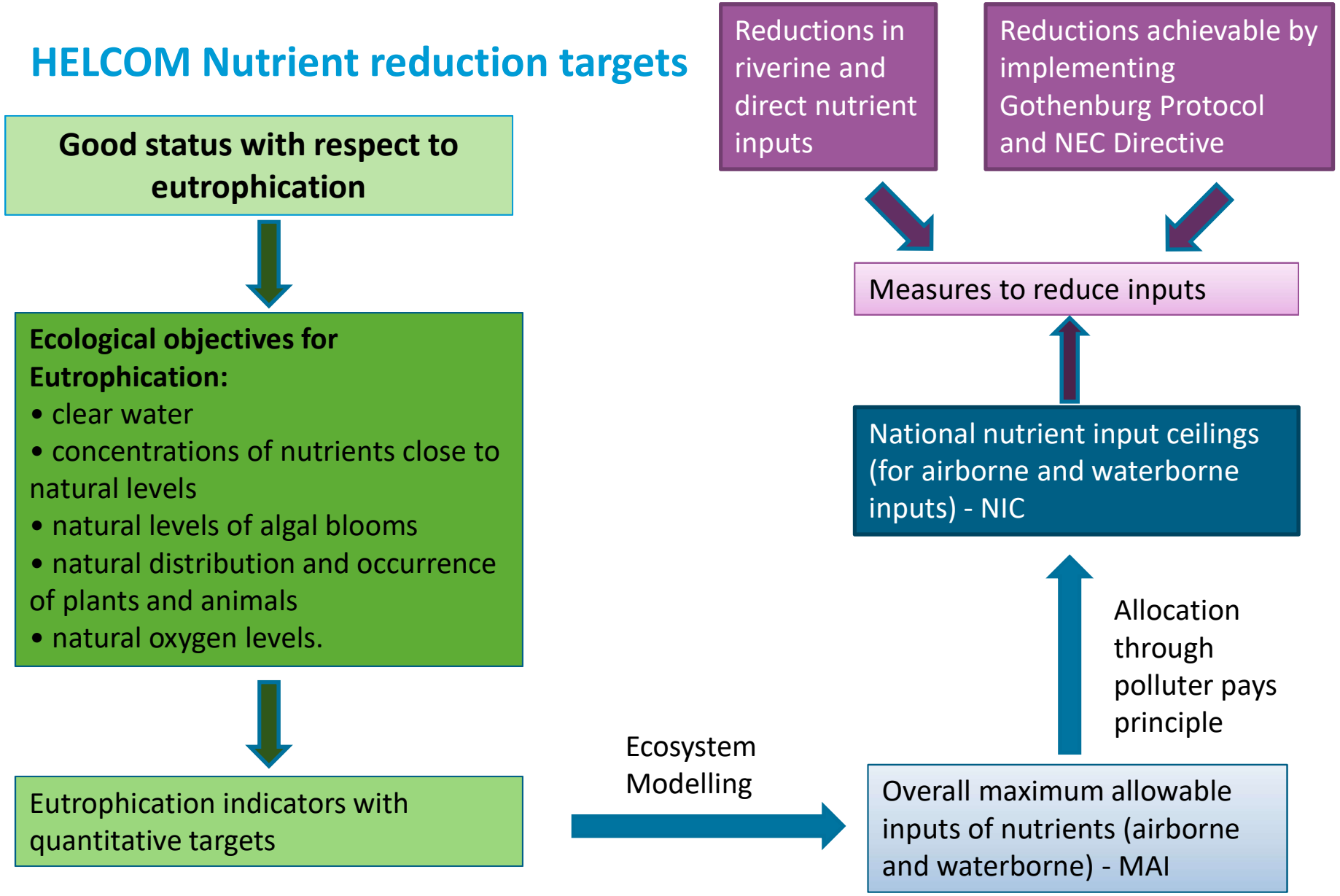
As a consequence of this cooperation

- MSC-West on a regular basis models atmospheric deposition to North and Baltic Sea for OSPAR- and Helsinki-Convention (HELCOM).
- Emission reduction requirements under CLRTAP and NEC-Directive are taken into account by OSPAR and HELCOM member states in view of necessary nitrogen load reduction.

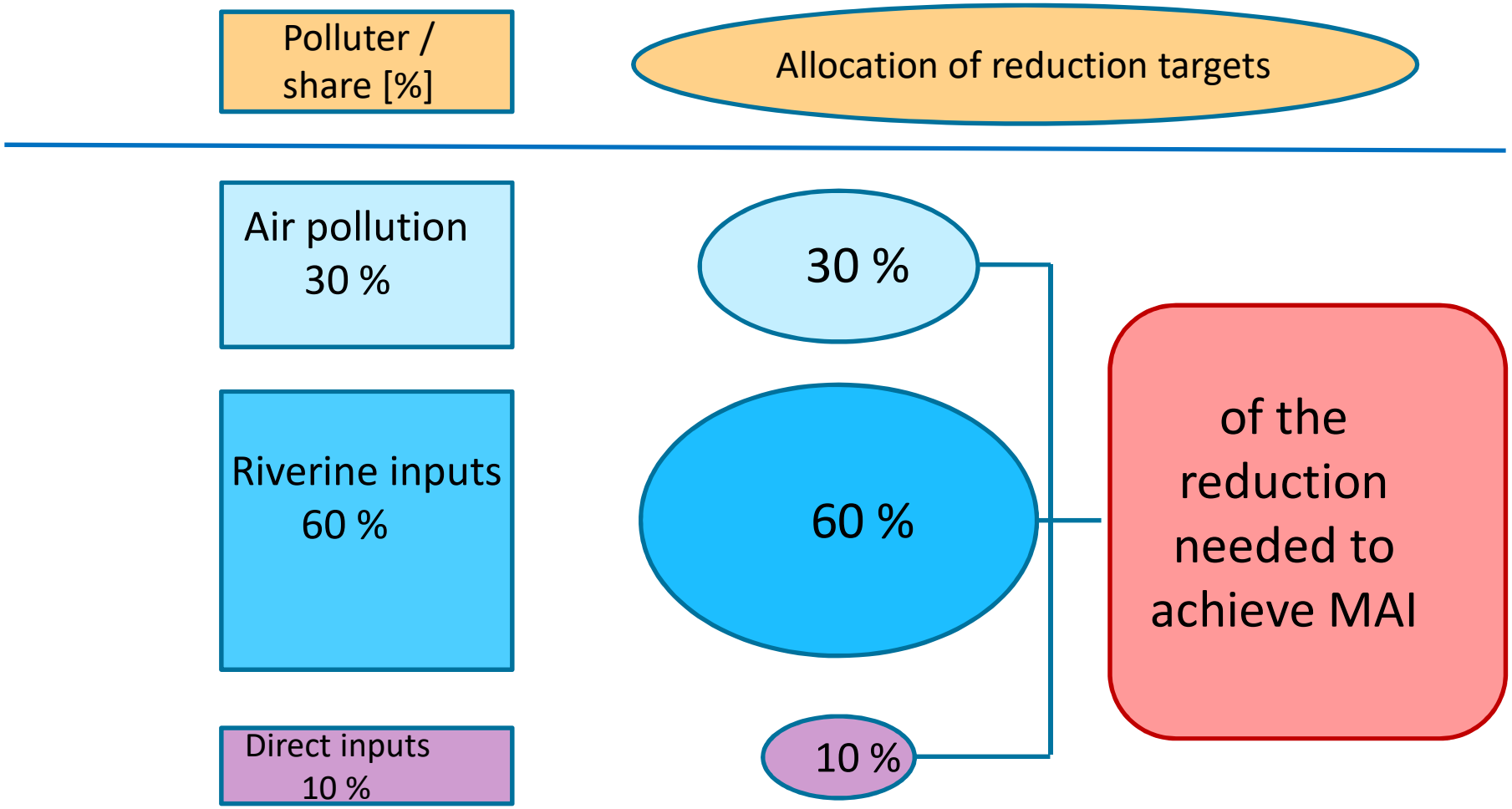
The strategies of OSPAR/HELCOM 2021 – 2030 are being updated (by 2021)

- Cooperation with CLRTAP will continue and could be intensified.

HELCOM Nutrient reduction targets



How the polluter pays principle could be implemented



How to proceed – some proposals:

- Scientific contacts should be established soon in order to start first technical discussions

- Identify the relevant groups and experts, who should speak to each other
  - **OSPAR: HASEC-Group** (https://www.ospar.org/work-areas/hasec)
  - **HELCOM: WG Pressure** (https://helcom.fi/helcom-at-work/groups/pressure)
  - **CLRTAP: WGE (ICP Waters?) / EMEP? (TFIAM/CIAM?)**
- Maybe institutional agreements between OSPAR, HELCOM and CLRTAP (dating back to the 1980s) could be updated.

- Even in the very future protection of other marine ecosystems such as Mediterranean Sea and Black Sea could be taken into account

Summary of status:

- Both HELCOM and OSPAR have commissioned modelling work by EMEP to estimate the reductions in atmospheric nitrogen deposition achievable by implementing the Gothenburg Protocol in 2020;
- Currently, this reduction is seen as the part that is achievable for airborne inputs and remaining reduction needs to come from waterborne inputs (shipping has separate reduction targets);
- It is not possible to determine the eutrophication effects of „airborne nitrogen“ versus „waterborne nitrogen“ in the sea.

Summary message for future work:

- A possible approach for the revision of the Gothenburg Protocol would be a burden sharing according to the „polluter pays principle“ between the airborne and waterborne eutrophication pathways;
- For HELCOM nitrogen effects indicators and reduction targets are already developed. The example of the Baltic Sea could be used to derive a concept for an integrated nitrogen reduction strategy;
- Scientific discussion should start soon in order to explore options for this.

Thanks for your attention!

Authors
Wera.Leujak@uba.de
Gudrun.Schuetze@uba.de
Markus.Geupel@uba.de