



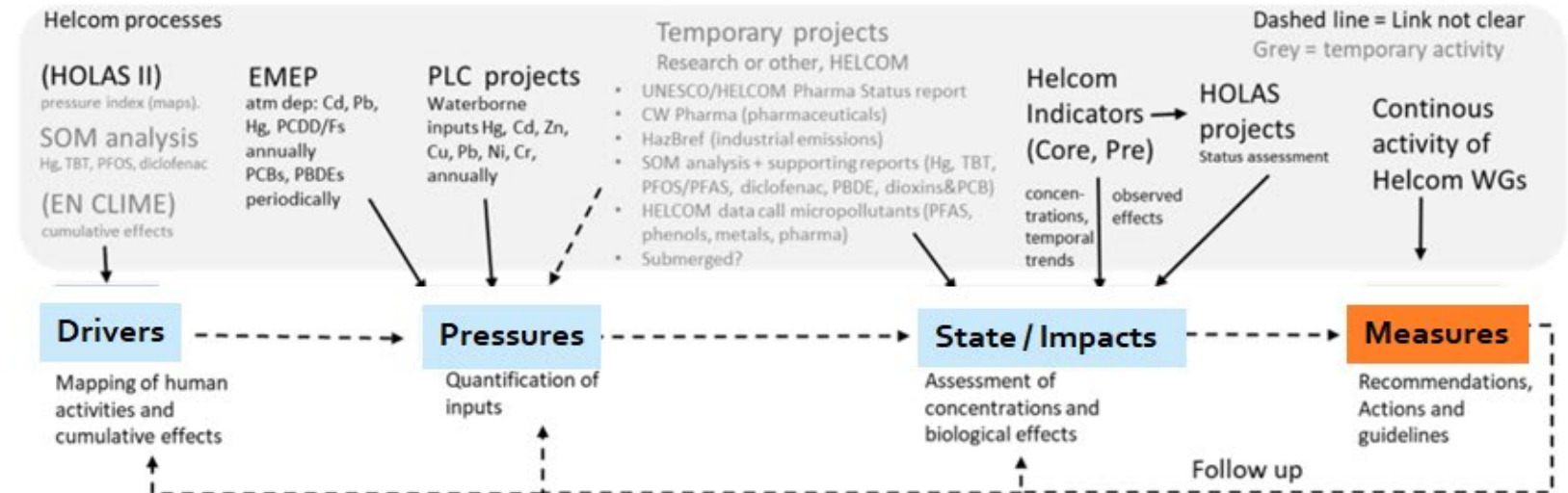
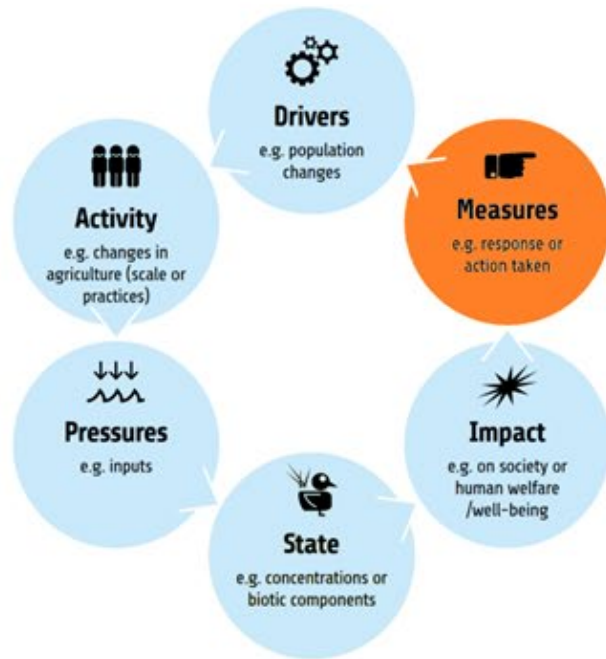
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A 'one Baltic' approach towards a sea  
unaffected by hazardous substances  
**31 March 2025**

# **The 'One Baltic' approach – applying a strategic approach for hazardous substances management in the Baltic Sea**

**Lotta Ruokanen & Vasileios Kouloumpos**  
**HELCOM Secretariat**

# Previous framework

Background report on an update of HELCOM work on hazardous substances in the Baltic Sea (2021)




- *no proper linking between management steps*
- *no holisticsness*
- *no system to ensure added value and synergy with existing policies*

# 2021 Baltic Sea Action Plan: structure & goals


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## Vision


 a healthy Baltic Sea environment with diverse biological components functioning in balance, resulting in a good ecological status and supporting a wide range of sustainable economic and social activities.

## Goal

 Baltic Sea **ecosystem** is healthy and resilient

## Goals

 Baltic Sea unaffected by **hazardous substances and litter**

 Environmentally sustainable **sea-based activities**

 Baltic Sea unaffected by **eutrophication**

## Horizontal topics

*Climate change; monitoring; maritime spatial planning; economic and social analysis; financing; hot spots; knowledge exchange and awareness raising*

## Logic in the structure:

Chain of consequence, whereby human **activities** result in **pressures** on the environment, which in turn affect the **state** of biodiversity, which has been used as a basis when elaborating the updated BSAP



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# BSAP: Needs → HL1 and related actions

- *limited number of priority contaminants*
- *measures to prevent their input to compiled on an ad hoc basis*

**REC 31E/1: no systematic mechanism for regular update of priority list**

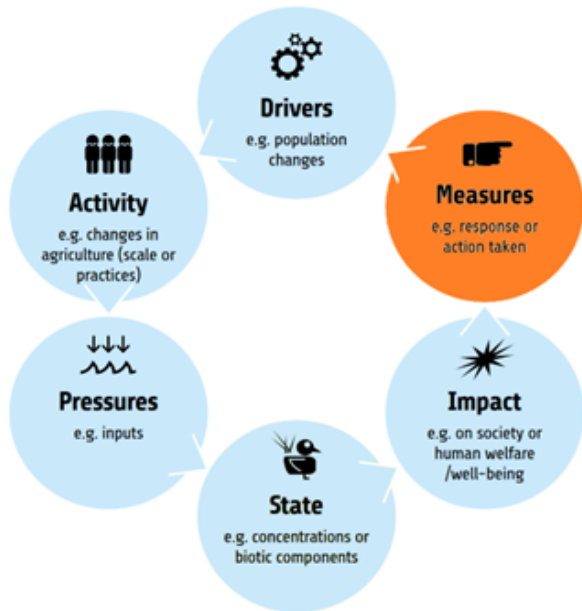
**HELCOM needs to clarify its role in relation to other policies in the Baltic Sea region and identify the added value of its activities**

**HL1: Develop a *regional strategic approach* and, on the basis of that approach, an *action plan* for HELCOM work on hazardous substances by 2024.**

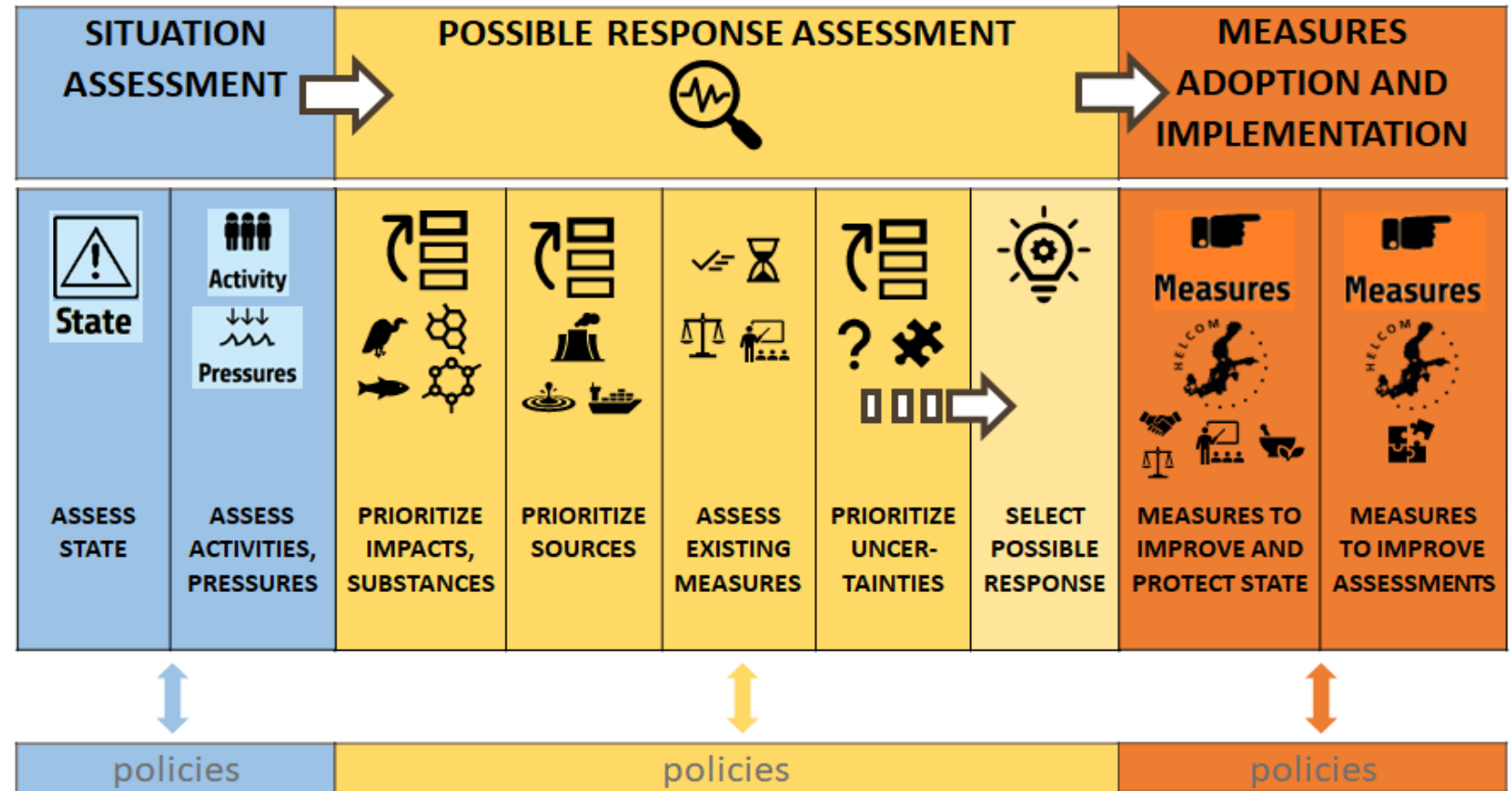
**HL10: Establish a *mechanism for managing the HELCOM list of priority substances* from 2025**

**HL9: Establish procedures by 2025 to utilize information obtained under various policies**

**HL11: Organize continuous follow-up of work under global, EU, RSC policies from 2024, and actively influence these processes**



*holistic*





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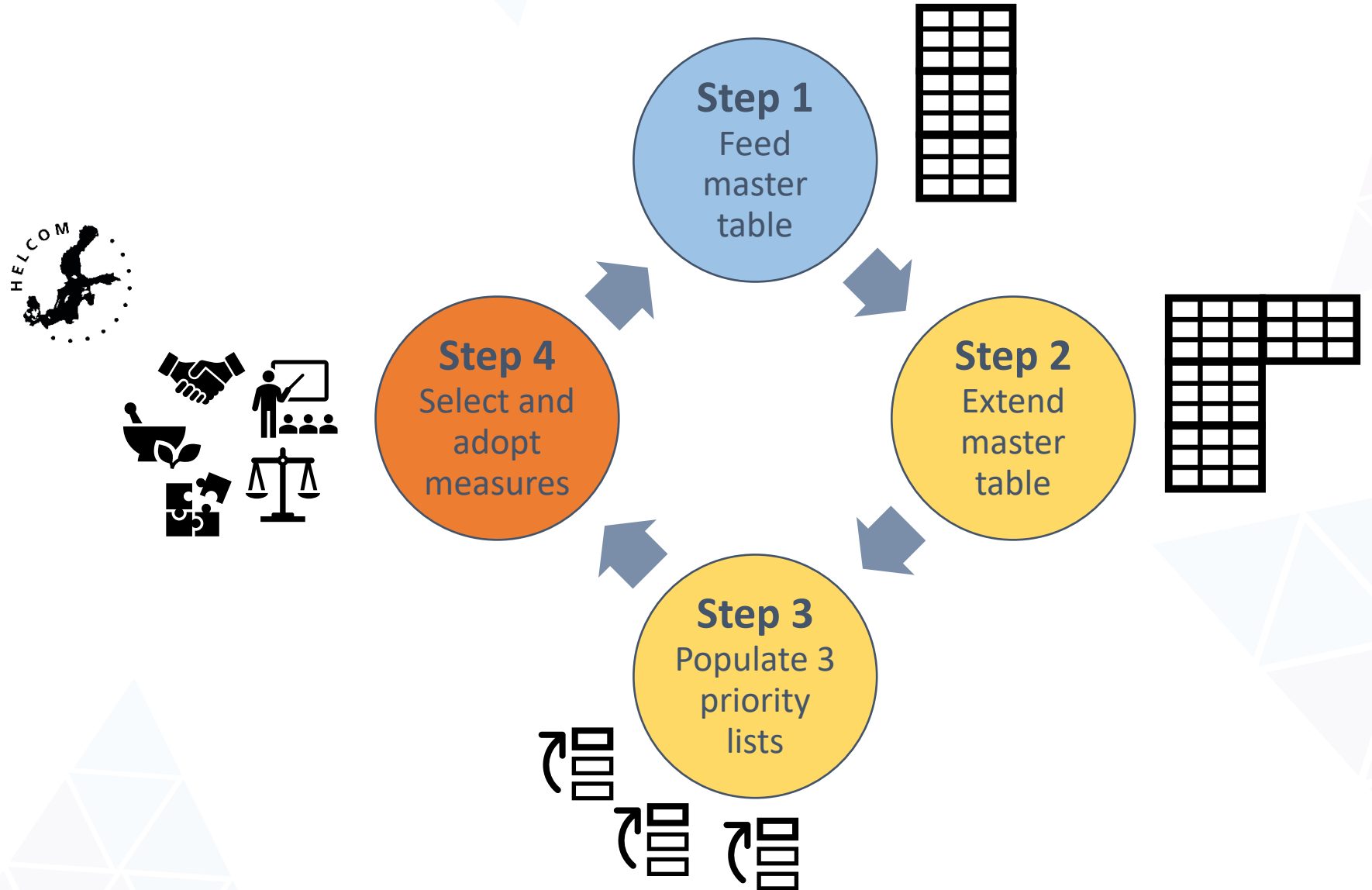
## Ultimate outputs aimed at each cycle of the framework

- **Better understanding of**
  - i) the overall state of Baltic Sea in terms of pollution by hazardous substances
  - ii) possible major pollutants, sources/pathways, and threats
  - iii) key information gaps
  
- List of **actions** to be adopted by HELCOM towards
  - i) fulfilment of BSAP goals
  - ii) improvement of our understanding and assessment capacity for the situation
  
- **Better coordination and support towards fulfilment of CPs' obligations** arising from policies such as EU MSFD, EU WFD, relevant national policies, etc.



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# Operational scheme developed



# Operational scheme: closer look

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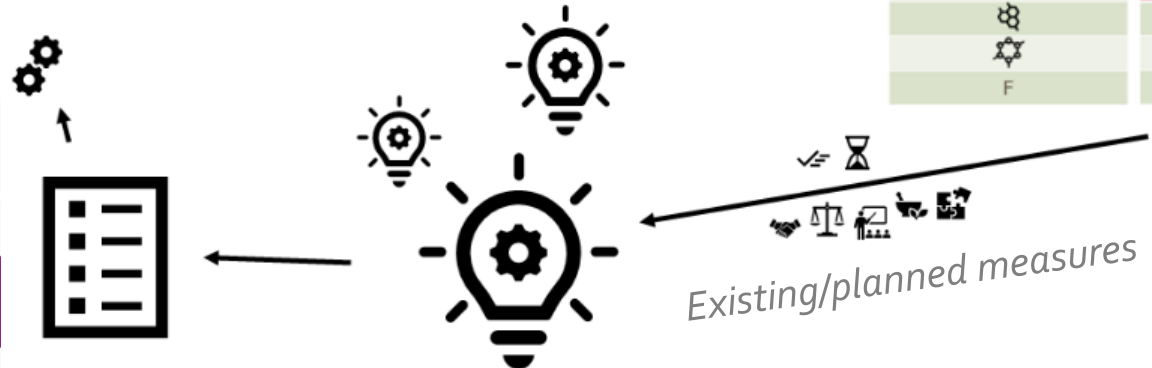
## Master table of substances of concern (a working table)

SUBSTANCE /GROUP	concerns				evaluation	extra info		
	Significant/ Critical presence in Baltic Sea	Likely significant inputs in Baltic Sea	Analogous concerns	Hazardous properties	OVERALL SCORE	Areas of poor status	Regulatory status	Predominant sources
...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...
horizontal issues						h. issues	h. issues	

### Priority lists

PRIORITY SUBSTANCES/GROUPS	PRIORITY SOURCES	PRIORITY UNCERTAINTIES
C		✘ C
A	✘ A	✘ !!! D, N, O, P, Q, R, X
✘	✘ C	✘ B
✘	! ✘ A, D, F, M	
F		

### Regional actions







# How is Master table filled with substances/groups?

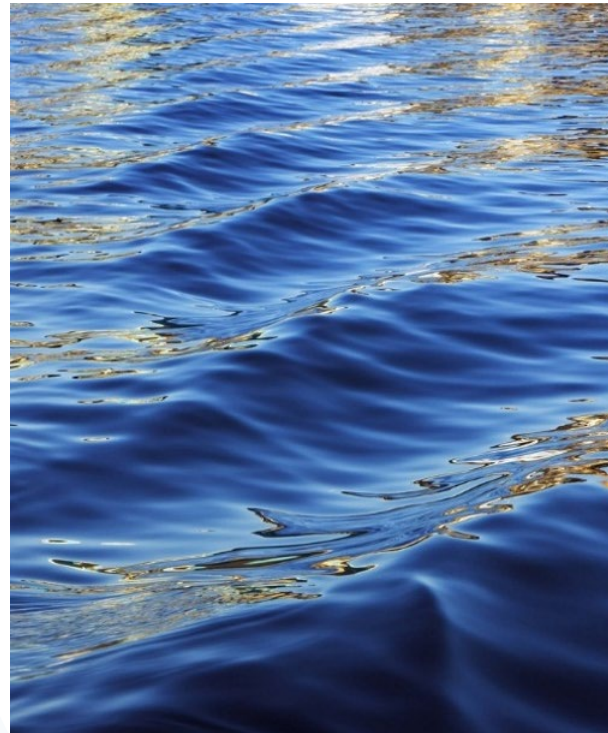
Data sources  
Minimum criteria  
Scoring

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Significant/Critical  
**PRESENCE** in Baltic Sea

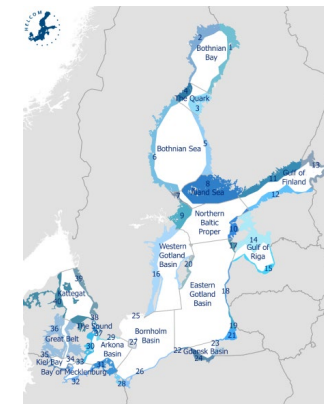
Likely significant **INPUTS**  
to Baltic Sea

**ANALOGOUS**  
**CONCERNS**



marine levels  
*vs Threshold Values*

monitoring & screening  
(water / sediment / biota)





# How is Master table filled with substances/groups?

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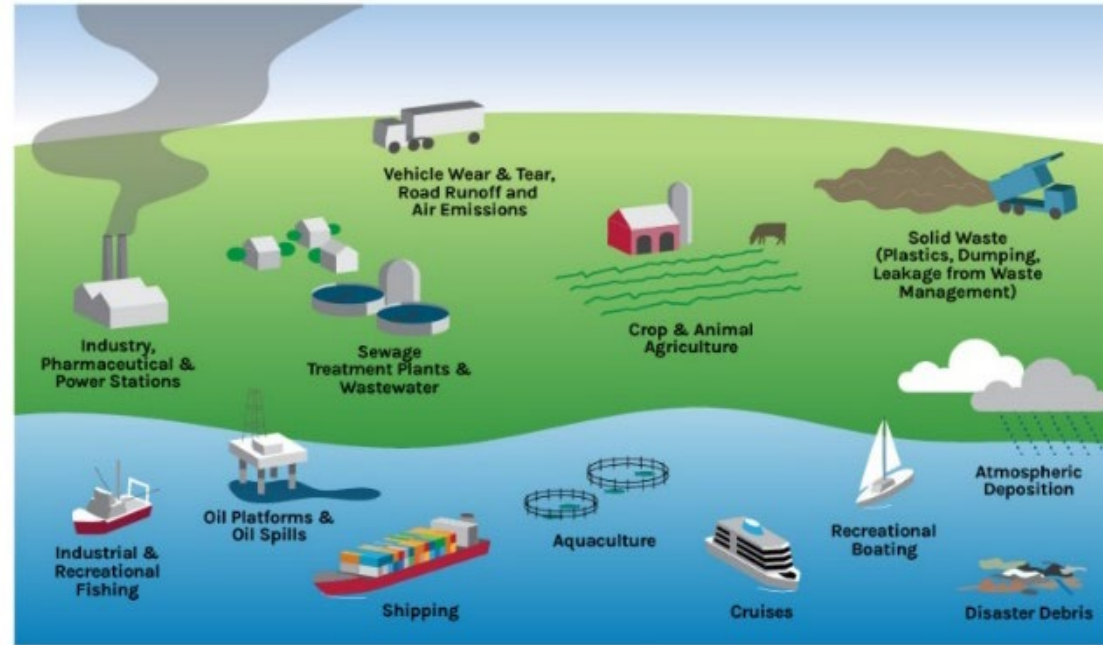
Data sources  
 Minimum criteria  
 Scoring

market  
 releases upstream in pathways (e.g. WWTP releases)  
 inputs from 4 pathways

Significant/Critical  
**PRESENCE** in Baltic Sea

Likely significant **INPUTS**  
 to Baltic Sea

**ANALOGOUS**  
**CONCERNS**



riverine

direct land-based

atmospheric deposition

direct off-shore

HELCOM reports project off-shore (shipping) WWTP effluent values  
 inputs + PBT properties reports OR WATER predicted marine  
 vs reference case vs Threshold values  
 7.2 - 8.8

INPUTS range may reflect available measurement-based and/or market-based estimations

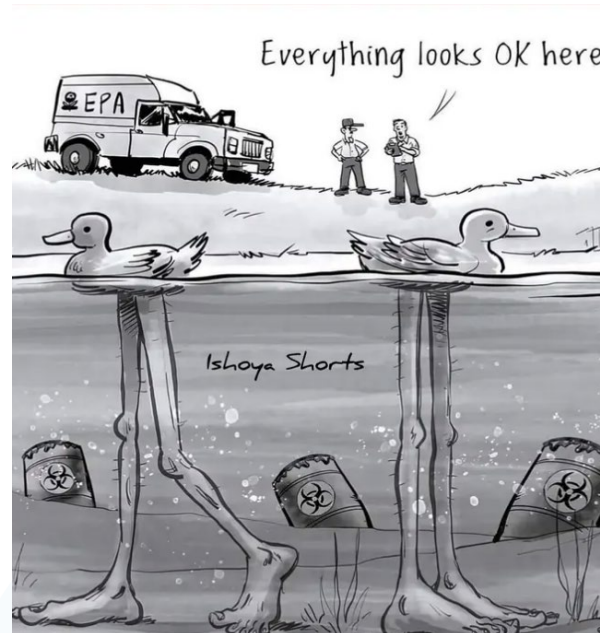
# How is Master table filled with substances/groups?

Data sources  
Minimum criteria  
Scoring

Significant/Critical  
**PRESENCE** in Baltic Sea

Likely significant **INPUTS**  
to Baltic Sea



**ANALOGOUS  
CONCERNS**



- *biological effects reliably linked to groups/clusters/substances*
- *identification as toxicity drivers*
- *likely effects of mixtures*
- *very dangerous presence in analogous sea*
- *likely significant inputs in near future (regrettable substitution, significant emerging use, time-delayed emissions e.g. from dumped material; evolution of drivers/activities)*
- *hazardous degradation products*






# How are substances ranked and priorities selected?





PRIORITY SUBSTANCES/GROUPS	
C	
A	
 <b>Grouping!</b>	
	
F	

## HELCOM list of priority/relevant sources (and drivers) of hazardous releases:

- sectors of human activity (land- or sea-based) or specific activities
- pathways to the Baltic Sea
- (drivers)

anticipated to have the highest contribution to / threat for overall inputs of hazardous substances to the Baltic Sea.

PRIORITY SOURCES	
	A
	C
	A, D, F, M

PRIORITY UNCERTAINTIES	
	C
 	D, N, O, P, Q, R, X
	B

## HELCOM list of priority substances and substances of concern:

Substances/groups with the highest anticipated risk (current impact or threat for the near future) for the Baltic Sea and its ecosystem services.

*How is regulatory status taken into account?*

## HELCOM list of horizontal uncertainties to address:

Key horizontal gaps in data or methodologies hindering:

- assessment of level of priority of substances/groups
- assessment of predominant sources of inputs
- identification of areas of poor status
- assessment of most appropriate actions

# How are substances ranked and priorities selected?

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## How are uncertainties taken into account?

SUBSTANCE	UNCERTAINTY RANGE				TYPE OF DATA
	best case scenario	reasonable best case scenario	reasonable worst case scenario	worst case scenario	Types of presence data used
Nickel	7,9	7,9	7,9	7,9	monitoring
Tetrabutyltin (TeBT)	7,9	7,9	7,9	7,9	monitoring
Kinoprene	7,7	7,8	8,2	8,5	suspect screening
Chromium	7,4	7,7	8,2	8,3	monitoring
Heptachlor	7,3	7,4	7,8	7,9	monitoring
Hexachlorobenzene	7,3	7,4	7,6	7,6	monitoring, target screening
cis-heptachlorepoxyde "(alpha)"	7,2	7,4	7,7	7,9	monitoring
Tris(2-ethylhexyl) phosphate	6,9	7,4	8,2	8,4	monitoring, suspect screening
DDD (p,p')	7,1	7,4	7,7	7,8	monitoring
Anthracene	7,3	7,3	7,3	7,3	monitoring
Diclofenac	7,3	7,3	7,3	7,3	monitoring
Musk	5,8	7,3	8,7	8,8	suspect screening
Isobutyl hydrogen phthalate	6,7	7,2	8,0	8,3	suspect screening
α-chloroacetophenone	4,9	7,2	9,6	9,7	monitoring
Zinc	6,7	7,1	7,7	8,0	monitoring



# How and what measures may be adopted?

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## Types of regional actions according to their link with EU/international policies

### weak link

**actions outside  
remits of other  
policies**

*first policy targeting an issue  
(overall or in certain CPs)*  
*different mode of action than  
EU/int policy*

### medium link

**'extension' of  
other policies /  
proactiveness**

*stricter requirements than  
EU/int policy*  
*broader requirements than  
EU/int policy*  
*interim policy (similar mode)  
until EU/int policy has effect*

### strong link

**support national  
implementation /  
enforcement of other  
policies**

*quicker implementation by  
authorities*  
*more coordinated  
implementation by authorities*  
*more effective implementation  
by authorities*  
*provision of guidance to duty  
holders*  
*better enforcement for duty  
holders*

**influence other  
policies and their  
centralized  
implementation**

*influence substance  
listing*  
*influence infrastructure*  
*influence policy*  
*support initiative  
towards new EU/int  
policy*

## HELCOM work

HOLAS HAZ indicators

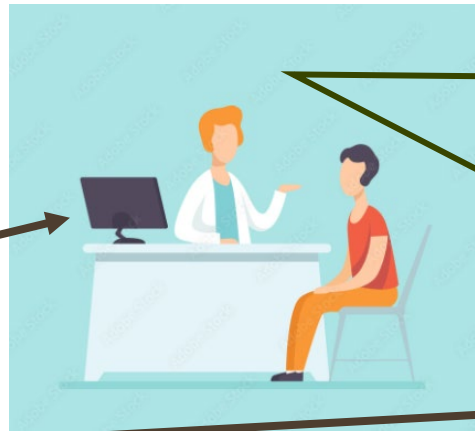


new holistic HAZ framework



blood sugar

Inherited predisposition  
for diabetes



blood sugar



EU CPs

EU MSFD

current assessments, measures



new holistic HAZ framework

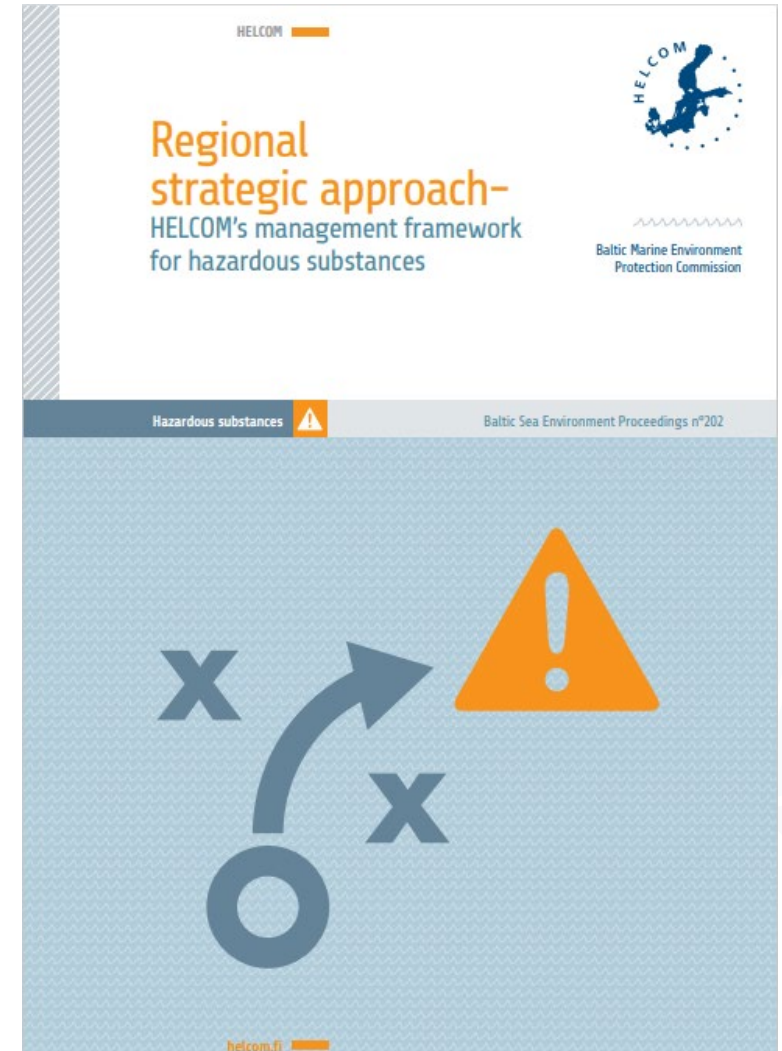
support and promote further  
coordination on assessment, measures





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## HELCOM strategic approach on managing hazardous substances



Co-funded by  
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