



# BSAG Project on Gray Waters and Food Waste



Elisa Mikkolainen  
BSAG Baltic Sea Action Group





2000+

**6% passenger ships**

**51% cargo vessels**

**22% tankers**

**5% containerships**

**5% service vessels**

**4% fishing vessels**

**7% other vessels**

**=> 94% other than  
passenger ships**

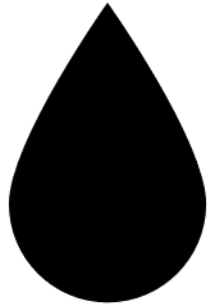


**94% of the ships**

**2000 ships not  
carrying passengers**

**25'000 crew members  
onboard every day**

**9'000'000 crew  
members every year**



## **MARPOL Annex IV**

discharge of sewage from ships is prohibited when closer than 12 nautical miles to the nearest land unless the ship has an approved and functional sewage treatment plant

**-> new regulations 2019-2023 for passenger ships**



## **No MARPOL regulation**



## **MARPOL Annex V**

discharge of comminuted or ground food waste from ships is prohibited when closer than 12 nautical miles to the nearest land



**92% of general cargo vessels**

**52% of dry bulk carriers**

**40% of bulk carriers**

**discharge their food waste to the sea**

**Phosphorus**

**Nitrogen**

**Sodium**

**Bacteria**

**Grease**

**Food particles**

**Micro plastics**

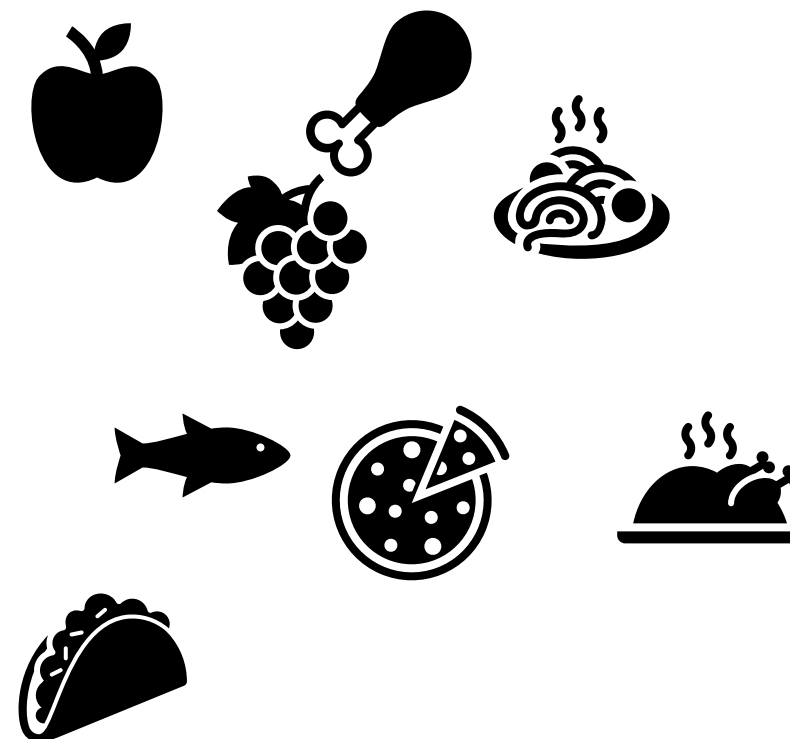
**Detergents**

**Soaps**

**Hair**

**Organic matter**

**High pH**







**The pollutant levels in grey water  
are comparable to  
untreated municipal wastewater  
on land**



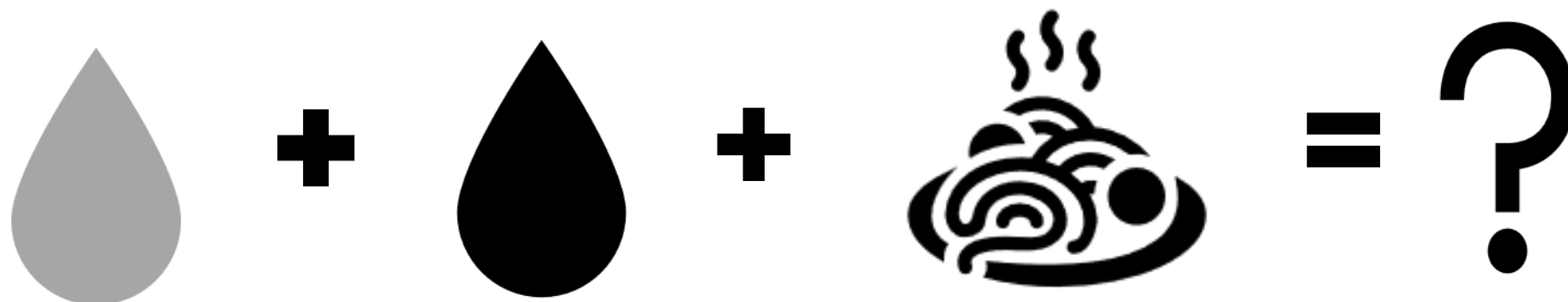
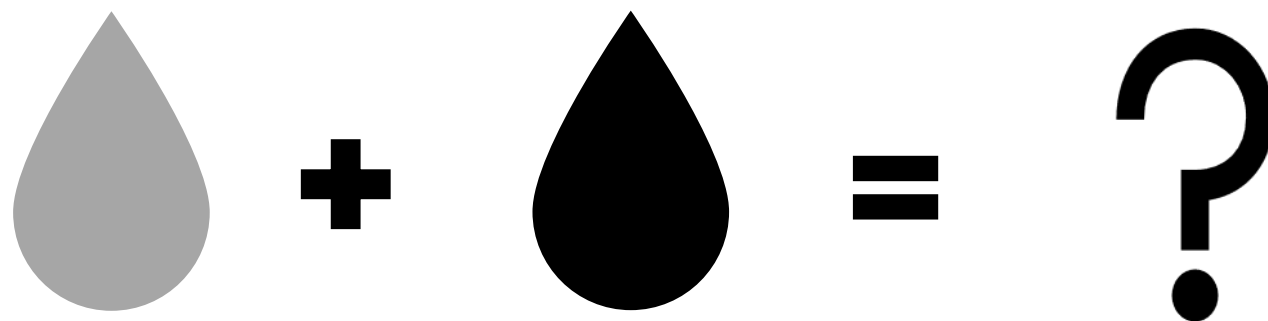


**eutrophication**

**intense algal growth**

**oxygen depletion**

**increased oxygen consumption**







**Question:**

**How to minimize the amount of  
gray waters and food waste  
discharged from ships  
to the Baltic Sea?**



**Answer:**

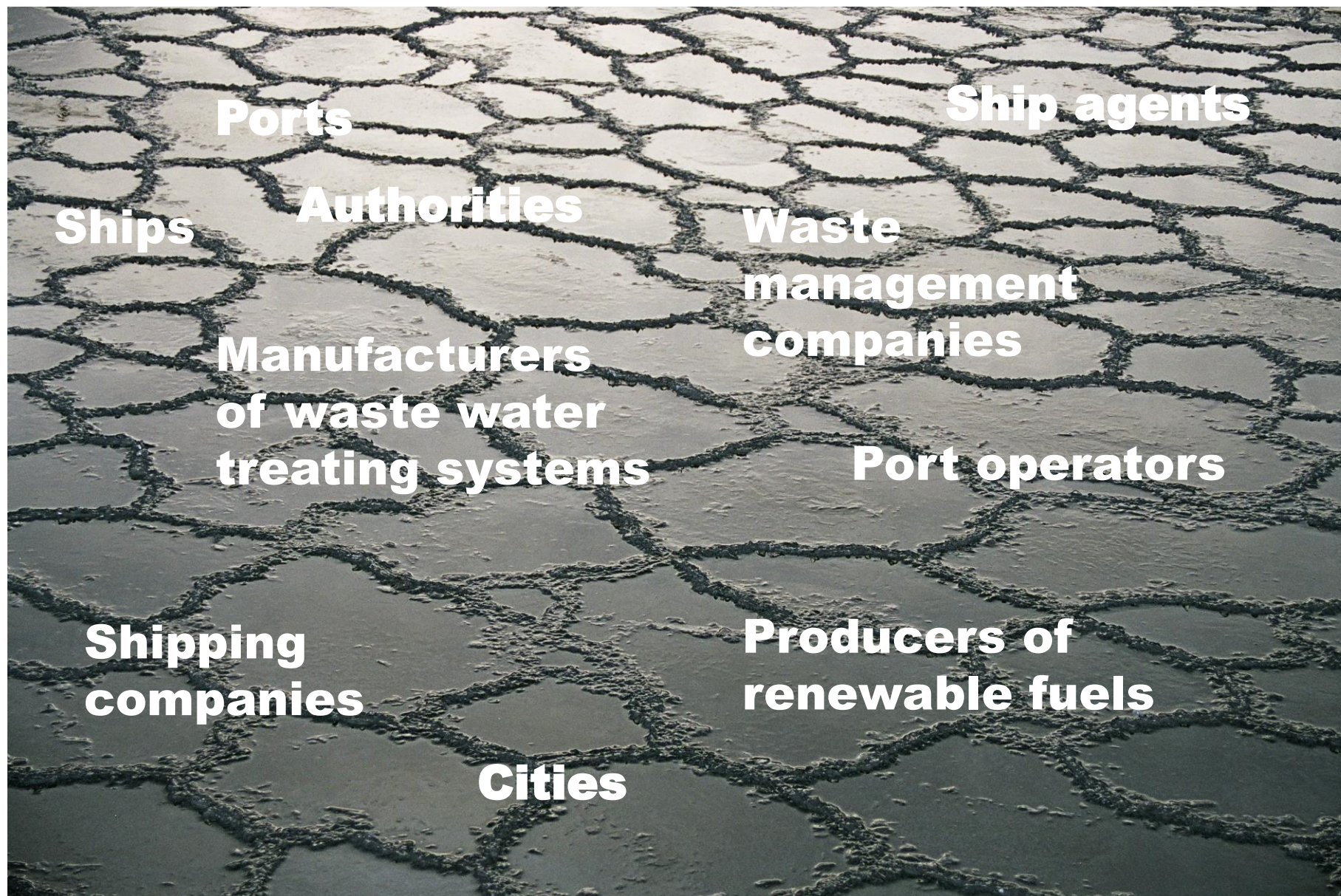
**Find the best practises  
and incentives to  
encourage ships to leave  
all wastewater and food  
waste ashore.**



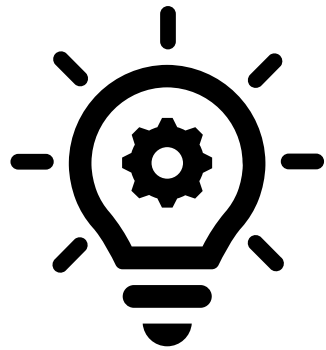
**How:**

**Take aboard the whole maritime cluster,  
authorities, researchers,  
and work together to find voluntary ways  
to make a change.**









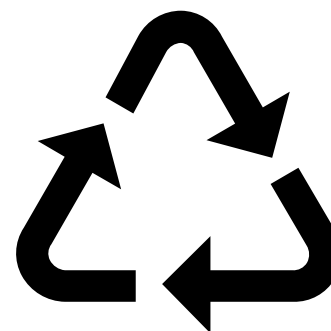
**Technology**



**Attitudes**



**Communication**





**research!**





EUROPEAN MARITIME AND FISHERIES FUND  
OPERATIONAL PROGRAMME  
FOR FINLAND  
2014-2020



# **Baltic Sea Action Plan**

**Proposal:  
discharges of food waste  
to the Baltic Sea  
no longer allowed**

**HELCOM / IMO**

**MARPOL V**





**Thank you!**  
**Questions?**

**All photos in the presentation: Janne Gröning**