



R B R

REVIVING BALTIC RESILIENCE



# Reviving Baltic Resilience



- Interreg South Baltic Programme
- Project Budget: 1 480 500 EUR
- Poland, Sweden and Lithuania (GUT)
- 7 project partners, 5 associated organisations
- 4 Pilot Cases
- Strategy Setting Network



# Reviving Baltic Resilience



**Four different pilot cases focusing on the analyzed biggest challenges from the seed money project conducted in all three participating countries:**

1. The modification of ship engines for green **DME fuel**.
2. Removal of micro plastics, phosphorus and nitrogen from pre-coastal areas through **isolation of discharge sources**, micro algae application and dialogue/information dissemination to stakeholders/industry.
3. **Leachate water cleaning** from landfills through carbon filtering.
4. Isolation and removal of oil from soil close to the Baltic see through ecotextile and **phytocap solutions** (sunflowers in our pilot case).



# Reviving Baltic Resilience



*The creation of **an institute/cluster** that will showcase the pilot cases and **promote** them to the entire South Baltic Programme area. The institute will also act as **a network** for new **cross-border** initiatives and cooperation between public stakeholder SME's/companies and Universities/knowledge providers.*



# Project Objective



*“ RBR will raise cross-border awareness of available green technologies to prevent pollutants such as sulfur dioxides, nitrogen oxides, micro plastics, oil and nutrients/heavy metals reaching the Baltic Sea by involving stakeholders through new arenas of cooperation that focus on proactivity. “*



# Project Results



*“ RBR will increase the usage of green technologies to prevent pollutants from reaching the Baltic Sea and host a platform where installations can be showcased and cross-border knowledge exchange together with best case solutions are promoted. “*













### “Proactive discharge prevention”

3

#### Reviving Baltic Resilience

The primary envisaged result is an increase in the usage of green technologies to proactively improve the current state of the Baltic Sea as well as having created a platform where solutions can be showcased and cross-border knowledge is exchanged.



#### Reviving Baltic Resilience

The Baltic Sea faces vast urgent challenges due to a surplus of phosphorus, nitrogen and pollutants (by being one of the busiest maritime areas in the world). The ongoing threat of a diminishing biodiversity and increased eutrophication (mainly due to  $\text{NH}_3$ ,  $\text{NO}_x$ ,  $\text{PO}_4$ ) is most likely the biggest challenge that the region currently faces from an environmental perspective. In addition to this, there has been a recent increase in awareness of the amounts of microplastics, up to 40 tonnes annually, being released to the Baltic Sea and the consequences these particles have on the maritime environment.



At the same time, the Baltic Sea Region is one of the most innovative regions in the world when looking at new green technologies. Using this interregional potential to solve the above mentioned challenges is what we want to achieve in the project “Reviving Baltic Resilience (RBR)”. By using prior experiences from previous EU projects (Euroslam for example) as well as acquiring new data and knowledge, we aim to look at proactive methods/technologies for preventing nutrients/pollutants and microplastics reaching the Baltic Sea.

Being proactive and focusing on the prevention (rather than reacting and trying to clean maritime environment) will be of key importance if we want to revive our biggest regional asset, the Baltic Sea. The primary objective is to raise cross-border awareness of available green technologies based on prior experiences/research to promote the implementation of the solutions focusing on proactivity/prevention and creating new arenas for cooperation.



# The Baltic Sea is...

one of the world's most regulated seas...

.. But at the same time the most polluted.





R. Kautsky/Azot







## Östersjön - ett av världens mest förorenade hav

Östersjön behöver ett starkare skydd mot övergödning, utsläpp och av de marina reservaten. Alla länder runt Östersjön måste fatta beslut på högsta politiska nivå om att fortsätta sitt samarbete och göra bindande åtaganden för att rädda havet.

Cirka 85 miljoner människor bor runt Östersjön och påverkar på olika sätt Östersjöns miljö. Avloppsvatten, industriavfall, näringsämnen och gifter från jordbruk är några av de saker som gör att Östersjön är ett av världens mest förorenade hav.

Östersjön är ett unikt och känsligt hav med ett växt- och djurliv som är speciellt anpassat till vattnets salthalt, kyla och is. I Kattegatt och Skagerak är vattnet salt, men längre in och norrut blir det sötare och sötare, vilket till stor del avgör vilka växter och djur som kan leva där.

Eftersom Östersjön dessutom är ett väldigt ungt hav är mängden arter i Östersjön relativt litet jämfört med andra hav. Det innebär att alla arter som finns i Östersjön är oerhört viktiga för att ekosystemet ska fungera.

Utbytet av vatten i Östersjön är extremt långsamt, vilket innebär att det som släpps ut i Östersjön riskerar att stanna där mycket länge.



Month	Price	Change
Mar 2018	84.70	-
Apr 2018	88.00	3.90 %
May 2018	88.00	0.00 %
Jun 2018	86.80	-1.36 %
Jul 2018	86.88	0.09 %
Aug 2018	87.50	0.71 %
Sep 2018	87.50	0.00 %
Oct 2018	91.25	4.29 %
Nov 2018	92.50	1.37 %
Dec 2018	99.17	7.21 %
Jan 2019	102.50	3.36 %
Feb 2019	102.50	0.00 %

[Export table to Excel](#)

+21 % - 1 year



## Fosforbrist bäddar för konflikt

**Fosfor är en central beståndsdel i mineralgödsel och spelar en betydande roll för att föda en växande befolkning. Fosfor är dock en ändlig resurs där tre fjärdedelar av de reserver som finns kvar kontrolleras av Marocko, en situation som riskerar att leda till motsättningar.**

Många forskare flaggar nu för att tillgång på fosfor kommer få en allt större betydelse för världspolitiken. Bristen på fosfor är inte akut men svenska forskare spår att 2033 kommer vara det år då världens produktion når sitt maximum, därefter kommer det bara att minska, skriver Forskning & Framsteg.

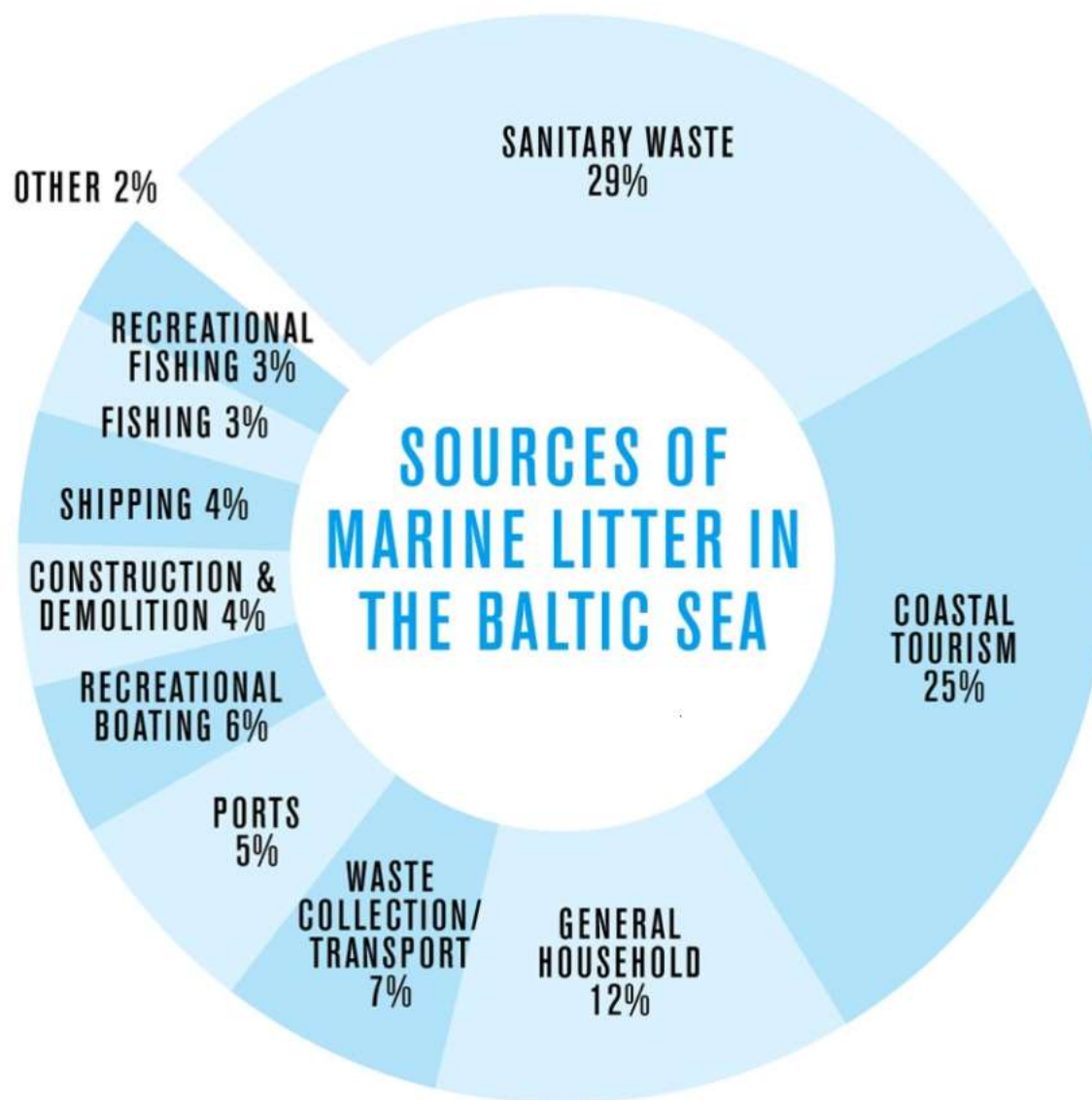


Foto: photos.com

### FÖR BILLIGT

Mineralgödsel har en viktig roll i dagens odlingssystem.

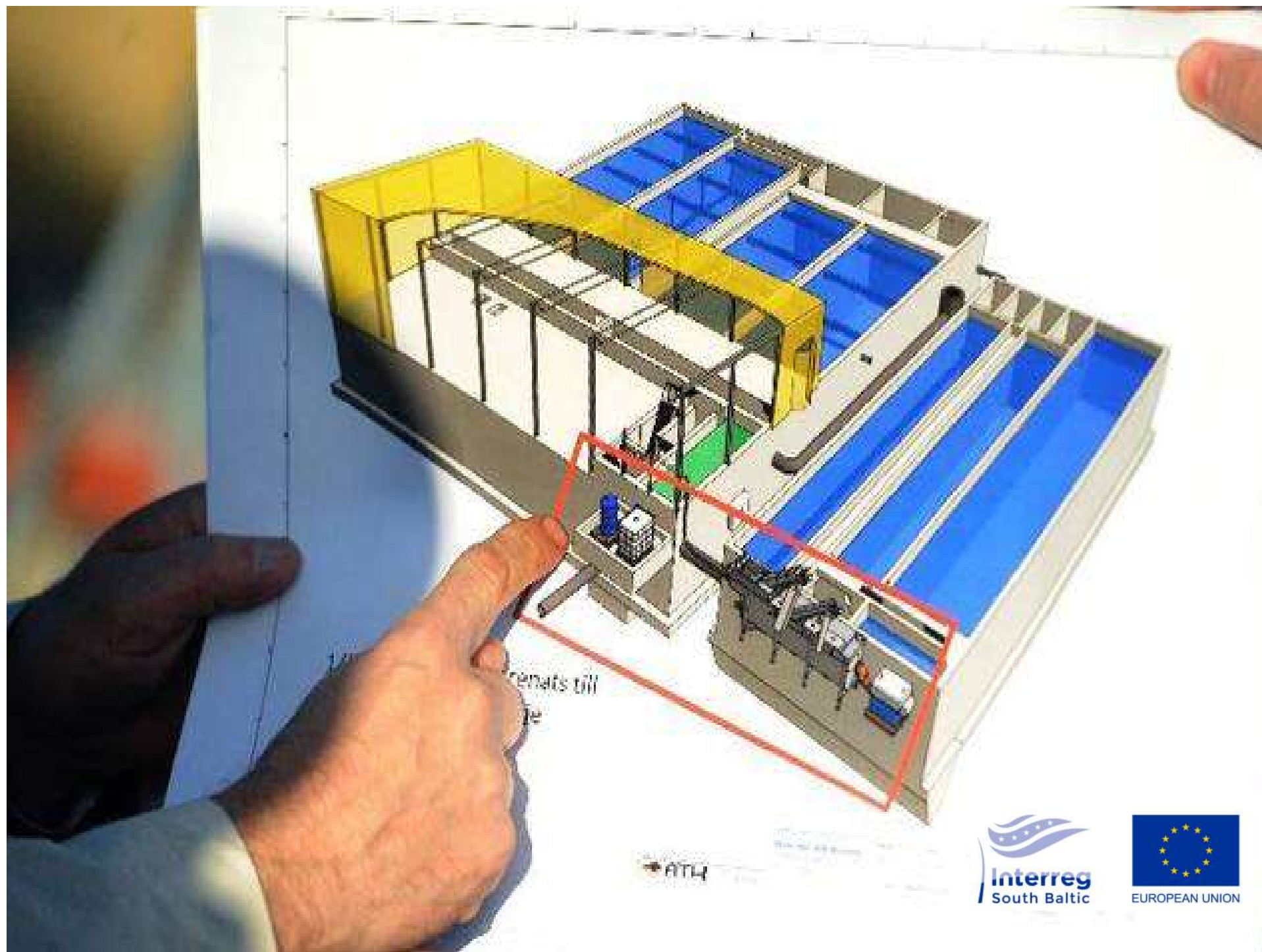
Att priset på fosfat traditionellt sett varit relativt lågt har gjort att det inte funnits några











ATH

  
Interreg  
South Baltic

  
EUROPEAN UNION







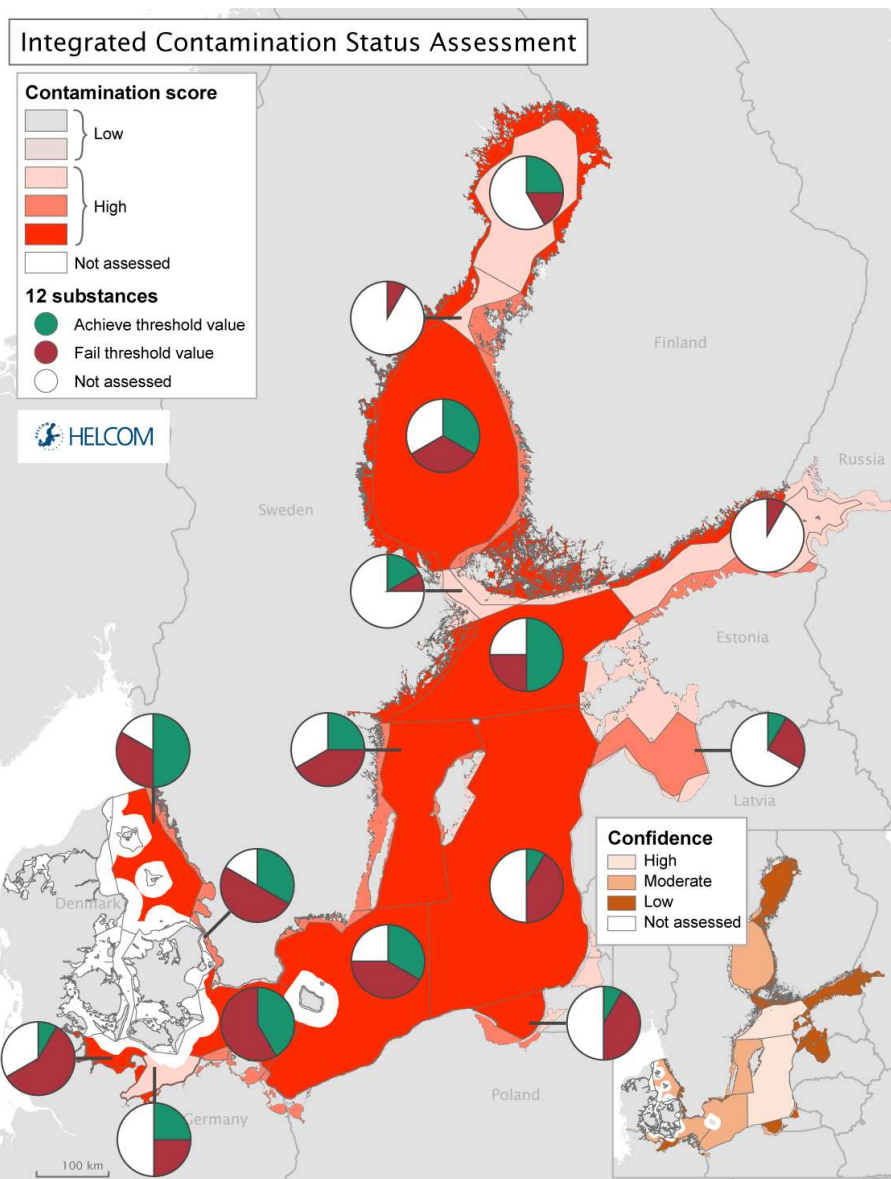


## INDICATOR LIST

Filter by:

Indicator type ▼	Baltic Sea Action Plan objective↑ ▼	Marine Strategy Framework Directive (MSFD) descriptor ▼	MSFD criteria ▼
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Water clarity	Diclofenac
Hexabromocyclododecane (HBCDD)	Metals (lead, cadmium and mercury)
Perfluorooctane sulphonate (PFOS)	Polyaromatic hydrocarbons (PAHs) and their metabolites
Polybrominated diphenyl ethers (PBDEs)	Polychlorinated biphenyls (PCBs) and dioxins and furans
Reproductive disorders: malformed embryos of amphipods	TBT and imposex
Dissolved inorganic nitrogen (DIN)	Dissolved inorganic phosphorus (DIP)
Inputs of nutrients to the subbasins	Total nitrogen (TN)
Total phosphorus (TP)	White-tailed eagle productivity
Chlorophyll-a	Cyanobacterial bloom index
Oxygen debt	Trends in arrival of new non-indigenous species
Radioactive substances: Cesium-137 in fish and surface seawater	Operational oil-spills from ships







## REVIVING BALTIC RESILIENCE



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Main page

About

Partners

Pilots

Publications

Conferences&Events

Gallery

**The 'Reviving Baltic Resilience' Project (acronym: 'RBR') is a collaborative project funded from the Interreg Southbaltic Region Programme.**

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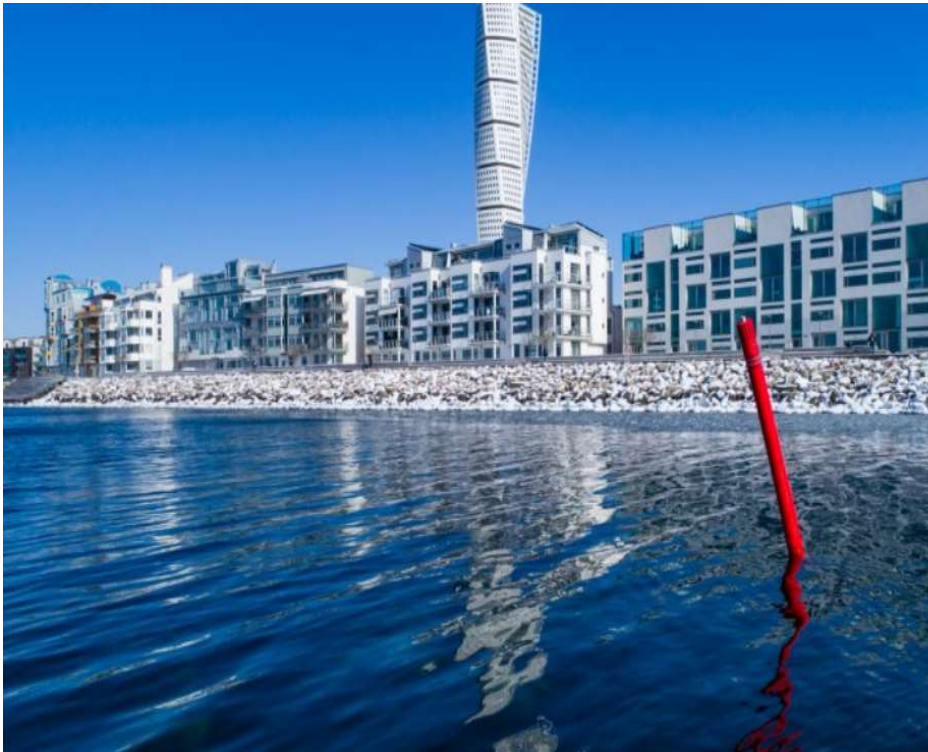
At the same time the Baltic Sea Region is one of the most innovative regions in the world when looking at new green technologies. Using this interregional potential/opportunity to solve the above mentioned common challenges is what we want to achieve in the project. By analyzing the most optimal technical solutions, conducting pilot cases and evaluating the solutions, the project will lower the amount of pollutants and undesired particles from reaching the Baltic Sea and at the same time act as a host for the proactive prevention approach through the creation of the South Baltic Proactive Resilience institute/cluster.

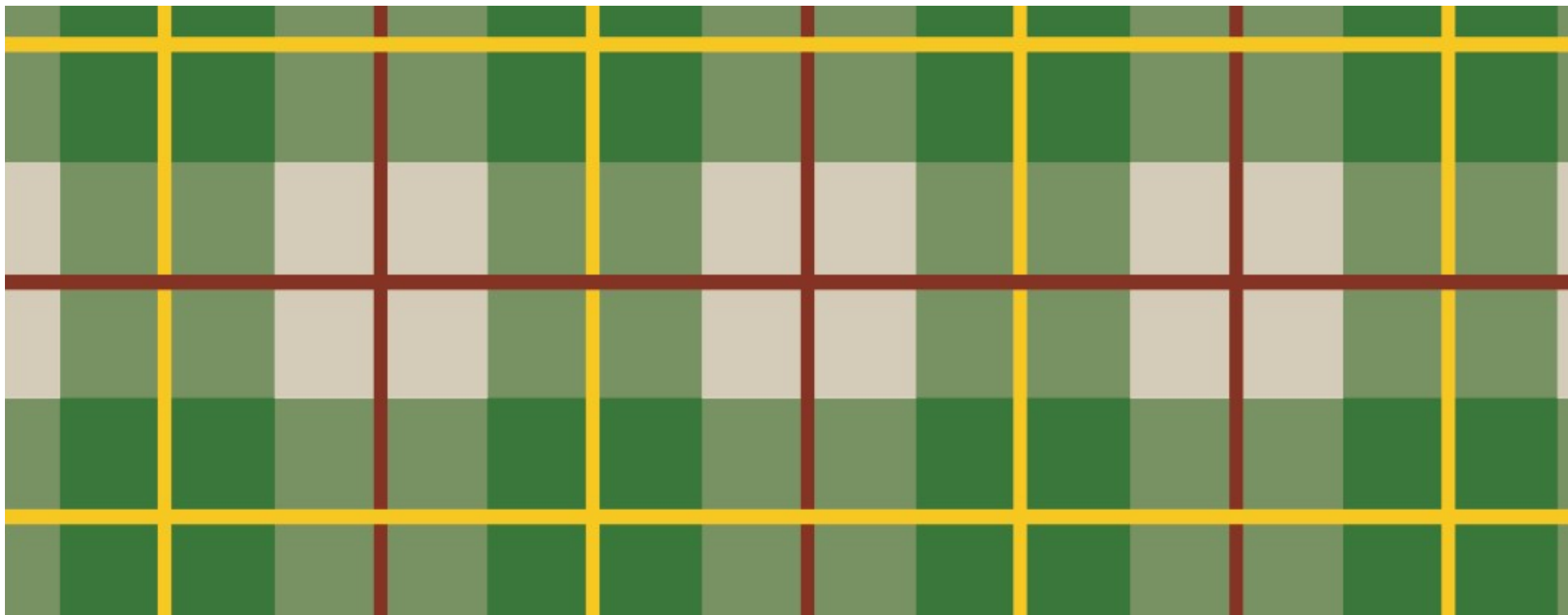




# Cooperation

- Regulations important, but not enough.
- Interregional and cross-sectorial cooperation is needed
- National strategies yes...
- ...but also interregional (WWF Strategy)
- Interregional activities and events like the 10<sup>th</sup> Annual Forum are important and make a difference.





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