

Green Port Cruise,
Venice, October 11th 2016



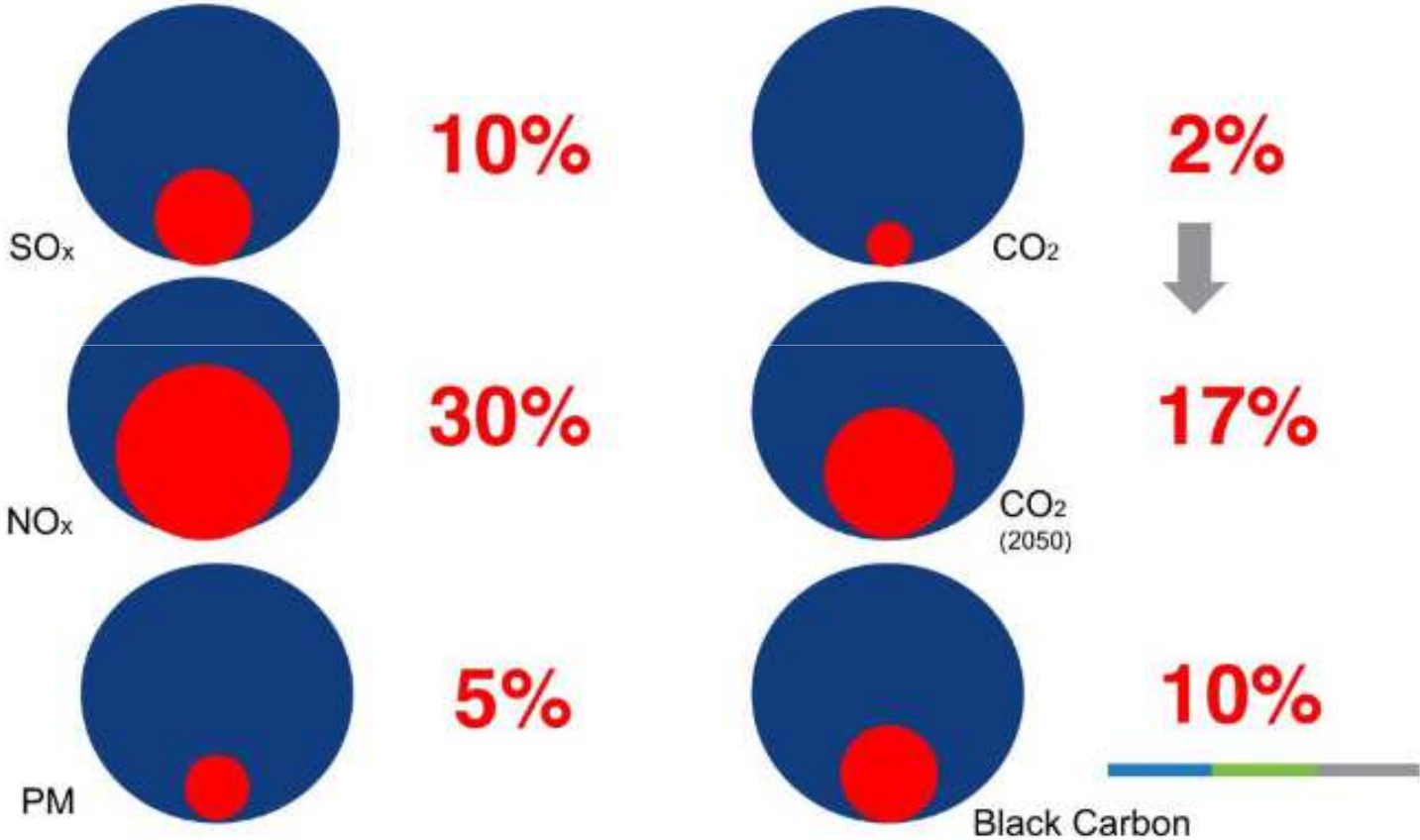
**Mind the gap!
Are northern European ports
ahead of the south in terms of
green infrastructure and policies?**

Who we are

- German Nature and Biodiversity Conservation Union
- founded in 1899
- ~ 600.000 members und funders in Germany
- 2,500 local groups and chapters
- member of umbrella organisations BirdLife Int and EEB



Shipping's share of total global emissions



Source:
International Transport Forum 2016

Why are ports affected by air pollution?

- (cruise) ports are often located in the middle or next to the city center. Due to its massive energy consumption this is comparable to a small power plant without a filter
- example Hamburg: 19% of PM10 and 38% of NOx stem from port activities!
- More ships = more pollution (cruise ship industry boom)

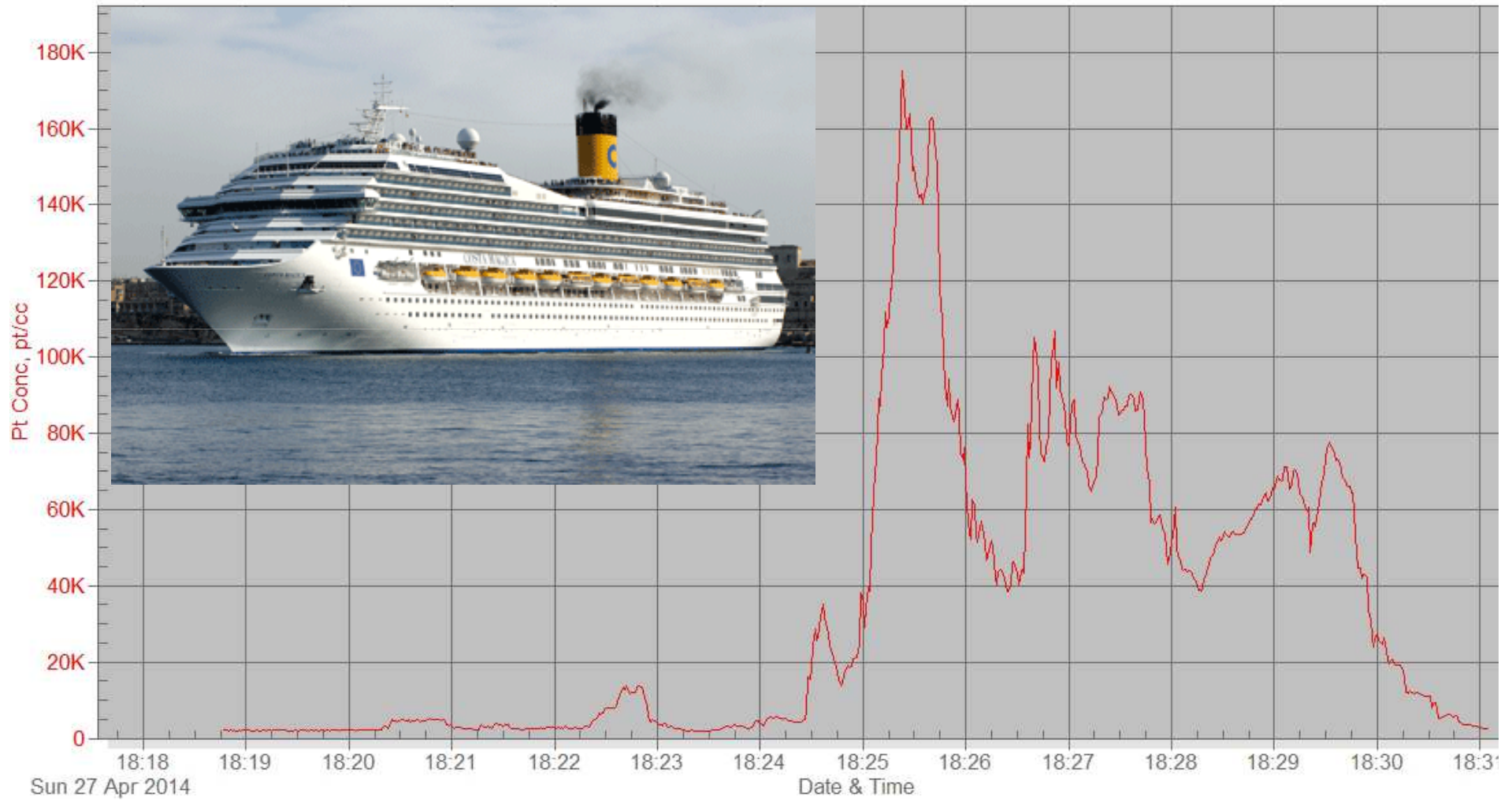


NABU air pollution measurements at various cruise terminals

- we found particle concentrations well above 500,000 ppt/ccm
 - cities background concentrations 5,000 ppt/ccm
 - clean air would be 1,000 -2,000.
 - note well: we are referring to particle number, not mass! As this is a much better indicator for health risks
- >> all port cities will surely detect the port as a main polluter (all port related activities)

Air pollution measurements (Venice 2014)

Costa_Magica
S_Elena



Cruise ship emissions: Peanuts?

NABU-Calculatation shows:

1 cruise ships emitts as much

SO₂ as 370.000.000 cars

PM as 1.050.000 cars

NO_x as 420.000 cars

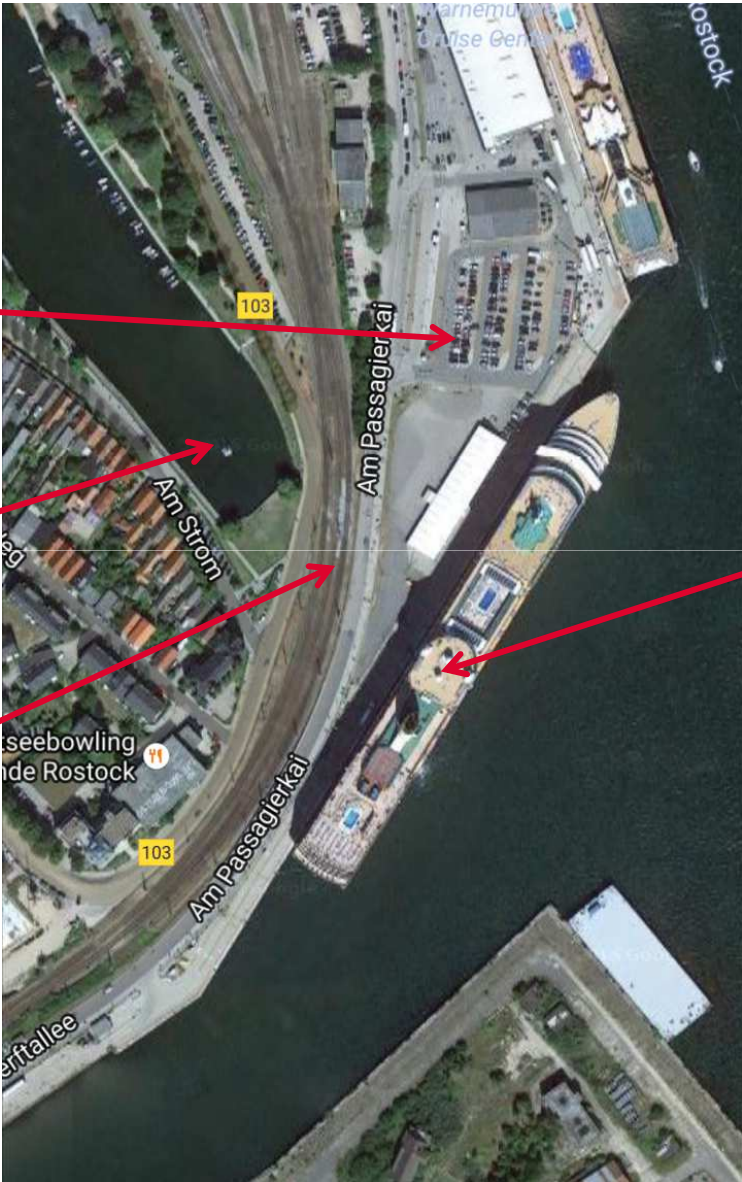


Why do we allow ships to pollute that much?

Road
Diesel
0,001% S

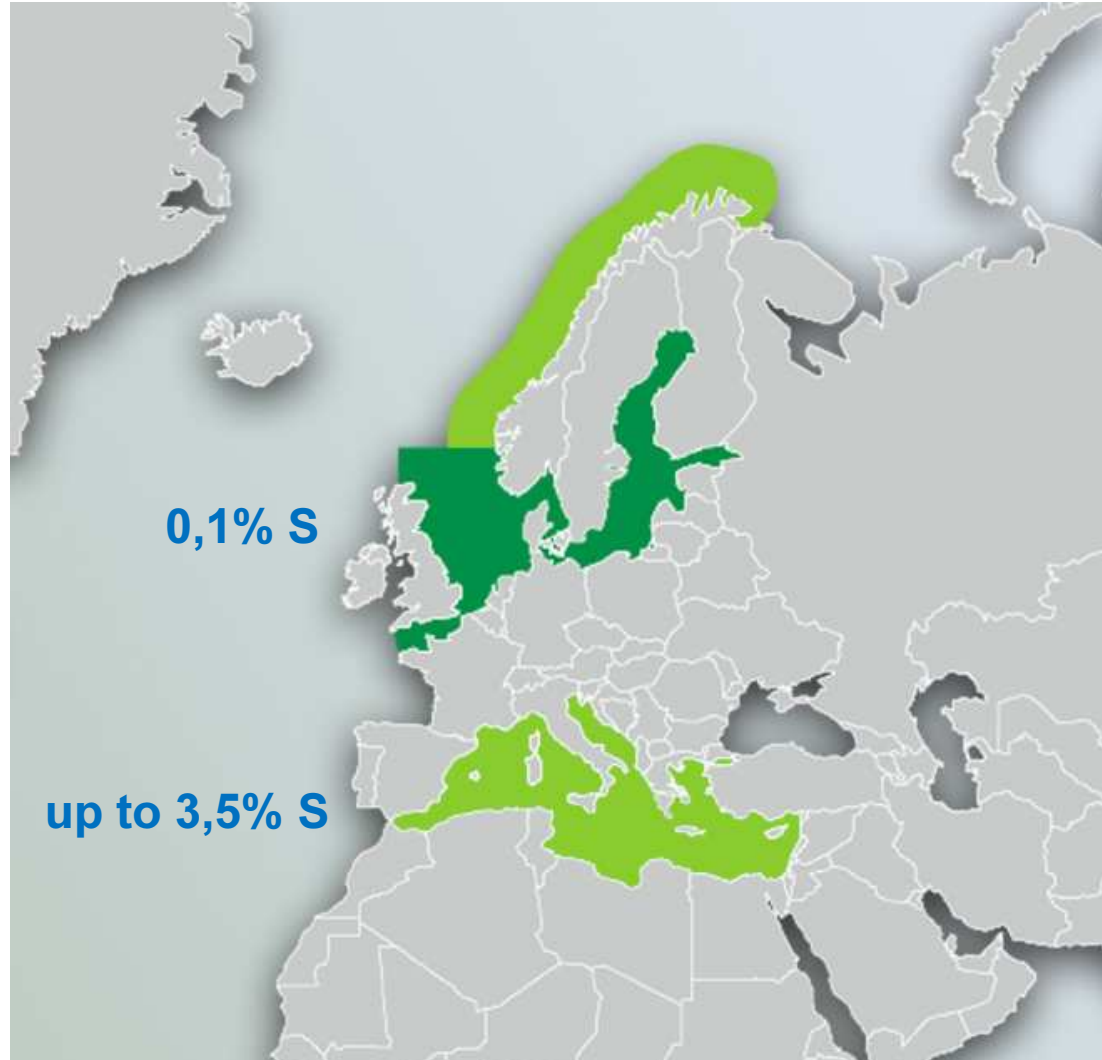
Inland
waterways
Diesel
0,001% S

Off road
Diesel
0,001% S



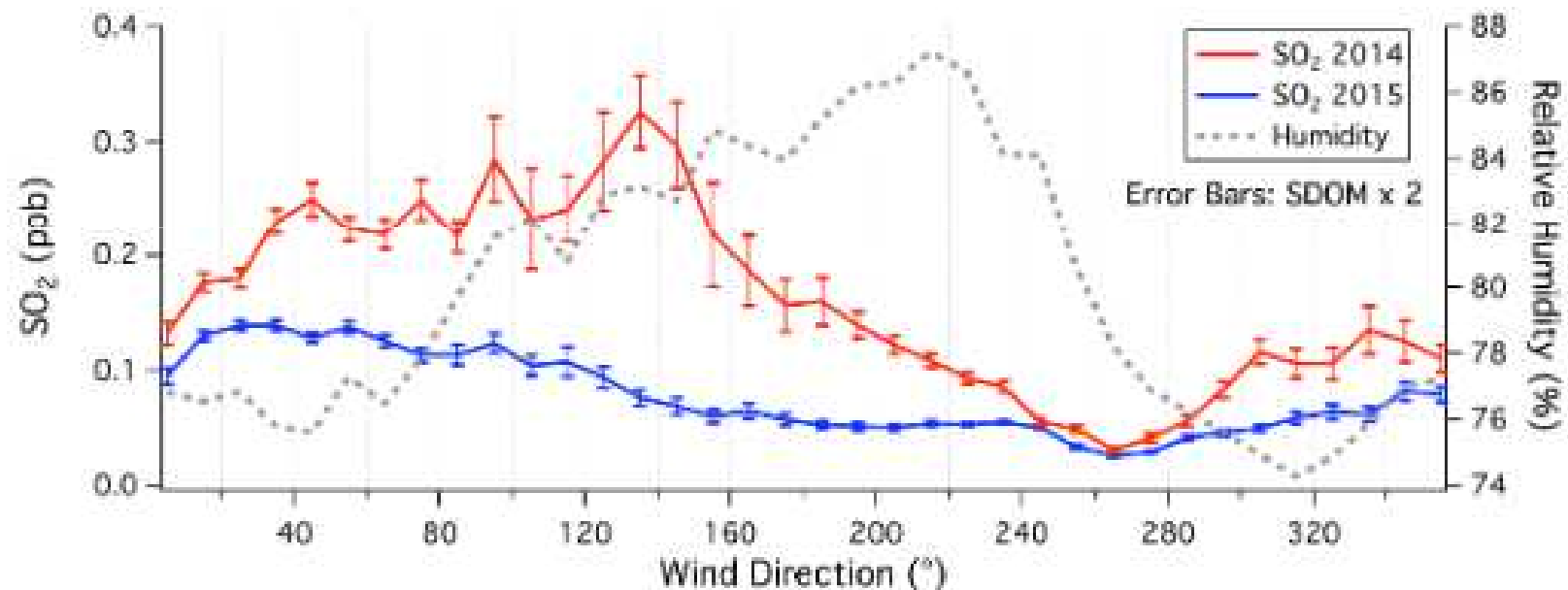
Ships 0,1%
- 3,5 % S

Why do we allow ships to pollute more in Southern Europe than in Northern Europe?



NABU study: Impacts of 2015 SECA marine fuel sulphur limits

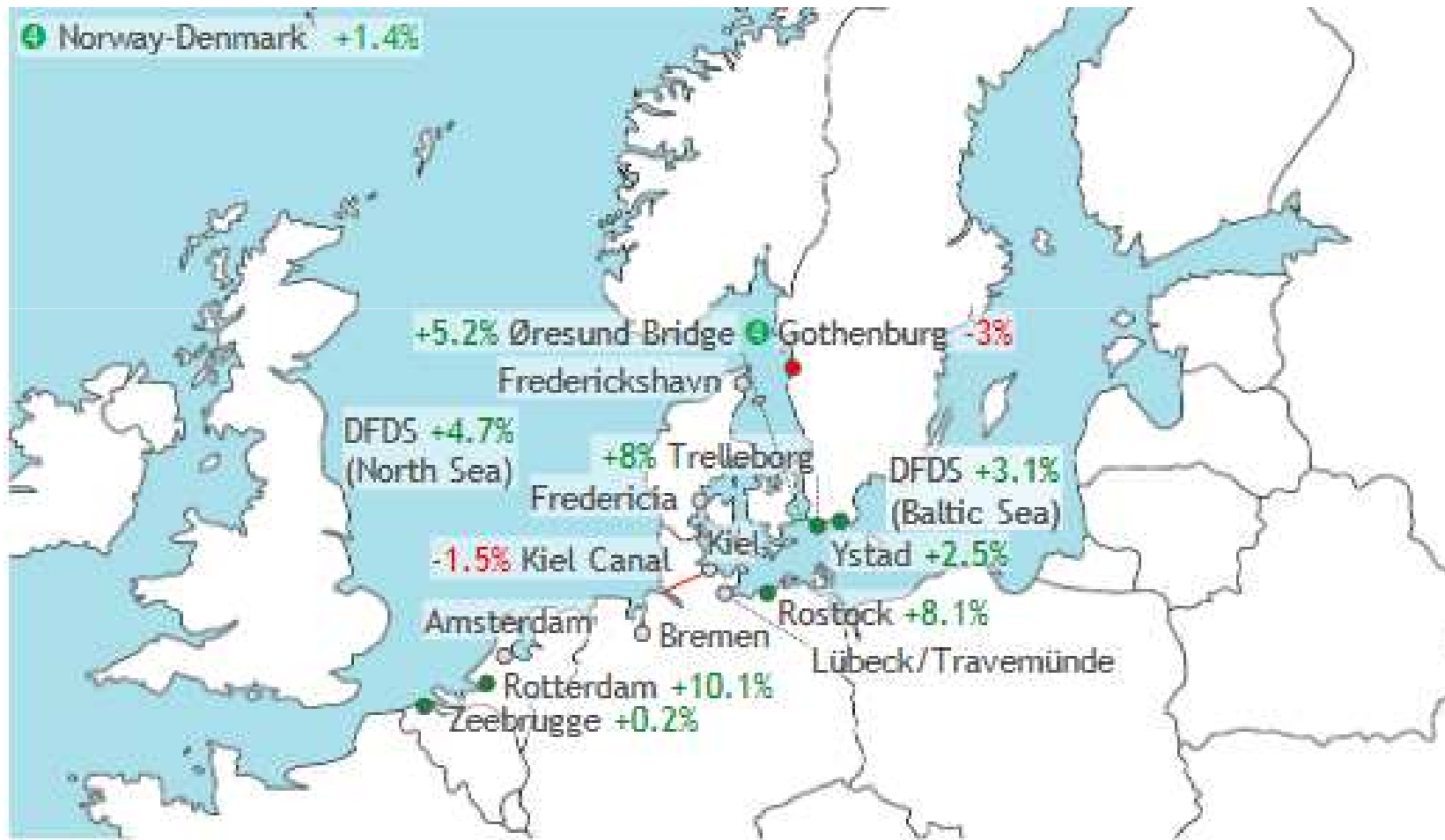
SO₂ concentration changes 2014-2015 e.g. in Hoeck van Holland, Plymouth, ...



Note: Averaged SO₂ mixing ratio and relative humidity vs wind direction for year 2014 and 2015. Error bars on SO₂ indicate two standard errors. Elevated humidity marks the marine-influenced wind sector to be between about 60 and 260°.

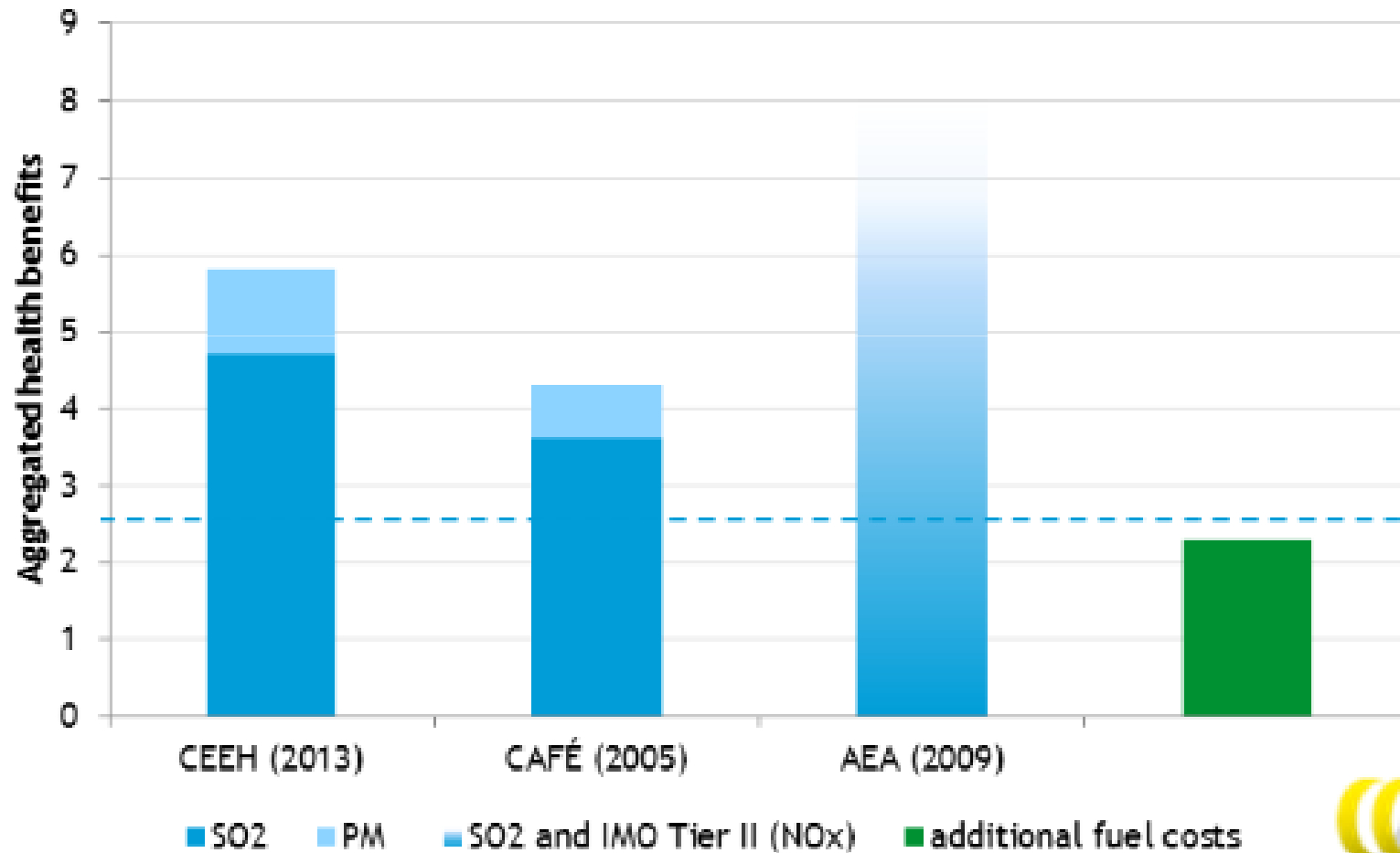
NABU study: Impacts of 2015 SECA marine fuel sulphur limits

Change in RoRo volume 2015/2014: Statistics for crossings between Western Europe and Scandinavia



NABU study: Impacts of 2015 SECA marine fuel sulphur limits

Calculated health benefits and additional fuel costs (billion Euros)



Next stop: NECA?

[<< Back to the news list](#)

HELCOM COUNTRIES SUBMIT BALTIC SEA NECA APPLICATION TO IMO

Category: Press release
17/06/2016 14:27

Final stage for HELCOM in making the Baltic Sea area cleaner from Nitrogen Oxide (NOx) emissions from ships was reached in the Heads of Delegation meeting in Laulasmaa, Estonia this week. The final decision on whether the Baltic Sea becomes a NOx Emission Control Area (NECA) is in the hands of the International Maritime Organization (IMO). According to estimates, Baltic Sea NECA has potential to reduce the annual nitrogen input cost-efficiently and significantly – around 7 kilotons – to the Baltic Sea.



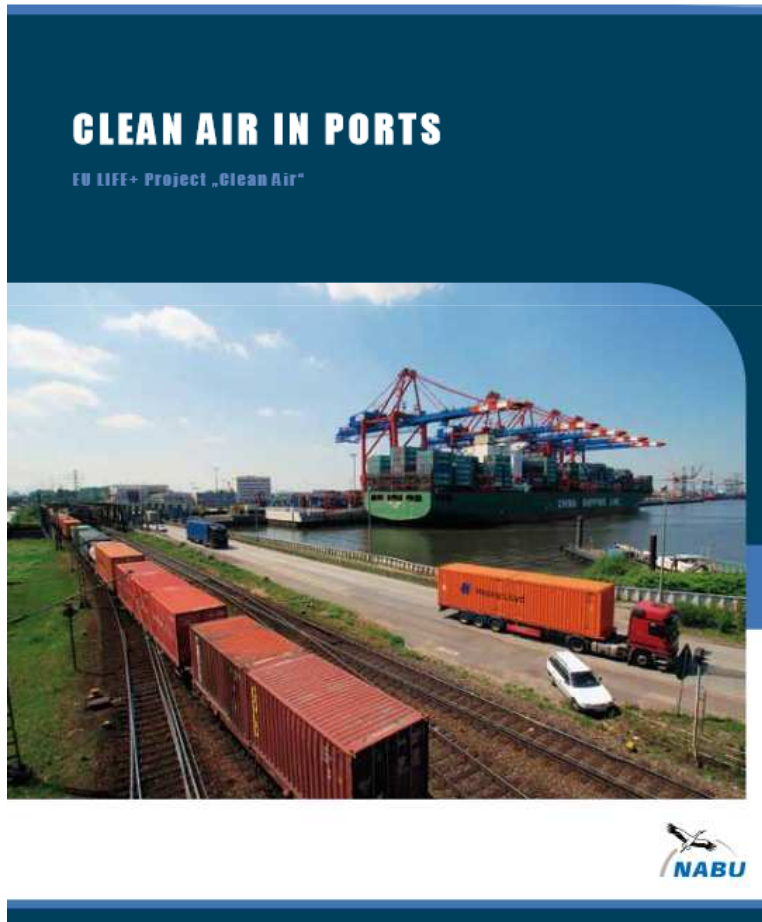
NOx emissions from shipping is a major source of airborne deposition of nitrogen, aggravating the serious eutrophication of the Baltic Sea.

RELATED

[Meeting site](#)

HELCOM agrees on a Roadmap for a Baltic Sea NECA - Press release 10 March 2016

NABU project: Clean air in ports



CONTENT

Introduction	1	4.3. Non-Road Mobile Machinery: Cranes, Straddle Carriers and Construction Machinery	23
1. Air Pollution in Ports – What are the Harmful Pollutants?	3	4.3.1. Efficient Coordination of Loading and Unloading	
2. Effects of Air Pollution	5	4.3.2. Diesel Particulate Filters	
2.1. Health Effects of Air Pollution		4.3.3. Gas-Fuelled Forklifts	
2.2. Environmental Damage Caused by Air Pollution		4.3.4. Fuel Cells	
2.3. Climate Change and Air Pollution		4.3.5. Electric Machinery	
2.4. Buildings and Air Pollution		4.3.6. Hybrid-Fuel/Electric Machinery	
3. Emissions in Ports	7	4.3.7. Hydrogen Injection	
3.1. Who Are the Emitters in Ports?		4.3.8. Regenerative Braking Gantry Cranes	
3.2. How Much Do Ports Emit?		4.4. Rail Transport	26
3.3. Air Quality Regulations		4.4.1. Diesel Particulate Filters	
3.4. Specific Regulations for Air Quality in Ports		4.4.2. (Diesel)Electric Drives	
4. Emission Reduction Measures for Single Emitters	11	4.4.3. Light Cargo Wagons	
4.1. Water Transport: Inland and Ocean-Going Vessels		4.4.4. Emulsified Fuel	
4.1.1. Eco-Sailing		4.4.5. Locomotives with Idling Control	
4.1.2. Slow Steaming		4.5. Measures for Port Authorities, Terminal Operators and Industries	28
4.1.3. Virtual Arrival		4.5.1. Energy Efficiency	
4.1.4. Use of Low-Sulphur Fuel While at Berth		4.5.2. Renewable Energy	
4.1.5. Diesel Particulate Filters		4.5.3. Raising Awareness and Training Employees	
4.1.6. Selective Catalytic Reduction		4.5.4. In-Port Low-Emission Traffic	
4.1.7. Fuel Cells		4.5.5. Ship Indices	
4.1.8. Hybrid Ships		4.5.6. Electrical Equipment Wherever Feasible	
4.1.9. Ships Running on Batteries		4.5.7. Power Supply from Alternative Sources	
4.1.10. Liquefied Natural Gas		4.5.8. Energy-Efficient Buildings	
4.1.11. Methanol		4.5.9. Lighting	
4.1.12. Ships with a Plug for an Onshore Power Supply		4.5.10. External Power Supply for Ships in Port	
4.1.13. Ships with Wind Propulsion		4.5.11. External Exhaust Treatment	
4.1.14. Exhaust Gas Recirculation		5. Port Policy	32
4.1.15. Scrubbers		5.1. Environmental Port Management	
4.2. Road Transport	19	5.1.1. The World Port Climate Initiative	
4.2.1. Efficient Coordination of Arrival and Departure		5.1.2. EcoPorts	
4.2.2. Driver Training		5.1.3. GreenPort Congress	
4.2.3. Ban on Polluting Trucks		5.1.4. ESPO Green Guide	
4.2.4. Shifting Cargo from the Road to Waterways		5.2. Emission Reduction Strategies for Ports	
4.2.5. Exhaust Treatment Systems		5.3. Including Ports in Low-Emission Zones	
4.2.6. Alternative Fuels		5.4. Economic Instruments	
4.2.7. Electric Drives		5.4.1. Incentives for Modal Shift	
4.2.8. Fuel Cells		5.4.2. Ecological Port Fees for Cleaner Ships	
4.2.9. Electrification of the Track		5.4.3. Environmental Port Index	
		Summary and Outlook	36
		Annex A: Overview Actors and Actions	
		Annex B: Glossary	
		Annex C: Contacts	

Best practise in ports: LNG, OPS...

- Onshore Power Supply (OPS): e.g. **Hamburg** or **Kiel** (Germany) and **Oslo** (Norway) for Color Line ferry service. OPS also in **Gothenburg**, **Antwerp**, **Rotterdam**
 - The **Antwerp** Port Authority supplies all of its 21 tugboats with OPS
 - LNG: clearly is an advantage regarding air pollution but methane slip has to be prevented
- >> Viking Grace passenger ferry in Scandinavia (including Barge in **Stockholm**)
- >> LNG Power Barge in **Hamburg** for cruise ships

Best practise in ports: Power supply from alternative sources

Port of Rotterdam: wind turbine capacity of 200 MW installed in the area of the port

Hamburg Port Authority: eight wind turbines with a total of 25.4 MW within the harbour area. Another six turbines are in the planning process.

Port of Antwerp has 15 wind turbines on its left bank. On the right bank, the installed wind power capacity is around 45 MW.

Solar panels on some of the **Hamburger** Hafen und Logistik AG (HHLA) buildings. HHLA runs the third largest solar capacity in the city of Hamburg and produces more than 550,000 kWh of electricity a year.

Best practise in ports: Economic instruments

Environmental port fees or discounts for cleaner ships e.g. in

- Hamburg (Germany)
- Turku (Finland)
- Gothenburg and Stockholm (Sweden)



Excursion: Ships from public authorities as first movers

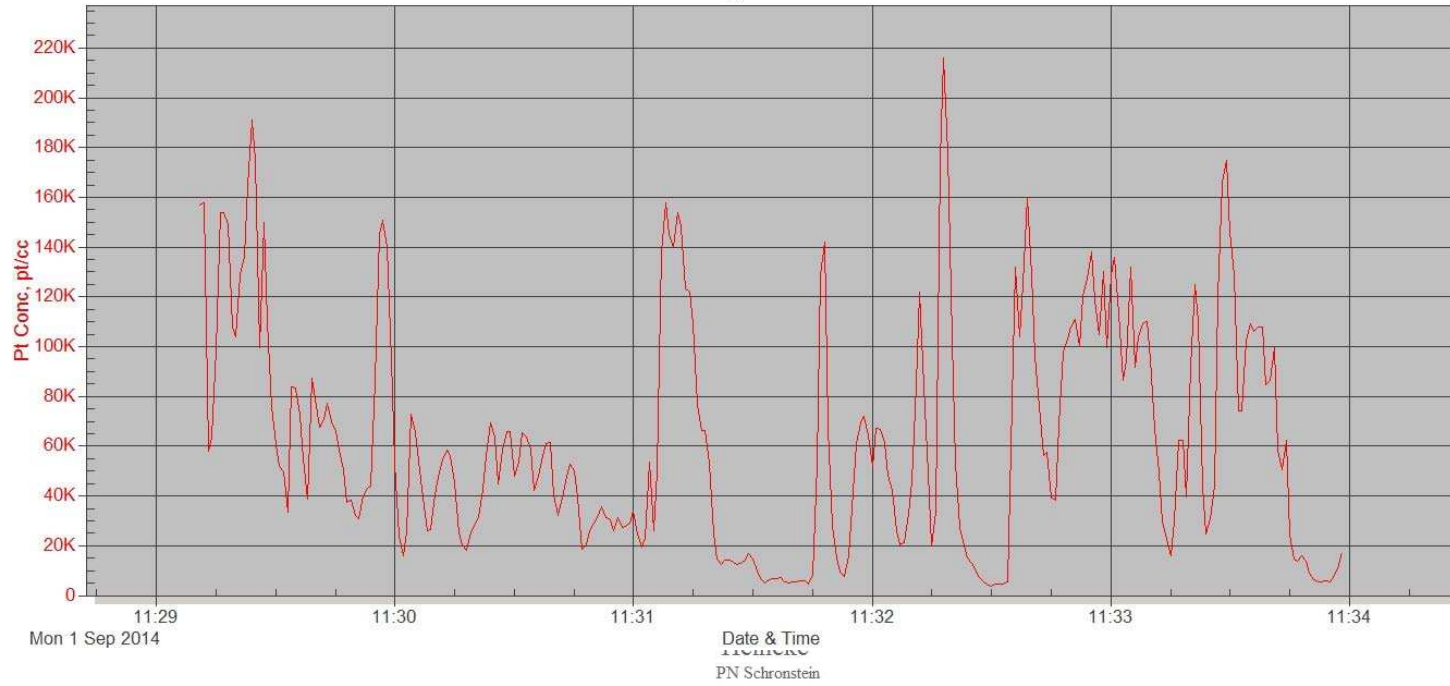


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NABU measurements at the port of Bremerhaven

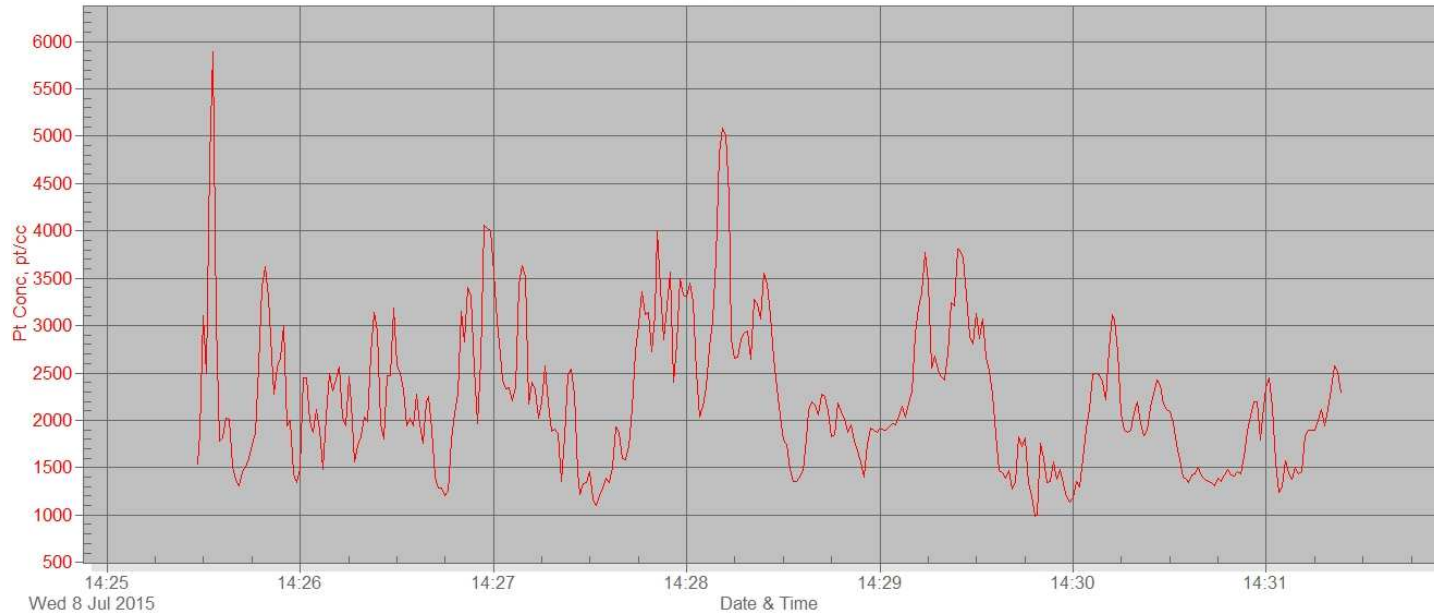


BMBF Heincke
Bergen Port



Mon 1 Sep 2014

Date & Time
PN Schronstein



Wed 8 Jul 2015

Date & Time

Hamburg Port Authority – modernise the citie's ship fleet

- New ships with emission abatement technologies
- retrofit of existing ships

BÜRGERSCHAFT

DER FREIEN UND HANSESTADT HAMBURG

21. Wahlperiode

Drucksache **21/4064**

13.04.16

Antrag

der Abgeordneten Dr. Anjes Tjarks, Martin Bill, René Gögge, Farid Müller,
Ulrike Sparr (GRÜNE) und Fraktion

und

der Abgeordneten Hansjörg Schmidt, Monika Schaal, Dorothee Martin,
Joachim Seeler, Arno Münster, Birte Gutzki-Heitmann, Karl Schwinke,
Wolfgang Rose, Hauke Wagner (SPD) und Fraktion

Betr.: Mit gutem Beispiel vorangehen – Städtische Schiffsflotte modernisieren

Der Senat wird ersucht,

1. darauf hinzuwirken, dass im Rahmen von Neuanschaffungen die städtischen Schiffe an der Hauptmaschine mit modernen und emissionsarmen Schiffsantrieben sowie Filtertechniken ausgerüstet werden, um den Ausstoß von Kohlendioxid, Stickoxid, Schwefeldioxid und Rußpartikeln zu minimieren,
2. darauf hinzuwirken, dass im Rahmen der Fortentwicklung der Flotte aktiv die Forschung und Entwicklung von emissionsarmen Antriebstechnologien im jeweiligen Schiffssegment gefördert und getestet werden,
3. darauf hinzuwirken, dass die vorhandenen Schiffe der städtischen Flotte, soweit technisch möglich und wirtschaftlich vertretbar, sukzessive analog der Vorgaben für Neuanschaffungen umgerüstet werden und
4. darauf hinzuwirken, dass die HPA fortlaufend in ihren Nachhaltigkeitsberichten über die entsprechenden Neuanschaffungen, die Fortschritte bei der Umsetzung umweltfreundlicher Technologien sowie weiteren Untersuchungs- und Entwicklungsbedarf berichtet.

North vs South?

Activities in the North by far not sufficient, but the South is lagging behind!

>> Health benefits

>> Climate benefits

>> No equal level playing field

Closing the gap: Clean Cruise Ship Network in the Mediterranean

- Italy
- Spain
- France
- Malta
- Croatia
- Greece

Our goals:

- SECA Mediterranean Sea
- Clean(er) ports
- Clean(er) (Cruise) Ships: Low sulphur fuels, DPF, SCR-Catalyst or LNG (infrastructure)



Thank you for your attention



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