



CLRTAP 51 WGSR (Agenda Item 4) Information Sharing on the implementation of the Convention

Examples of EU experience The importance of regulating fuel quality

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Rationale for measures on fuel quality

- Part of the CLRTAP protocols
- Immediate reduction of emissions of matter contained in fuels (fly-ash, PM, sulphur, heavy metals such as Pb,..)
- Cost-effectiveness vs. end-of-pipe abatement
- Enables cleaner combustion also using additional advanced end-off pipe abatement techniques (low NOx burning, catalytic converters, and PM filters)
- Staged approach of introduction allows to manage costs in industry, energy production, and households
- Scope for improvements widening (mobile sources including shipping, small scale combustion, ...)

Stationary combustion (EU standards)

Heavy fuel oil

S content not more than 1.00% unless installation covered by LCP/IED (since 2003)

Gas oil

S not more than 0.10% (since 2008)

Solid recovered fuels (produced from non-hazardous waste)

EN 15359:2011 classification system (5 classes) based on net calorific value, chlorine and mercury content

Other fuels

National standards apply for solid fuels used in various applications; small, medium and large scale

Others:

Exceptions for research, military, outermost regions, ...

Liquid fuels EU standards: on-road, non-road mobile machinery, tractors, inland vessels and recreational crafts

Petrol

- S not more than 10 ppm
- Vapor pressure: less than 60 hPa (summer)
- Pb: less than 0.005 g/l

Diesel

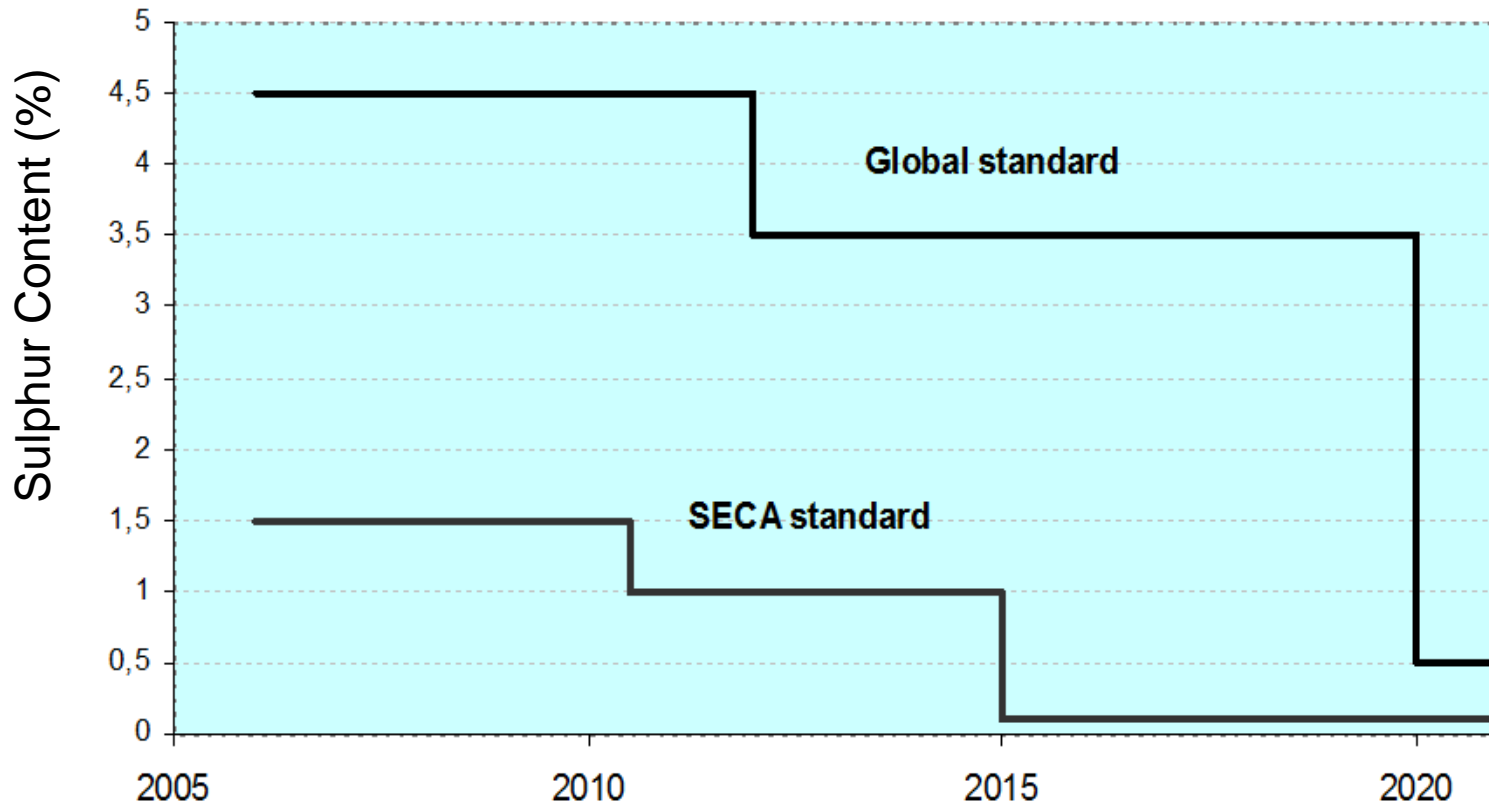
- S: not more than 10 ppm
- PAHs: less than 8 %

Other

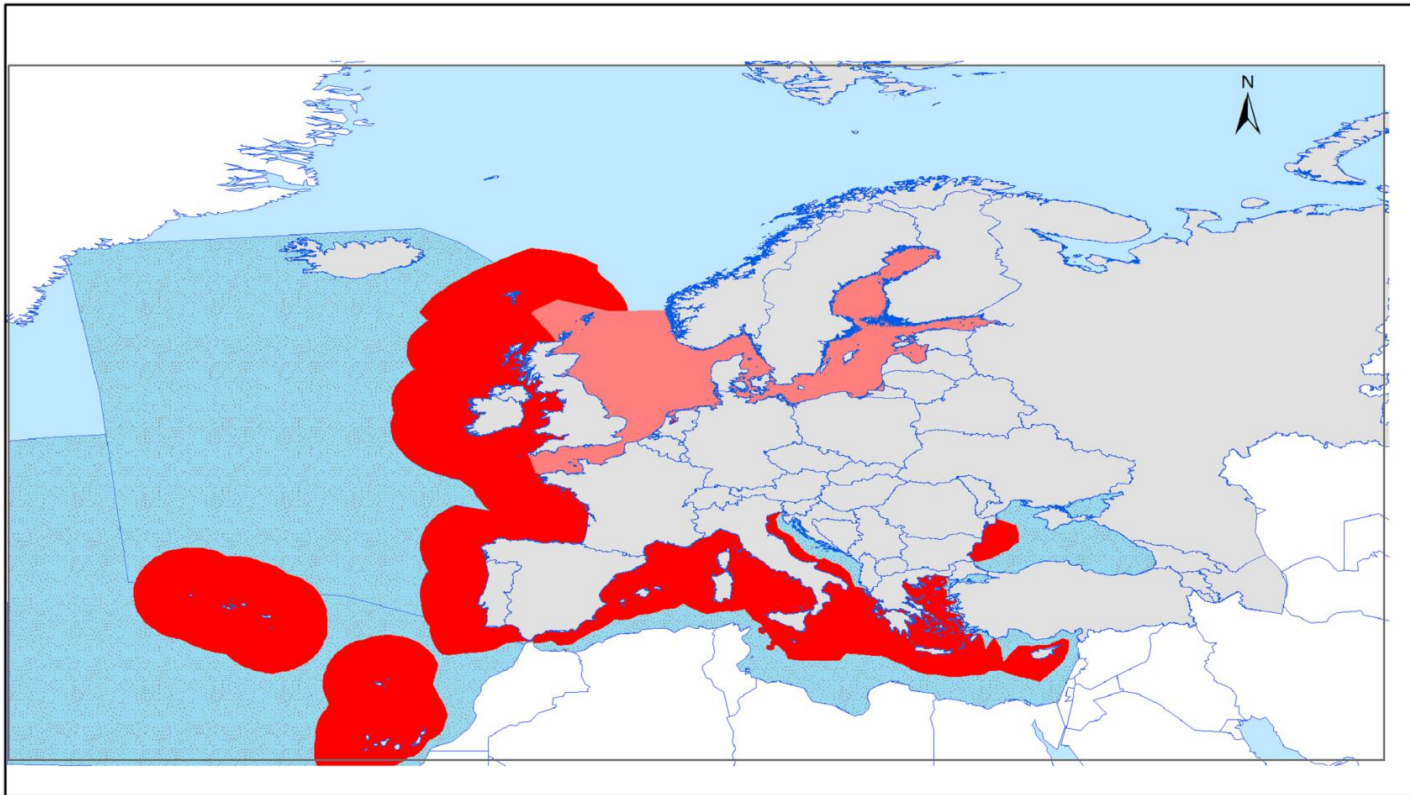
- MMT limits (2014); not more than 2 mg/l
- Biofuel sustainability criteria
- Some exceptions allowed (outermost regions, limited sales of Pb added petrol ...)

IMO 2008 amendment to MARPOL Annex VI

EU Directive on S Content of Liquid Fuels



European ECAs and EU EEZs



Source: VITO

 Existing SECAs

 EU Exclusive Economic Zones

 European Seas

 European countries

IMO 2008 amendment to MARPOL Annex VI

EU Directive on S Content of Liquid Fuels

	Projected ship emissions for 2020 without MARPOL agreement			Projected ship emissions for 2020 with 2008 MARPOL agreement		
(kt)	SO2	NOx	PM 2.5	SO2	NOx	PM 2.5
Baltic Sea	171	404	29	14	349	4
North Sea	406	946	68	32	816	13
Mediterranean	1714	2311	198	1714	2220	97

Conservatively estimated:

Benefits: € 8 - 16 billion Costs: € 0.6 - 3.7 billion

Source: Impact Assessment on the proposal amending Directive 1999/32/EC as regards the sulphur content of marine fuels (EC 2011)

EU Directive on S Content of Liquid Fuels (IMO+)

Global (all flags)

- S not more than 3.50 % from 18/6/2014
- S not more than 0.50% from 1/1 2020

Sulphur Emission Control Areas (all flags)

- S not more than 1.00% till end 2014 (from 1.5%)
- S not more than 0.10 % from 2015

Berth in EU ports (all flags)

- S not more than 0.10 % (since 2010)

Passenger ships on regular service to/from EU ports (all flags)

- S not more than 1.50 % till 2019
- S not more than 0.50% from 2020

Possibility to achieve standard through equivalent abatement equipment (scrubbers)

EU Directive on S Content of Liquid Fuels (IMO+)

Distillates (placing on the market)

- Marine diesels: S content not more than 1.50% (since 2006)
- Marine gas oil: S content not more than 0.10% (since 2008)

Conclusion

- Continuous improvements of fuel quality key to reduce air pollution emissions
- Cost-effective measures have been found in all sectors, also in the maritime shipping sector
 - Conservatively estimated benefits exceed costs manifold
 - Benefits: € 8 - 16 billion Costs: € 0.6 - 3.7 billion
- Further potential to increase the scope and application of fuel quality measures, both for land-based and maritime sources