

Europe's approach to tackling shipping emissions The Mediterranean and beyond

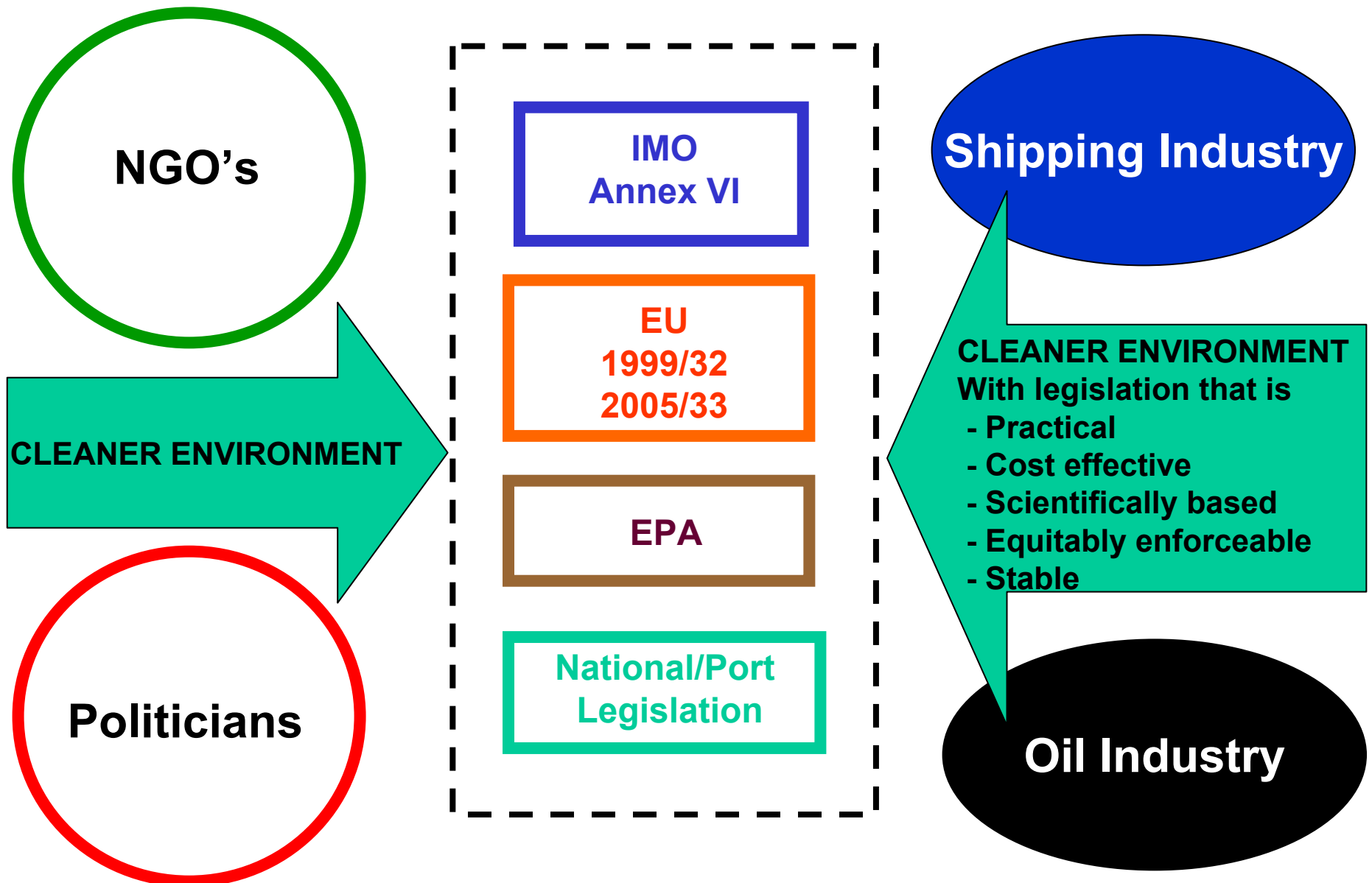
**Robin Meech
Marine and Energy Consulting Limited**

**Athens
11 May 2007**

Not if, but when will the Mediterranean become a SECA

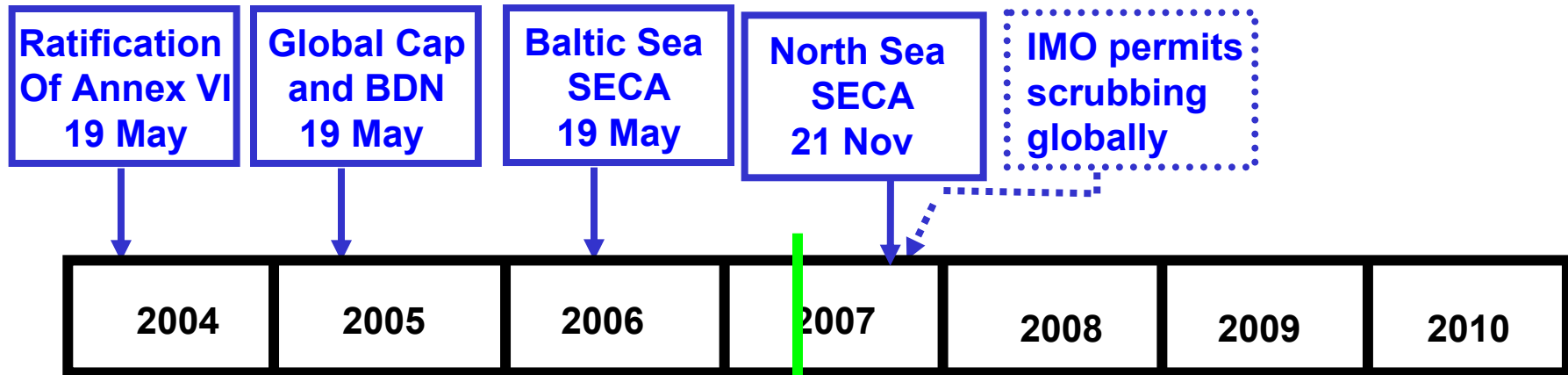


Future legislation will be subject to conflicting pressures



Currently legislation is constantly changing making it increasingly difficult to plan

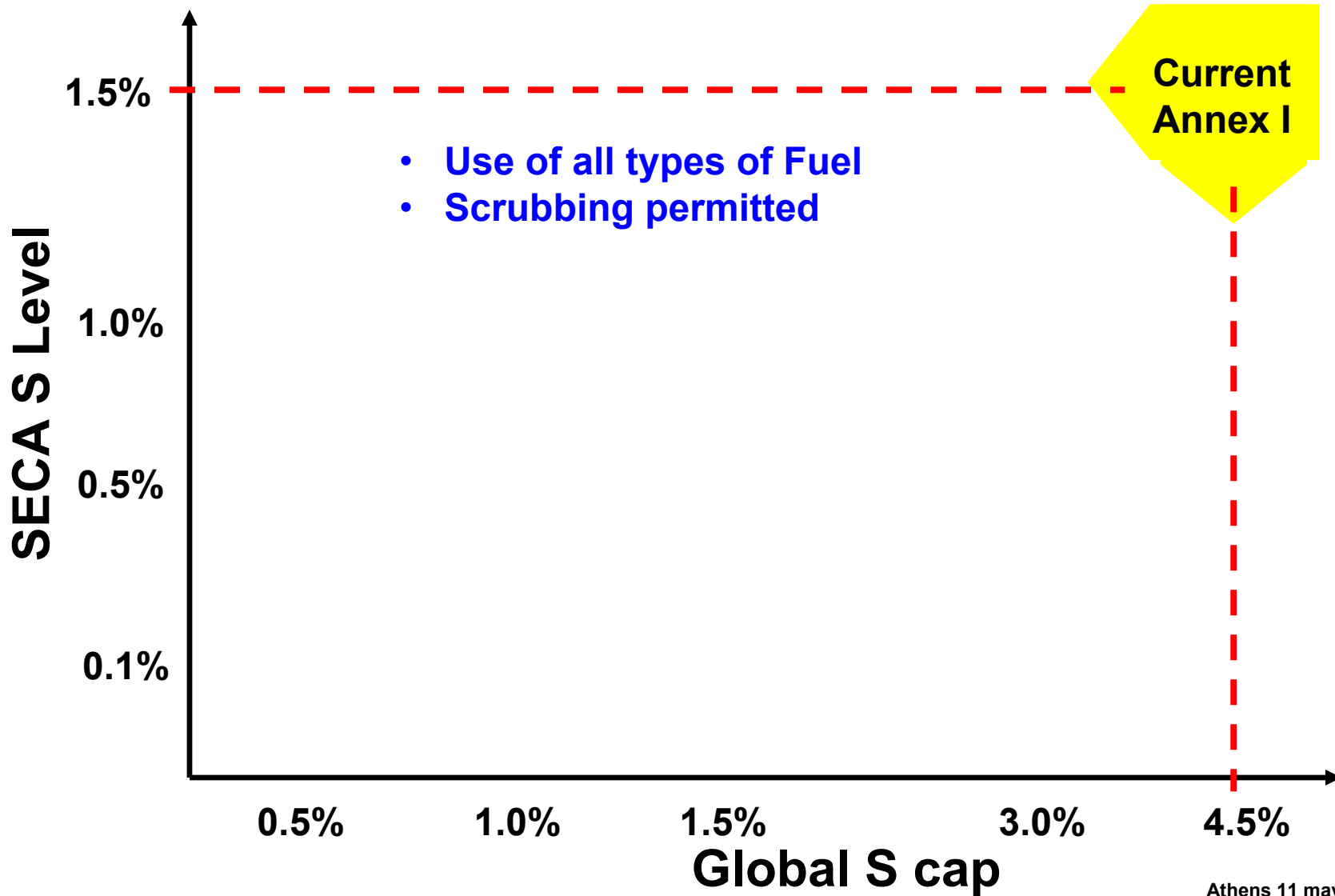
Expected implementation scenario for marine SOx emission reduction legislation in Europe



IMO is now considering six options

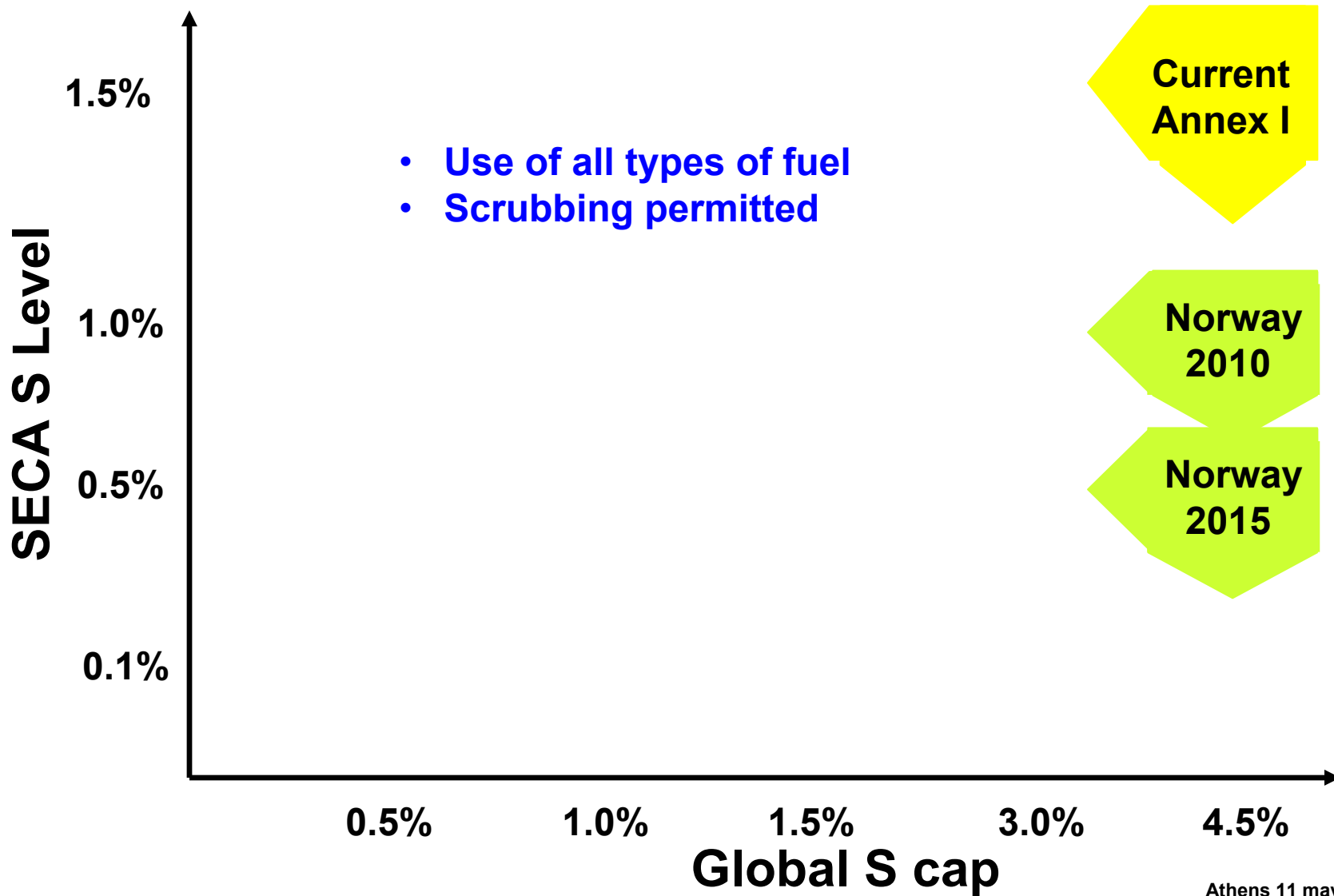
IMO option A

1



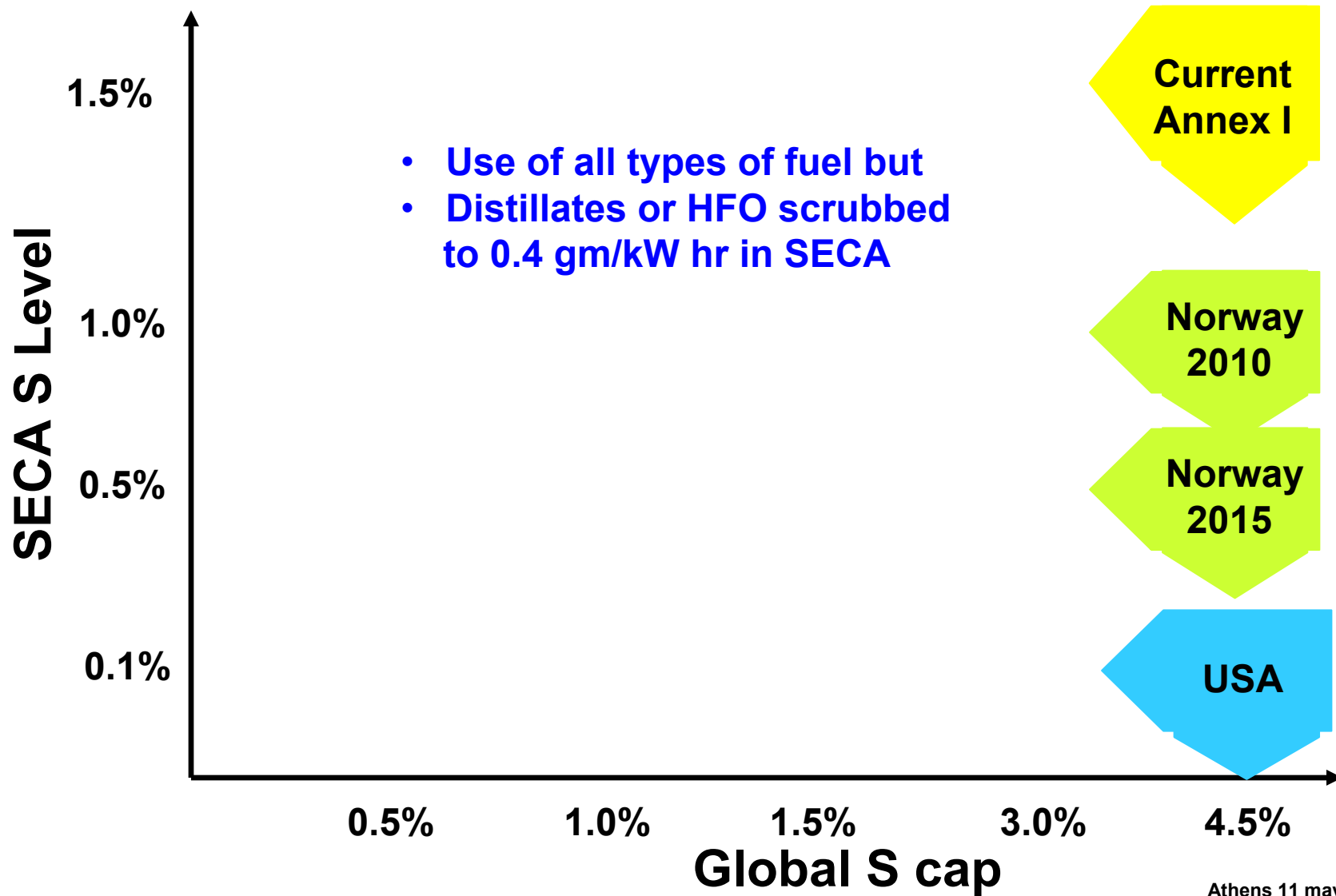
IMO option B

2



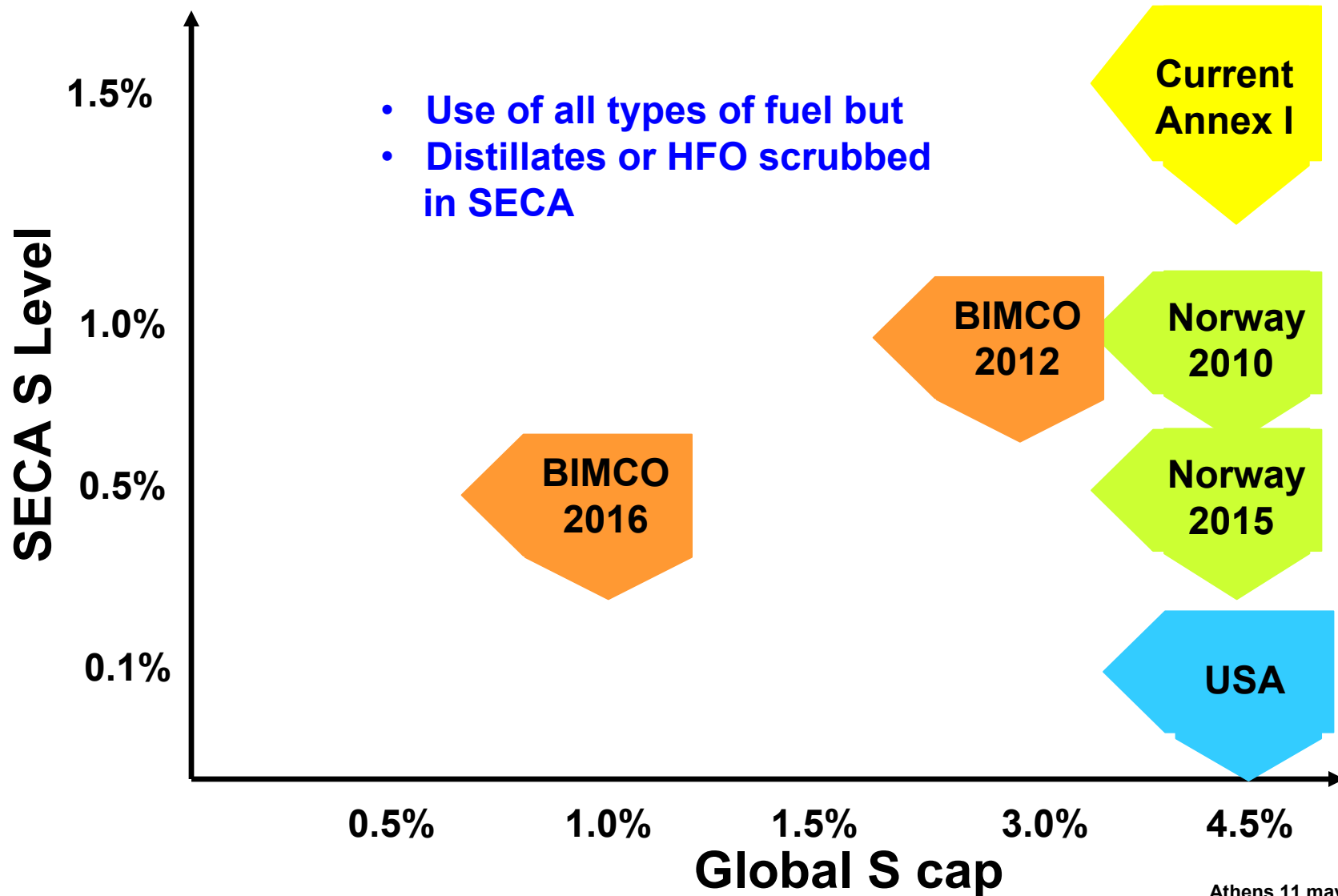
IMO option B1

3



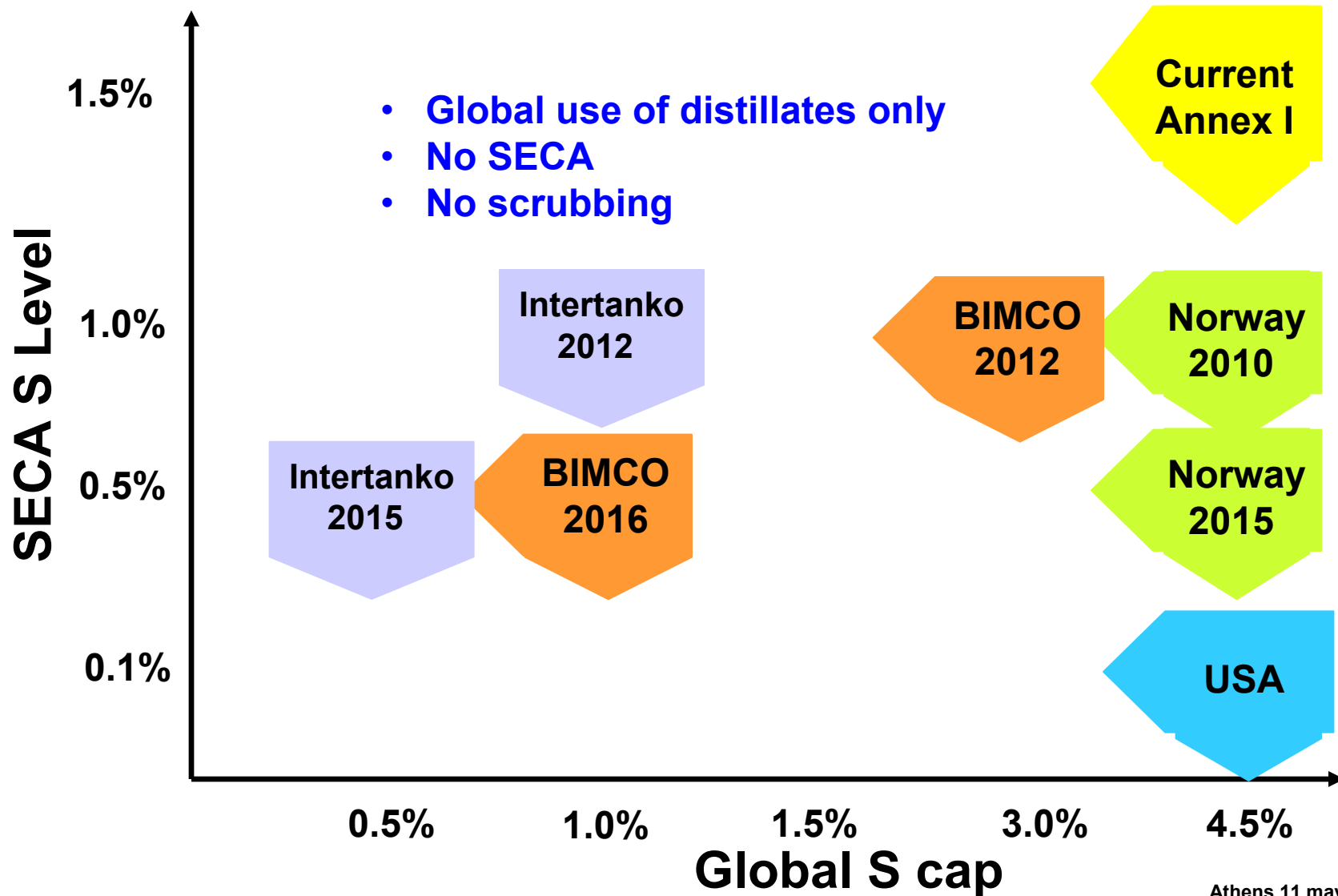
IMO option B2

4



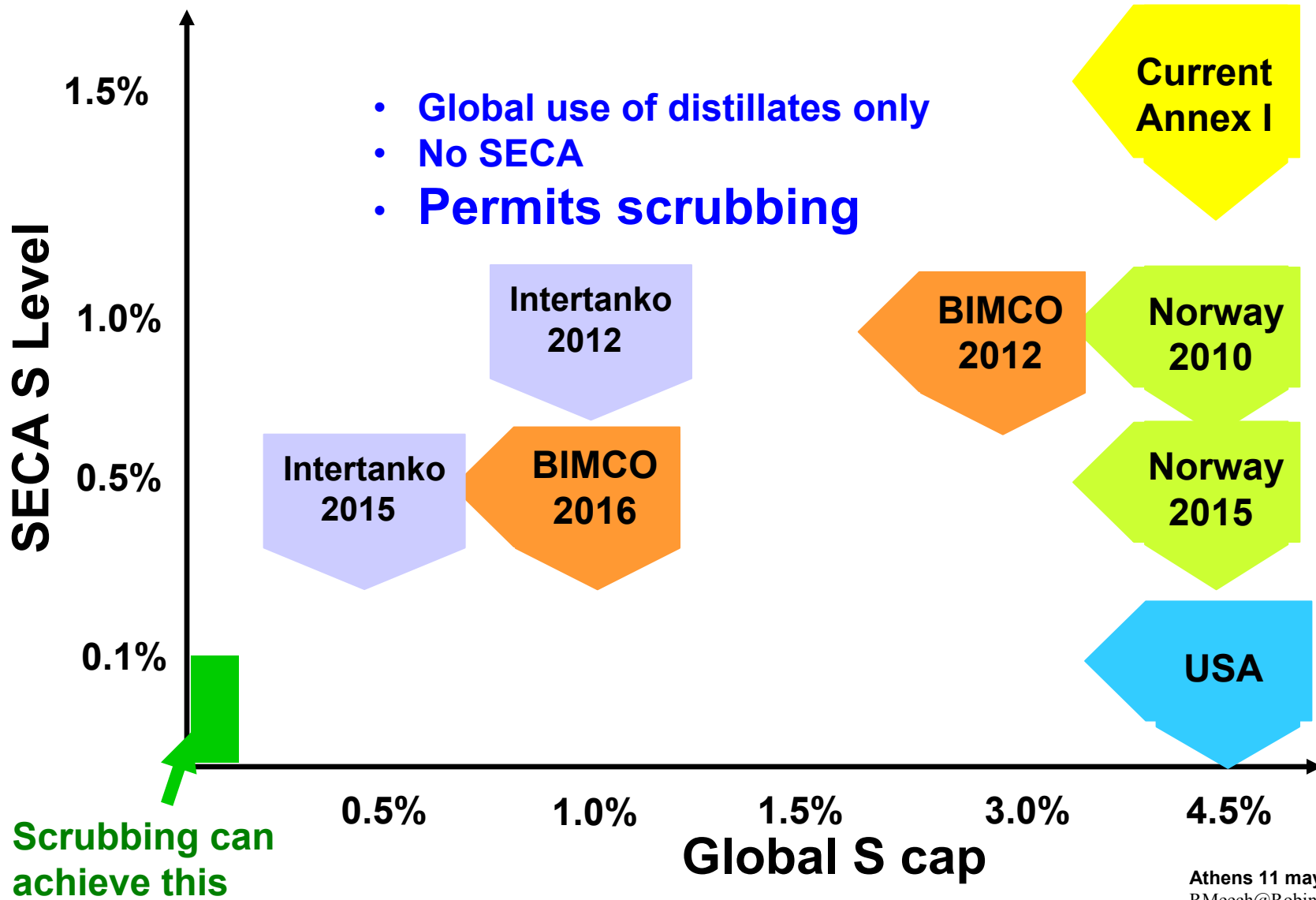
IMO option C

5



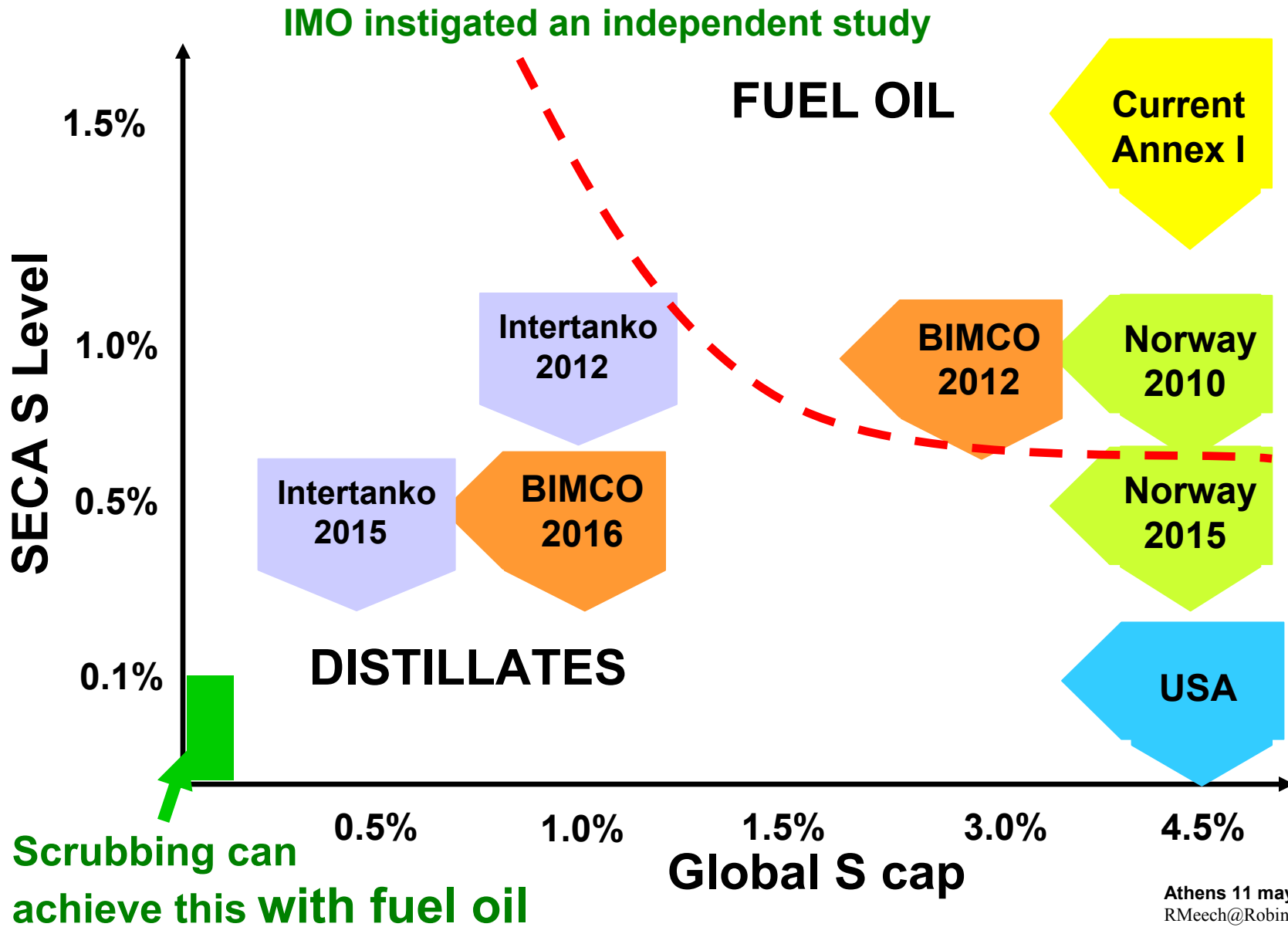
IMO option C2

6



IMO options

1 - 6



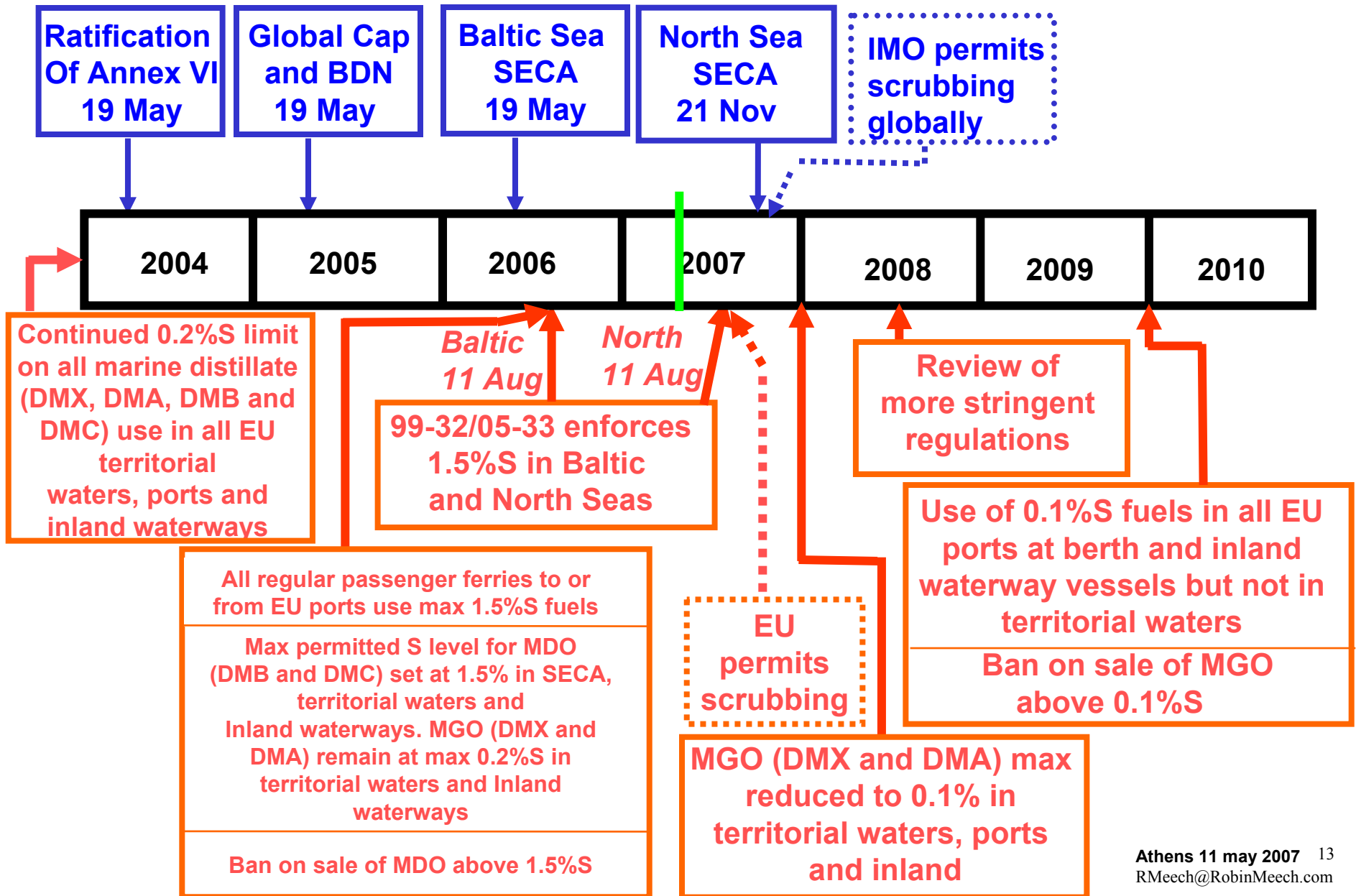
The All Distillate Options (ADO) is unlikely to be adopted

It has a negative economic impact

Pollutant 2015	Reduction 1,000 tons assuming 70% fall on land	Value of reducing emissions by 1.0 ton \$/ton	Total Benefits \$ billion
SOx	9,000	4,300	39
PM	1,130	29,000	33
			Total <u>72</u>
Cost increase in global fuel purchases/manufacture			74
Net loss			2

- Will not reduce SOx or PM emissions as effectively as scrubbing
- IMO Option C” accepts scrubbing - why not use fuel oil
- Scrubbing will permit the lowest global cap
- Significant increase in global CO2 emissions converting fuel oil to distillates
- Scrubbing dissipates sulphur relatively benignly into the sea avoiding on-land disposal
- ADO benefits to ship owners of less sludge disposal and lower ship building costs

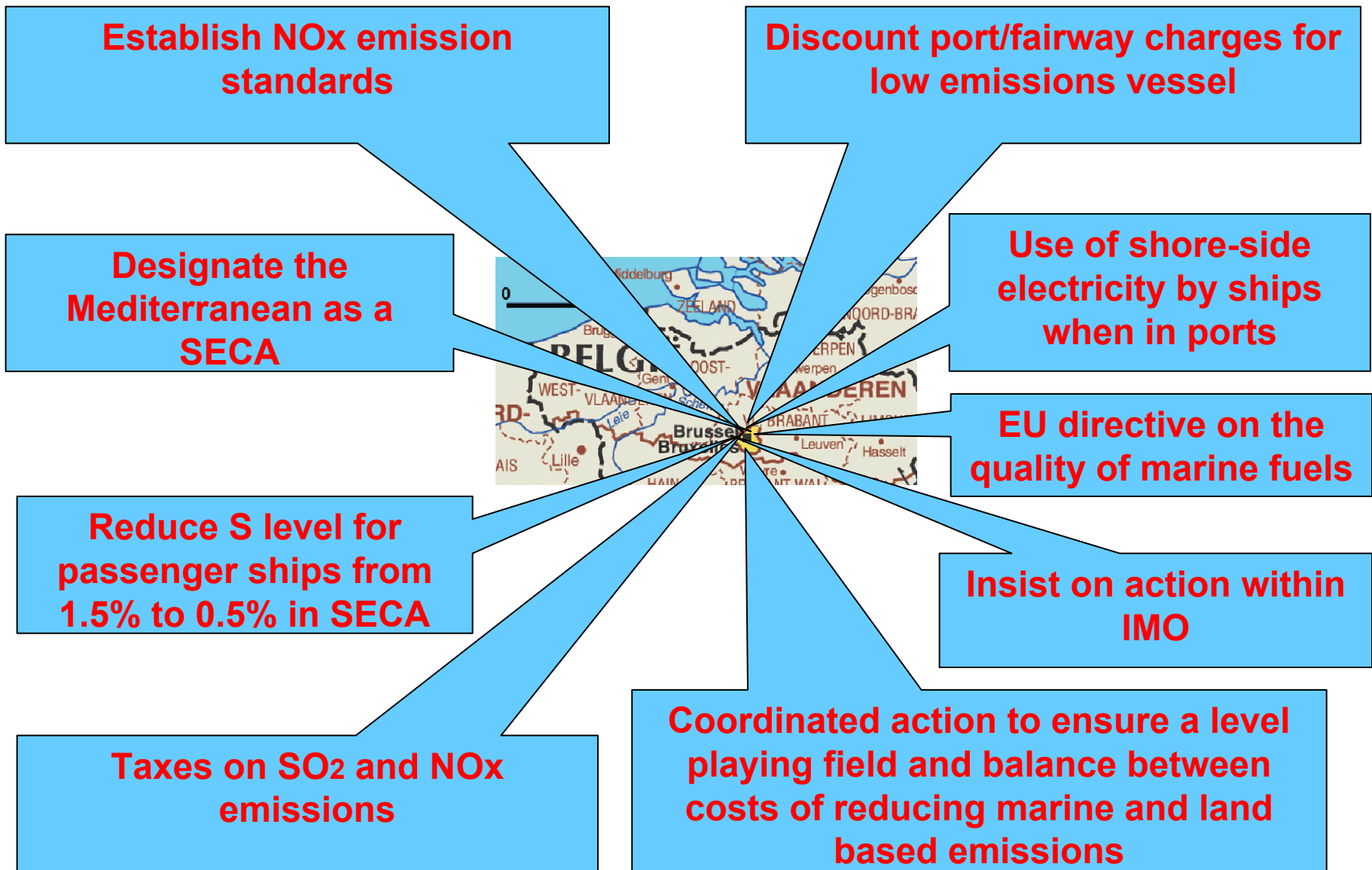
Expected implementation scenario for marine SOx emission reduction legislation in Europe



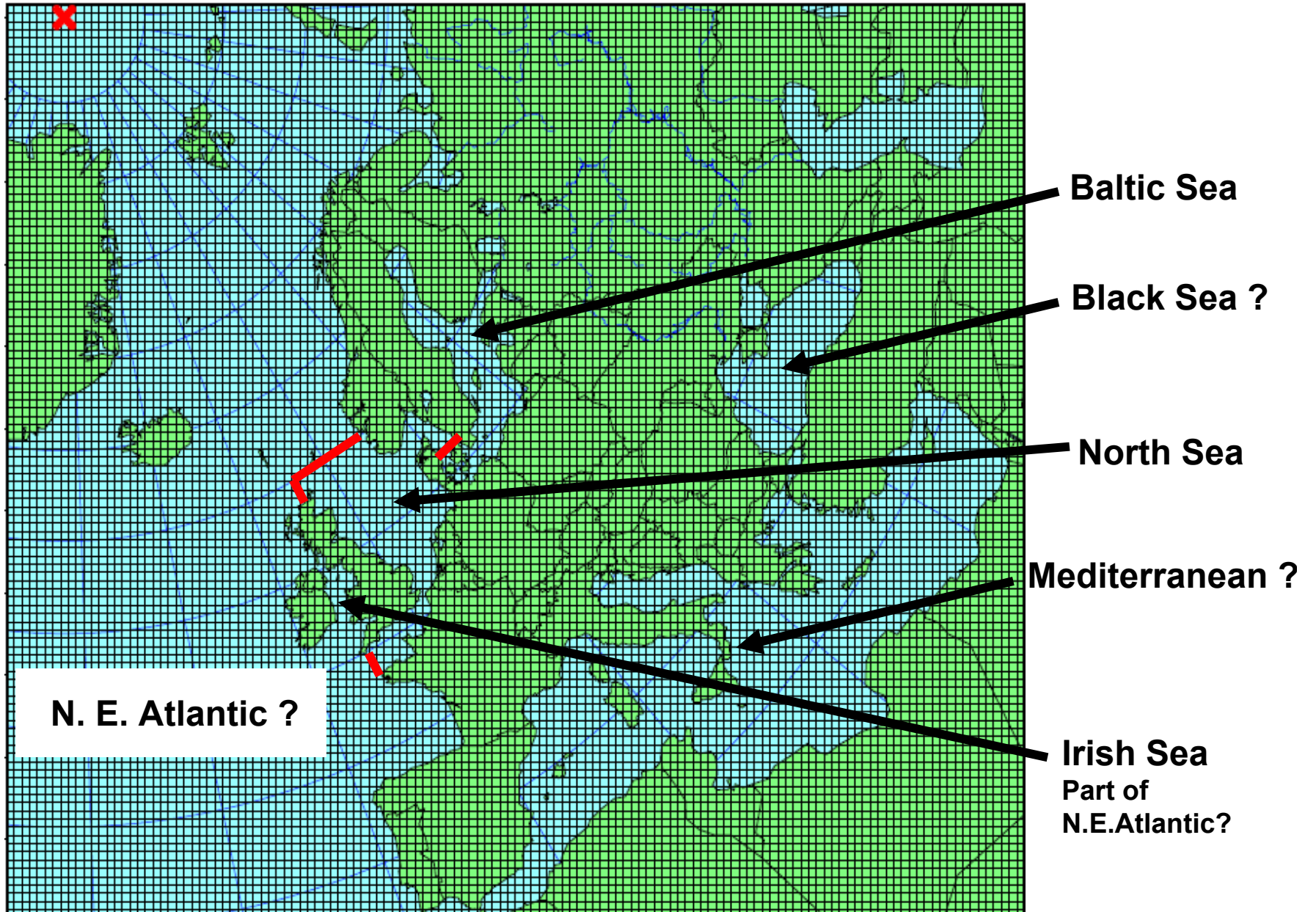
Europe is hopefully moving closer to a unified position with IMO

	IN PLACE	EXPECTED
BEGINNING 2008	North and Baltic Sea SECA Ferries use 1.5%S	Scrubbing
BEGINNING 2010	Use of 0.1%S alongside Comprehensive review of all air emissions	Emissions Trading CO2 indexing NOx regs, in line with IMO Guidance on enforcement PM controls for inland shipping

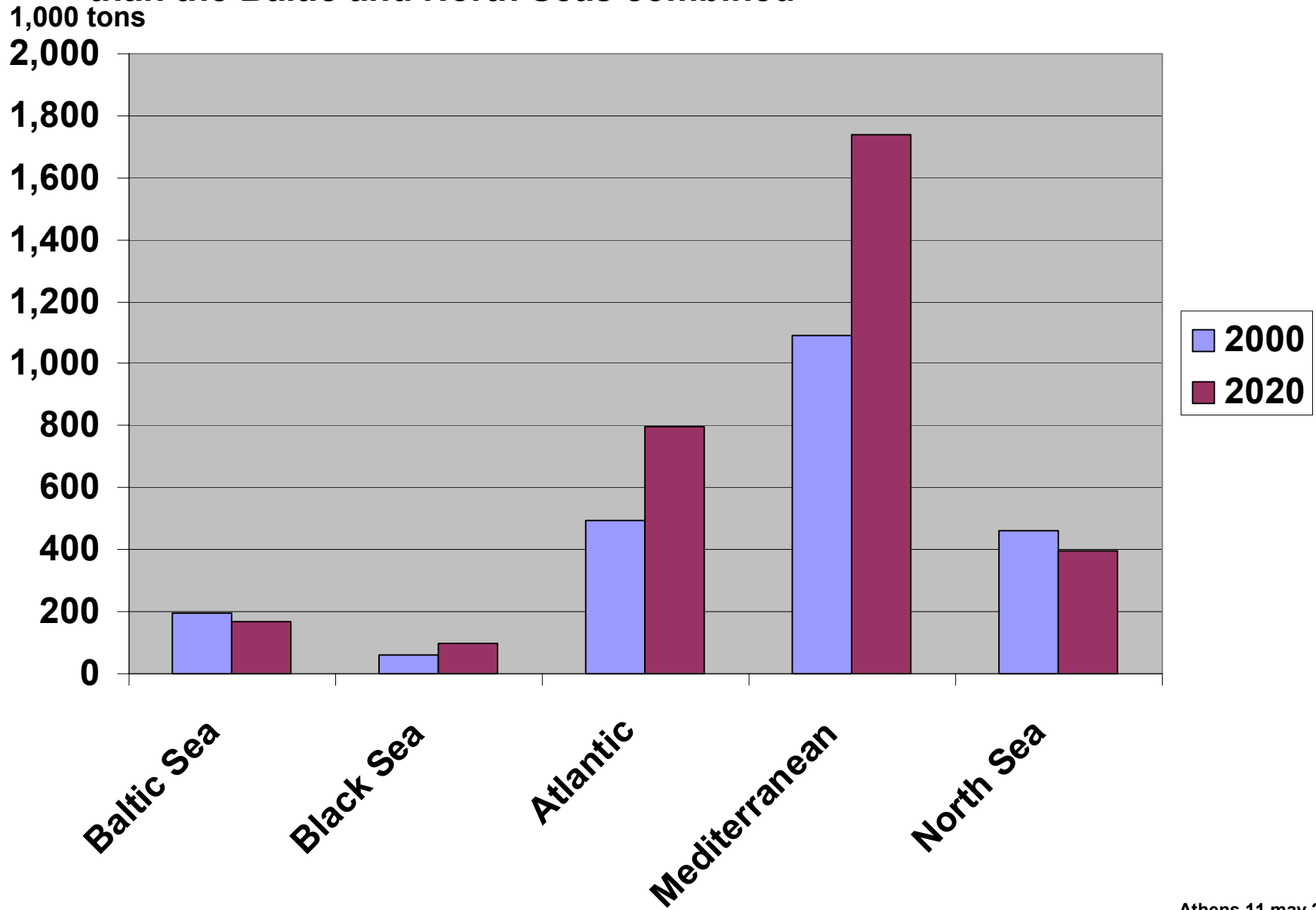
The EU Parliament has adopted a forceful approach



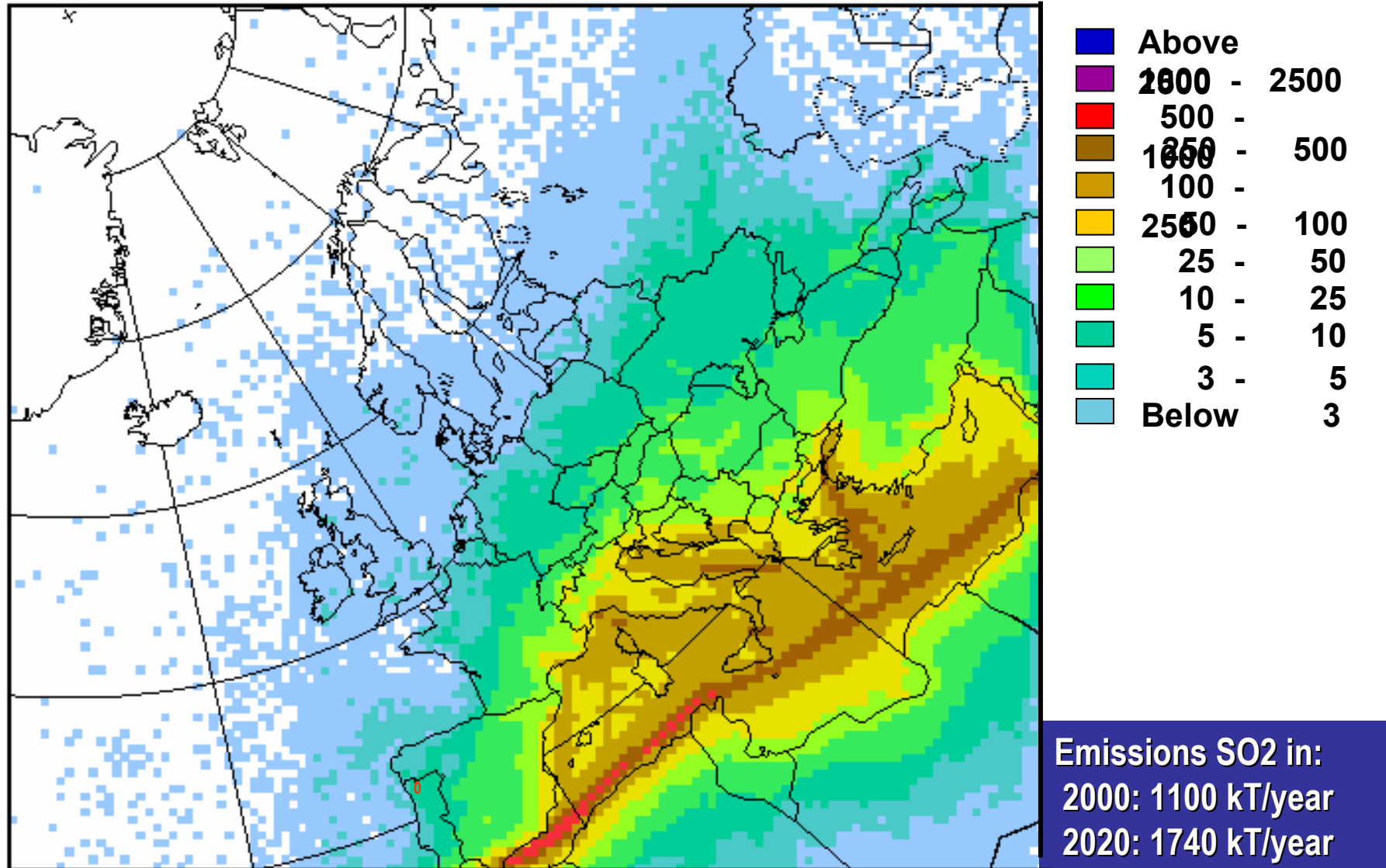
European areas is being considered as SECA



By 2020 the Mediterranean SOx emissions will be over three times greater than the Baltic and North Seas combined

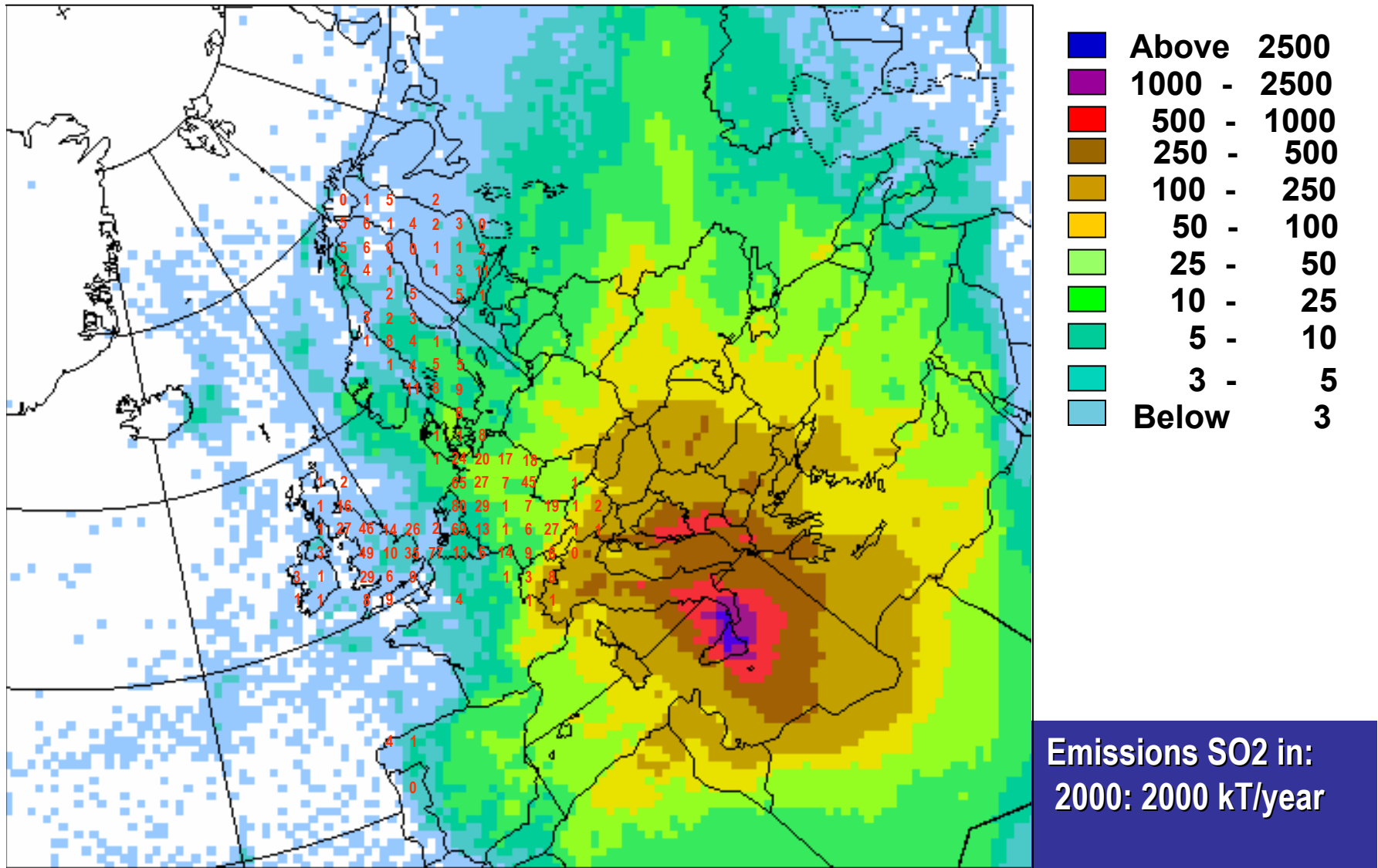


Deposition of Sulphur Emissions From Ships In The Mediterranean (mg S/m²)



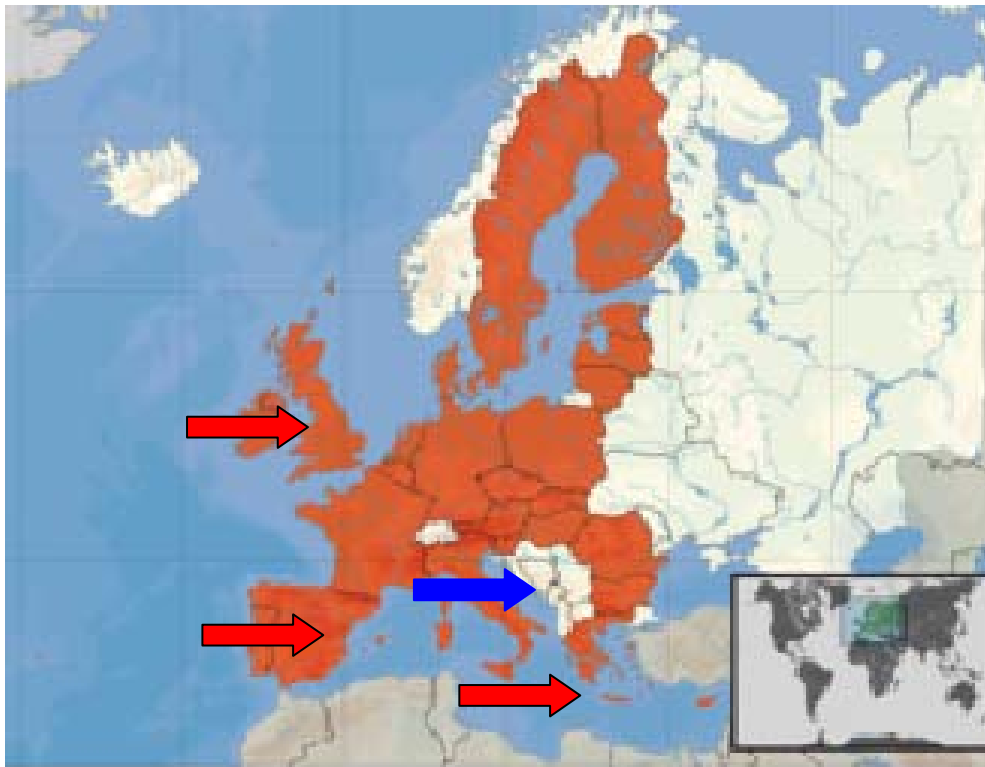
Deposition of Sulphur Emissions From Volcanoes (mg S/m²)

Some 80% higher than from shipping



Of the 27 EU member states, all but three of the sea board countries have ratified Annex VI

 Austria	 Finland	 Latvia	 Romania
 Belgium	 France	 Lithuania	 Slovakia
 Bulgaria	 Germany	 Luxembourg	 Slovenia
 Cyprus	 Greece	 Malta	 Spain
 Czech Republic	 Hungary	 Netherlands	 Sweden
 Denmark	 Ireland	 Poland	 United Kingdom
 Estonia	 Italy	 Portugal	



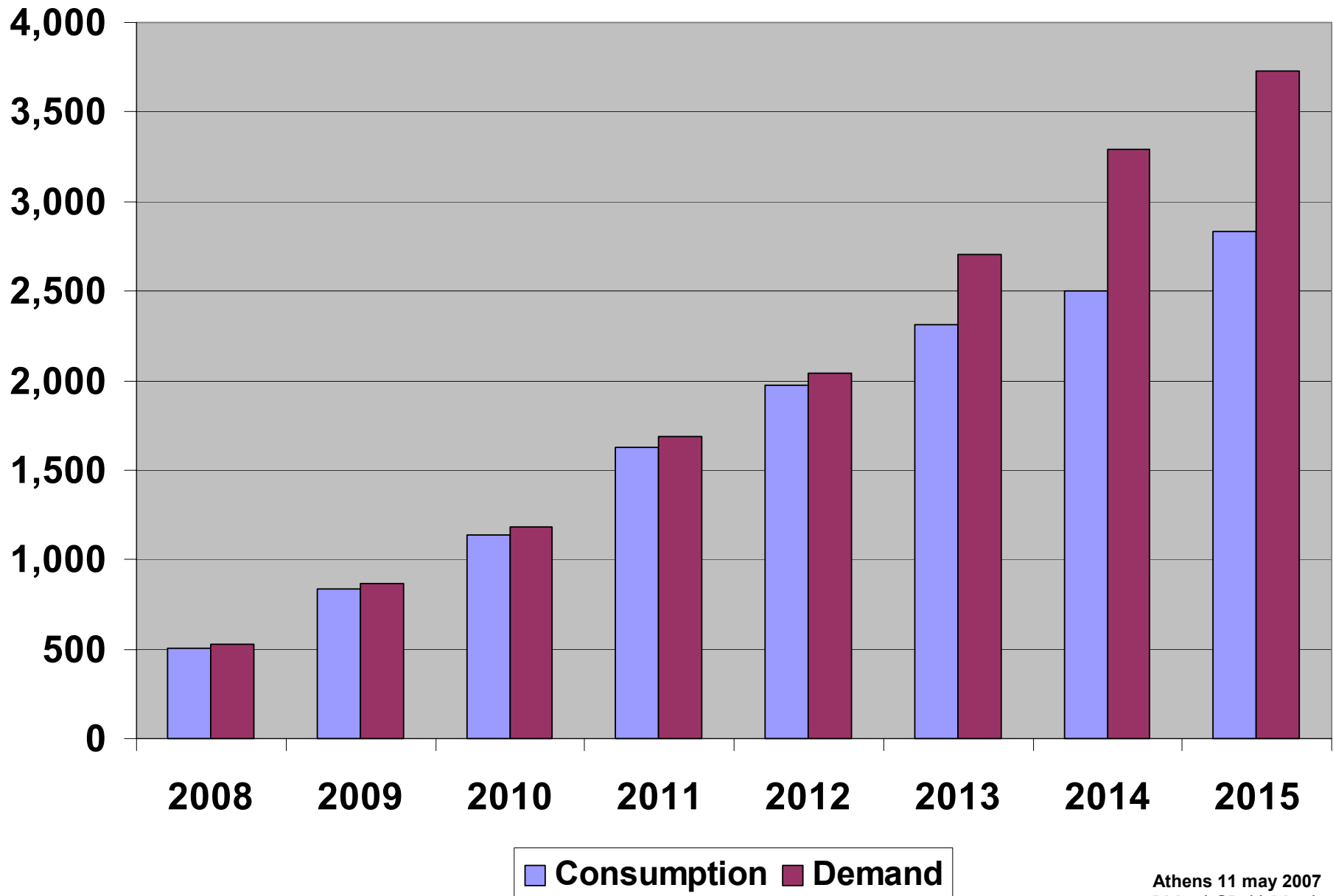
Ireland, Malta and Portugal remain the only Member States of the EU with a seaboard That have NOT ratified Annex VI

Croatia is the only other Mediterranean state to ratify

France, Spain, Cyprus and Greece are the only Mediterranean States expected to have legislation in place by the end of 2007

Enforcement will be delayed

Assuming enforcement improves the LSBFO market in the Mediterranean will approach 4 million tons by 2015



The EU has funded a study to commence the process of making the Mediterranean a SECA

- Involves all but two of the Mediterranean states
- Key purpose to demonstrate how to make the application to IMO
- It will demonstrate
 - The Pro's and Con's to all parties involved
 - The impact on ports, states and shipping
- Identify ways to transpose Annex VI into national legislation and bylaws that are
 - Clear
 - Unambiguous
 - User friendly
 - Enforceable
- Prepare a strategy that includes
 - What analysis is needed to justify the SECA or not
 - The new or strengthened government bodies required
 - Budgets and schedules

It is hoped that this structured approach will accelerate the introduction of user friendly, economically justified regulations

In summary – Europe is taking a more measured approach to tackling shipping emissions

- **Greater cooperation with IMO**
- **Recognises the benefits of globally consistent regulations**
- **Considering a holistic approach taking account of all view points**
- **Improving enforcement**
- **Reducing CO₂**
- **Consider SO_x in the context of all liquid fuels emissions**
- **Following IMO on NO_x**
- **Instigating PM controls**
- **Encouraging scrubbing and emission trading**

It can only be hoped that we will see a better informed and motivated approach to reducing European marine emissions in the future

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