



Human Environment and Transport
Inspectorate
*Ministry of Infrastructure and the
Environment*

From single point to full journey

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European
Commission



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Connecting Europe Facility



XRF

- Efficient screening of samples
 - Fast
 - Accurate
 - Cost effective
- Laboratory has final call



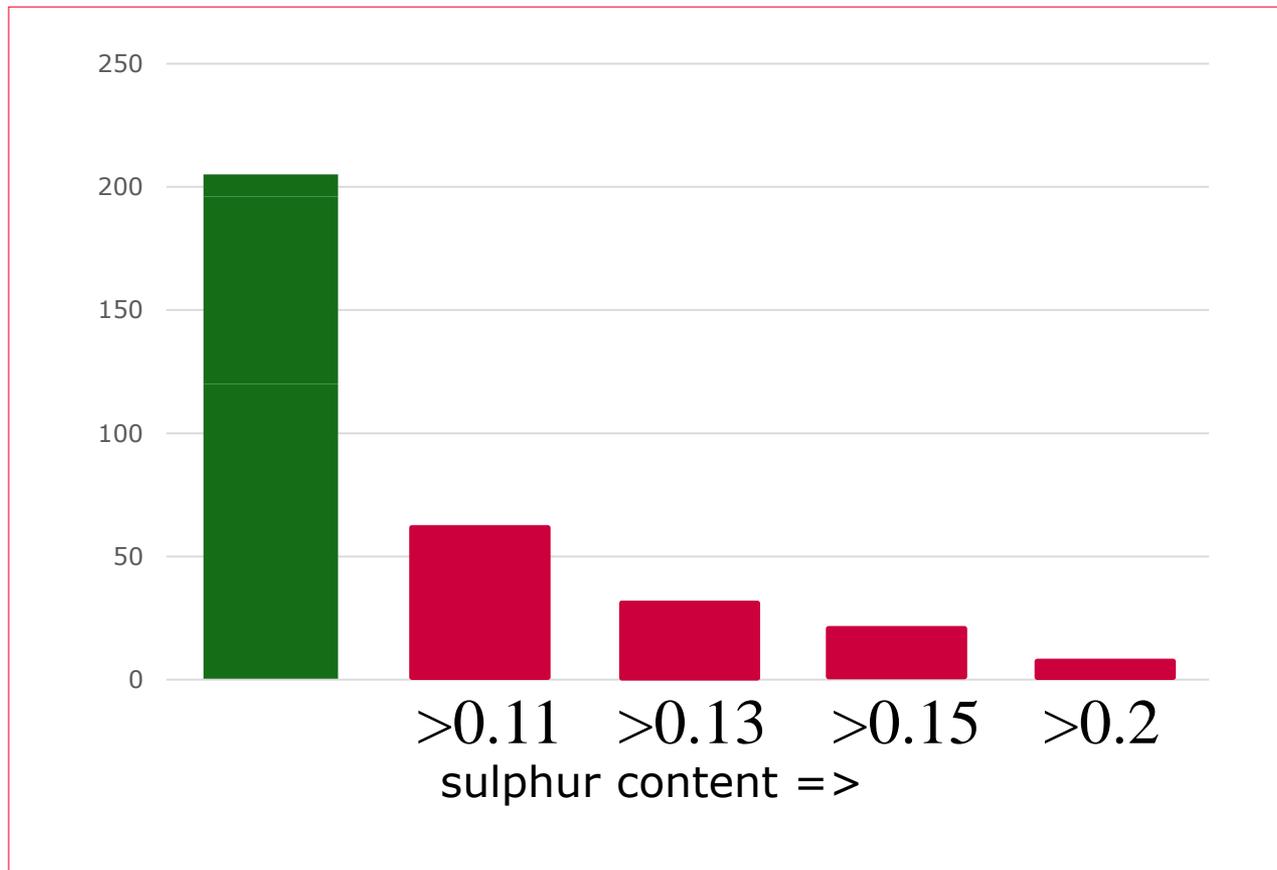


Behaviour from Data





Technology determines compliance level



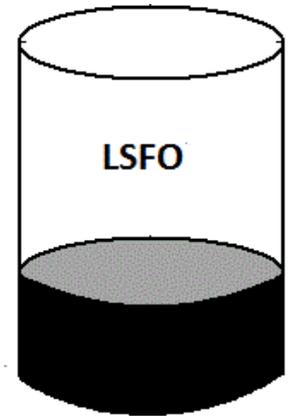


Single point measurements as current practice





Change perspective to entire journey





Three checks

- Reasonable consumption of LSFO
- No consumption of HSFO
- Sufficient LSFO for next destination



Data requirements for Fuel Calculator

- BDN
- Ships logs (bridge/engine room)
- Engine types and other machinery



Dutch Prosecution with Fuel Calculator

- Conviction in 2 steps
 - Economic offence
 - Withdrawal of gains from criminal activities
 - Not bound to convicted article
 - Not bound to time and place
 - Reversal of proof



Current Status and future

- In use
- Tested against expert model (<10% deviation)
- Moving to:
 - AIS based/Automatisation
 - EMSA level
 - Extended time horizon



Conclusions

- Fuel Calculator supports effective enforcement
- Easy, cheap, deterring
- Fit for automatisisation
- >2020 high seas