



CIMAC WG 10

USER's group

Marintec 2007...

Emission Reduction of Marine Diesel Engines



1. Whatever the final outcome as USER's we need something simple.

It is already getting more difficult with introduction of low sulphur areas and other restrictions, such as slow steaming or Cold Ironing – can only see this becoming more of an issue in future – hence already have to prepare to carry at least two batches of HFO on most vessels now.

2. Must be reliable and USER friendly.

Emission Reduction of Marine Diesel Engines



- ⇒ **3. Prefer to have several maker's of any equipment involved to ensure there is some competition.**

- ⇒ **4. Need to ensure that the equipment can be fitted to the whole world fleet in a realistic time frame.**

- 5. Costs need to be capped to ensure cargo is carried in the most effective manner with regard to emissions.**

Shipping is the most efficient.



Transport Mode Efficiency

Shipping is the most efficient mode for moving cargo
Over 90% of world trade is moved by international shipping

Energy Use (kW h / t km)	Aframax Tanker	Rail (Diesel)	Truck	Air (Boeing 747)
	0.01	0.07	0.18	2.00

Emissions (g / t km)	Aframax Tanker	Rail (Diesel)	Truck	Air (Boeing 747)
NOx	0.15	0.35	0.31	5.69
SOx	0.10	0.01	0.01	0.17
PM	0.01	0.01	0.01	n/a
CO ₂	5	17	50	552



*Tanker burning 2.6% Sulfur Fuel
with return voyage in ballast*