

Emissions Trading A potential tool for the shipping industry?



SEaAT – Shipping Emissions Abatement and Trading



Shipping Emissions Abatement and Trading

*A cross industry group encouraging and facilitating the efficient
reduction of harmful emissions to air from shipping*

www.seaat.org

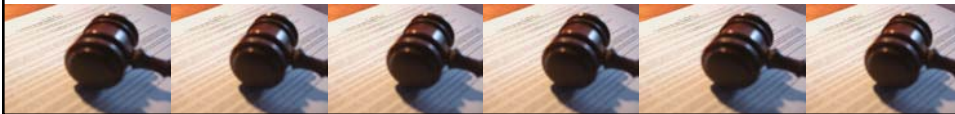


Response to environmental legislation in other industries



- Land based industries were the first to be legislated
- Automobiles, power plants, heavy industry
- Compliance options
 - Stop operating equipment, reduce pollution creation
 - Invest in equipment to reduce emissions
 - Purchase reductions made by someone else at a lower cost to cover emissions

Emissions trading developed to lower the cost of compliance to industry and increase flexibility



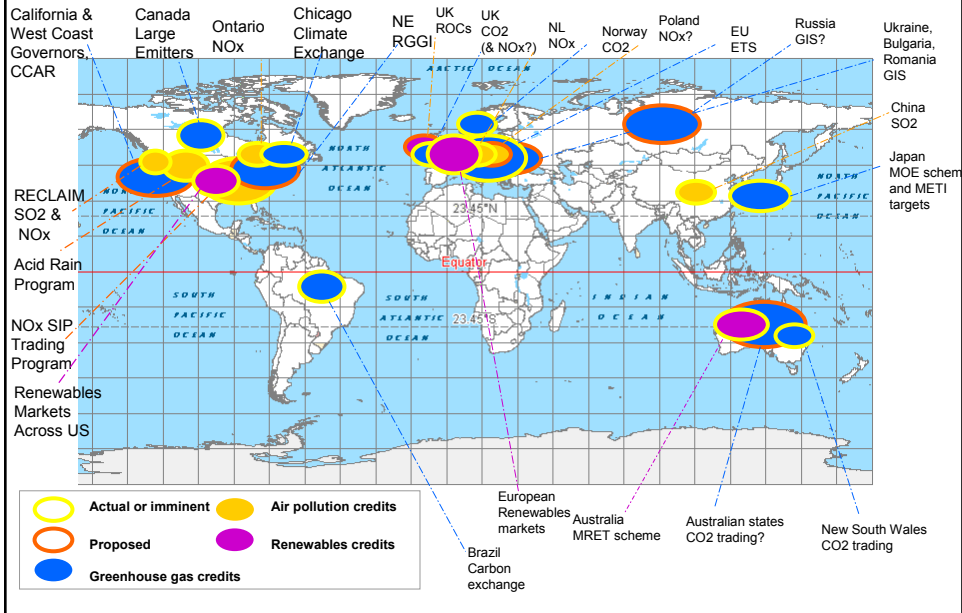
What is emissions trading?



- Allows participants to buy and sell emissions reductions
- Markets for emission reductions can be created by regulation or operate on a voluntary basis
- All schemes operate on the principle that market forces will determine the value of emissions reductions available to trade
- The establishment of a market provides cost transparency and enables emitters to pursue cost-effective emission reduction strategies.



Global emissions market activity



Existing emissions trading schemes



- Developed since early 1990s, mainly for power plants
- Cover a range of pollutants, including SO_x, NO_x, CO₂
- Gives emitters the ability to co-operate to reduce emissions

US Acid Rain program

- Operating for a decade
- SO_x emissions have decreased by 30% more than originally required
- Pollution reduction technology costs reduced by 40%
- Abatement technology efficiencies improved to 95%

US NO_x State Implementation Plan

- Four years of operation
- NO_x levels in 2004 were 50% less than in 2000
- Close to 100% compliance

EU ETS – trading greenhouse gases

- Commenced 2005
- 12,000 plants across EU participating
- Markets rapidly developing



Emissions trading developments for the maritime sector in Europe

For Sulphur

- The use of abatement technology recognised as a compliance method – aligned with IMO processes
- European Commission has been asked to "give particular consideration to proposals for alternative or complementary measures" and to "consider submitting proposals on economic instruments" in their 2008 review

For CO₂

- *Stavros Dimas, the European commissioner for the environment, singled out maritime transport as one of the next large sectors to be targeted by the EU Emissions Trading Scheme, along with aviation, which he said would be covered by the scheme as early as 2009 or 2010. (Nov. 2005)*

For NO_x

- Commission studies suggest that the range of technologies for reducing emission offers a sound basis for a trading environment

A potential tool for shipping



- Proven, successful schemes on land that lower costs for industry
- Shipping is a good candidate to use a trading scheme because:
 - The cost of reducing emissions is not the same for all operators
 - Onboard technology may prove to be able to significantly reduce emissions below legislative requirements
 - As a mobile source of emissions, with changing trading patterns, emissions trading could offer a way of complying at short notice
- Can provide an economic incentive for ship owners to reduce emissions - this will improve compliance and benefit the environment



SEaAT's Idea



Create a group of ship owners to explore how sulphur emissions trading might be applied to shipping

Why?

- Understand the benefits and challenges
- Assess the economic and environmental impact
- Allow participants to develop their own strategies for complying with emissions reduction legislation

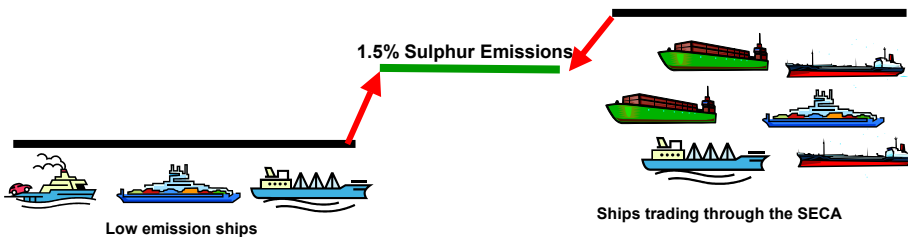
*SEaAT Pilot project commenced in April 2005
and will continue for 12 months*



Sulphur offsetting for shipping

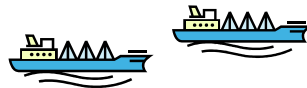


- A group of ships work together to **collectively** achieve an emissions level at least as low as that achieved using low sulphur fuel.
- Some vessels significantly reduce emissions by:
 - Using ultra low sulphur fuel
 - Operating abatement technology
- Low emissions ships are used to offset higher emissions made by others – **the group in total meets emissions requirements**



The Pilot Participants

- Teekay Shipping – oil shuttle tankers
- Stena Line – passenger and car ferries
- BP – oil tankers
- P&O Ferries – passenger and car ferries
- NOL – container ships
- OOCL – container ships
- E.R. Schiffahrt – general



**over 50 ships
range of vessel types and routes**

- British Maritime Technology Limited



Pilot Progress – 8 months of offsetting



Distance travelled inside SECA	740,000 nautical miles
Fuel consumed	160,000 tonnes
Number of ports visited	64

Actual fleet emissions (tonnes sulphur)	2,614 t
SECA reference – allowed emissions	2,406 t
Simulated Pilot Fleet emissions using trading	1,437 t
Effective fleet sulphur content	1.0%
Fleet emission reduction vs current	45%

Sulphur credits generated	1,483
Sulphur credits purchased	517
Sulphur credits in bank	967

The group as a whole is more effective in meeting the environmental requirements than if each ship had operated alone and reduced fuel sulphur content to 1.5%

Pilot successes so far



- **The group has generated and traded emissions credits, met the environmental requirement, and established a safety margin of excess credits**
- Providing data and analysis to participants is valuable and informs their strategic planning
 - Now know fuel consumption inside SECA
 - Can construct scenarios to analyse best options for their fleet
- **Working together and sharing assumed compliance costs produces a better environmental outcome than acting alone**
- Trading exercise has provided valuable input to the design of potential trading schemes

Further Pilot Project Analysis



- Optimum group size and balance
- Starting strategy
- Scenario analysis to assess a range of different parameters i.e. fuel price, technology performance
- Further explore the economic impacts – what is a credit worth?
- Conclusions from recent trading “game”
- How the group will work together
 - What if something goes wrong?
 - Risks and liabilities for participating companies and the group
- The lifetime of banked credits



future?

future?

future?

future?

future?

NOW

- No existing trading scheme for ships – for any pollutant
- No uniform opinion (European or otherwise) on implementation

FUTURE

- Emissions trading for ships likely
- Regulators examining possibilities
- Shipping interests making plans
- Equipment developments are accelerating

*Opportunity to develop and implement workable schemes
to benefit the environment as soon as possible*