Performance assurance

Exhaust Gas Cleaning Systems are a well established, robust and reliable technology.

Exhaust emissions from greater than 3.5% sulphur fuel are easily scrubbed.

Sulphur oxide emissions are virtually eliminated. Sulphate based particulate matter emissions are stopped at source.

EGCSA members are expert in the use of corrosion resistant materials and scrubbers are designed for the life of the ship.

The key to successful EGCS is extremely professional project management and high quality installation teams.

Continuous monitoring of emissions to sea and air in relation to ship position prove compliance. Data is recorded to onboard tamperproof storage, ready for inspection.

Scrubbers are used by some of the largest ship operators in the world, who regard reliability and environmental performance assurance as key.

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Exhaust Gas Cleaning Systems - Your Questions Answered

EGCSA exhaust gas cleaning systems association

Clean air - we only have one atmosphere

Have you considered?

The Business Case for Scrubbing

Avoid the 2020 low sulphur fuel price premium and the uncertainty of fuel supply and quality.

It is not too late. This is a business critical decision, with the potential for significant financial benefit.

Payback periods could be very short.

Except for very low fuel consumption ships (<10t/day) installing scrubbers is likely to cost less than doing nothing.

The total overall cost of high sulphur fuel oil plus the CAPEX investment is likely to be less than just using compliant fuel.

Charterers are aware of exhaust gas cleaning and may pay a premium for ships fitted with scrubbers.

"There will likely be an acute impact on light-heavy product spreads in 2020"

IHS Markit- Singapore, Nov.2017

Over 90% of fuel consumption is full away at sea.

That is where the benefits of scrubbing can accrue.

Exhaust Gas Cleaning

The Alternative to Compliance by Fuel

Remember for 2020, just 2kg of high sulphur fuel in 1 tonne of low sulphur fuel risks action against the ship - 0.51% is non-compliant!

During 2019 there will be a detailed Paris MOU Concentrated Inspection Campaign (CIC) - are you ready?

Whatever method of compliance, training and ISM updates will be required.

Using low sulphur fuel in 2020 means:

- Bunkering & segregation planning
- Potential for new tankage & pipework
- Tank cleaning & system flushing
- Slop disposals & tank inspections
- New lubricants
- Consumption & changeover timing
- Understanding compatibility and performance issues of new fuels
- A new awareness throughout your business

Retrofits or newbuilds, compliance by EGCS means continuing with fuels you and your crews understand, and your ships are designed to use.

What you have asked us

What type of EGCS should we install?

Open loop scrubbing has been used for years by coastal power stations and by oil tanker inert gas systems when in port without environmental issues.

For low alkalinity waters or where there is little water exchange, closed loop scrubbers and hybrid systems that can be operated in both open and closed loop mode are available.

Taking the holistic view, scrubbing enables the use of residual fuel to continue, which means the energy needed for producing distillate fuel and resulting CO2 emissions can be greatly reduced.

Open loop scrubbing, which is the most straightforward method of exhaust gas cleaning and favoured by ships' crews, facilitates this environmental benefit.

Aren't EGCS banned in some ports?

There are a few ports and nations that have prohibited the use of open loop scrubbers in their territorial waters. However, there is no evidence in terms of impacts on sediments or surrounding waters to justify the prohibition.

Even then there are exceptions. Germany does not allow open loop scrubbers in Hamburg, but allows a ship operator to use open loop scrubbing in the Kiel canal.

A recent study by German scientists concluded that running on HSFO and EGCS is less harmful than running on 0.10%S diesel fuel in port near populated areas.

Don't EGCS simply move the pollution from the air into the sea?

This is a common misconception and often misused! Scrubber wash water removes and converts sulphur oxides from the exhaust gases so they are discharged in the wash water as harmless sulphate.

After sodium and chloride, sulphate is the most common ion in seawater. Even if all of the sulphur in all of the world's petroleum reserves were to be scrubbed the increase in ocean sulphate would be tiny.

Scrubber wash water discharges are also continuously monitored and subject to strict IMO discharge limits.

Oil content is measured using the concentration of Polycyclic Aromatic Hydrocarbons (PAH) at a parts per billion level. Particulate content is compared with inlet seawater and pH is used to monitor acidity, which is readily buffered by the bicarbonates and carbonates in seawater.

Various studies have concluded that any reduction in pH from scrubbing will be insignificant when compared with that resulting from increasing atmospheric CO2, which is absorbed by the oceans.

How is EGCS waste disposed of?

Waste from both open and closed loop scrubbing must be landed to shoreside reception facilities. It cannot be discharged to sea or incinerated onboard.