



ENFORCEMENT OF THE NORTH AMERICAN EMISSION CONTROL AREA

CANADA'S BEST PRACTICES AND LESSONS LEARNED



Transport
Canada

Transports
Canada

Canada

OVERVIEW

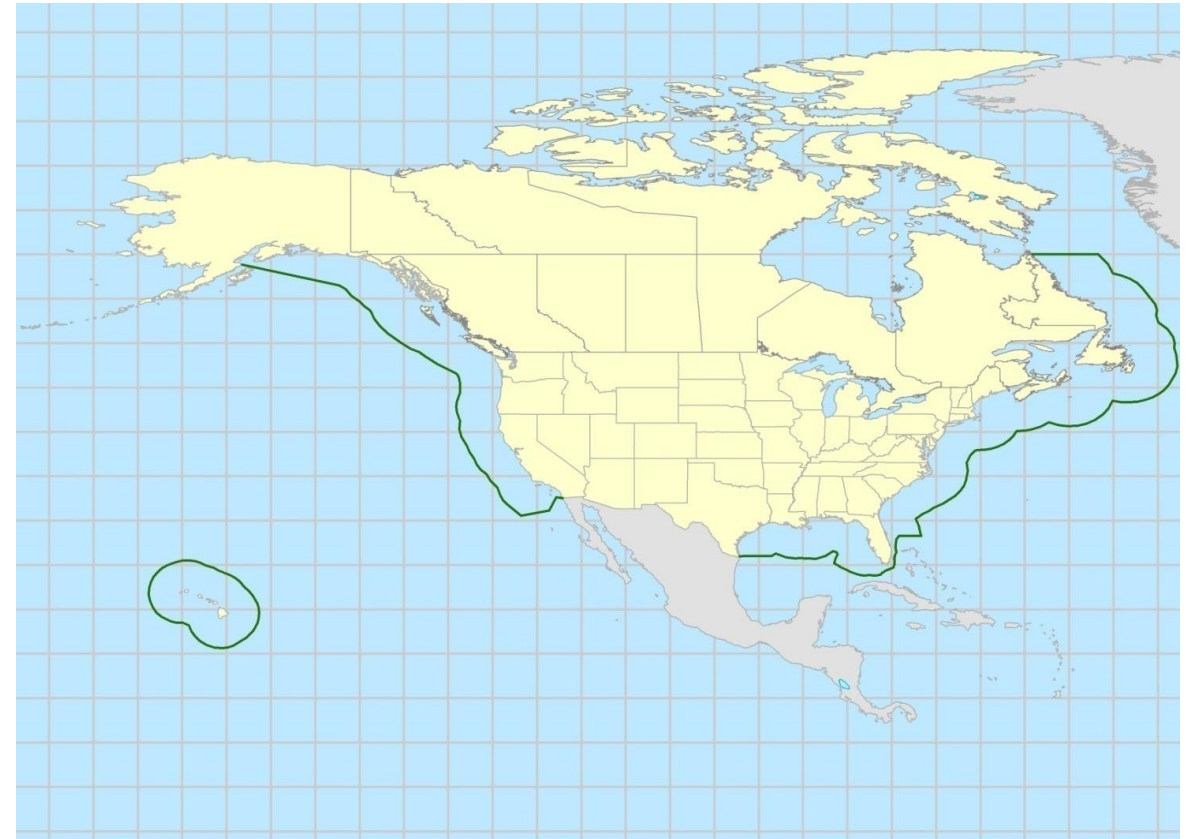
- Global Sulphur Cap
- North American Emission Control Area (NA-ECA)
- Methods of Enforcement
- Canadian Best Practices/Lessons Learned

Global Sulphur Cap

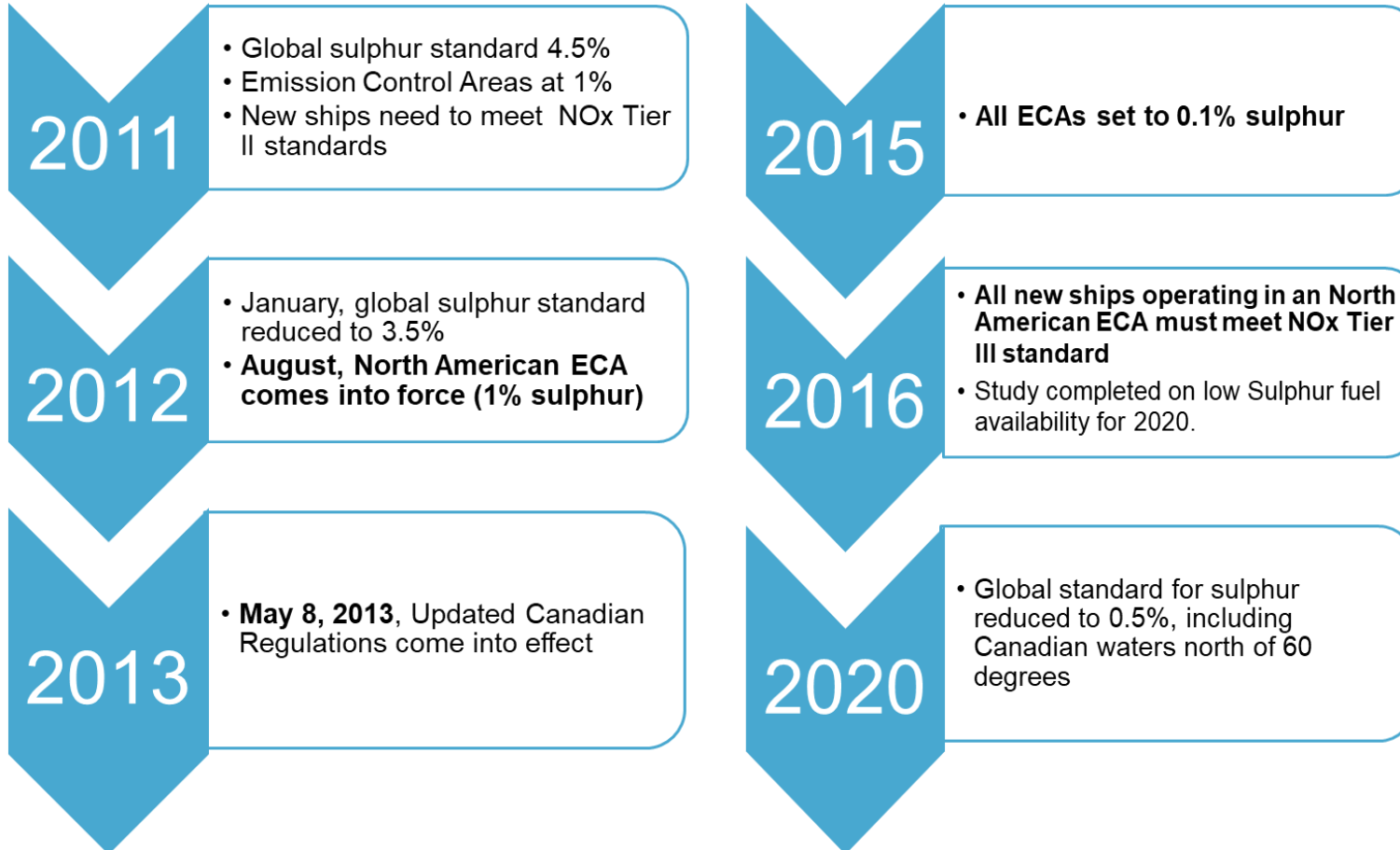
- Entered into force January 1, 2020 through MARPOL Annex VI;
- Restricts SO_x emissions at sea outside of ECAs to 0.5% m/m;
- A carriage ban came into force March 1, 2020 prohibiting vessels from carrying non-compliant fuel for propulsion purposes unless an exhaust gas cleaning system ('scrubber') is installed onboard.

NORTH AMERICAN EMISSION CONTROL AREA (ECA)

- Entered into force on August 1, 2012;
- Canadian waters south of 60°N, extending 200nm from shore;
- Includes SO_x and NO_x.



TIMELINE FOR AIR EMISSIONS STANDARDS



NORTH AMERICAN ECA: BENEFITS

Expected Benefits

- The ECA is expected to reduce ship emissions of Sulphur Oxides by 95% and Nitrogen Oxides by 80%;
- Annual benefits estimated to be over \$1 Billion in public health savings.

Health Impacts Attributable to Ship Emissions

Health Impact	Percent reduction
Premature Mortality	45%
Adult Chronic Bronchitis Cases	54%
Hospital Admissions and Emergencies	31%
Child Acute Bronchitis Episodes	52%
Asthma Symptom Days	25%
Minor Restricted Activity Days	19%
Acute Respiratory Symptom Days	37%
Restricted Activity Days	52%

Source: Health Canada and Environment Canada

METHODS OF ENFORCEMENT

- Pre- Arrival Information Report System (PAIRS) report review and follow up;
- Fuel Oil Non-Availability Report (FONAR) review and follow up (approval/rejection);
- Fuel testing during inspections followed by certified laboratory testing;
- Paris MoU

PRE-ARRIVAL INFORMATION REPORT SYSTEM (PAIRS)

- PAIRS required 96 hours prior to arrival;
- Vessels are required to report:
 - Classification society
 - Required certificates
 - P&I club
 - Master information
 - Cargo carried
 - Type and quantity of bunkers carried, including sulphur content
 - List of charts ID numbers and country catalogue to be used for transit approach to Canada
 - Any conditions of class against ship with brief details.

NON-AVAILABILITY OF LOW SULPHUR FUEL

- While voyaging within Canadian waters designated as an ECA, vessels must make an effort to obtain compliant fuel;
- If compliant fuel is not available, vessels must complete a 'Fuel Oil Non-Availability Report' (FONAR) and submit it prior to arrival at the next Canadian port without deviation from the vessel's planned route.

FUEL OIL NON-AVAILABILITY REPORTS (FONARs) 2018 – 2020

Year	Atlantic	Pacific	Total
2018	36	41	77
2019	29	37	66
2020	16	49	65

Fuel Oil Sampling

- Introduced in August 2016;
- Obtain and review relevant ship documents related to fuel quality;
- Fuel oil changeover procedure and changeover record;
- Bunker delivery note.

Paris MoU

- Canada is a member state;
- Increased level of Port State Control;
- Concentrated inspection campaign (CIC) in 2018;
- Periodic inspections annually.

ALTERNATIVE COMPLIANCE

- Alternative compliance to meet SO_x and NO_x emissions is achievable through use of:
 - Exhaust Gas Cleaning Systems (Scrubbers);
 - SCR's;
 - Alternative fuels;
 - Other technology.

LESSONS LEARNED/PATH FORWARD

- The fuel testing results have shown a 94% compliance rate;
- Fuel Oil Non-Availability Reports are declining yearly;
- There are significant challenges in applying NOx Tier III standards to smaller vessels;
- Continuing to encourage alternative measures, such as advanced technologies, where applicable;
- Continue to work with industry stakeholders and NGOs to improve environmental performance.

QUESTIONS?

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