



AAPA Energy & Environment Seminar

Implementing Clean Vessel Incentive Programs at Ports

September 2018

Cruise Lines International Association (CLIA)

- Global organization
- 15 offices worldwide

*CLIA is the global organization
that fosters our members' success by
advocating, educating and promoting
the common interests of the cruise community*

Cruise Lines International Association

- 37 cruise Lines
- @ 250 Ships (over 80% of total)(95% of total passenger capacity)
- Global operations
- 26M passengers annually (12M from US & Canada)



ONE INDUSTRY. ONE VOICE.



Environmental Protection - Air

Concerns include:

Air Quality:

- SO_x — (Fuel related)
- PM — (Fuel related)
- NO_x — (Engine related)

Climate Change:

- CO₂ — (Fuel related)

Laws / Regs:

- *Clean Air Act (US)*
 - Emissions Control Area
200 Miles
- *MARPOL (International)*
 - Prevention of Pollution from
Ships

Reducing Sulfur Oxides

US Standards

- Emission Control Area (200 Miles)
- 0.1% sulfur content

- Can Comply with:

- Low Sulfur Fuel/LNG
- Exhaust Gas Cleaning Systems
- Shore Power in Port

International Standards

- 3.5% sulfur content
- 0.5 % in Jan 2020

- Can Comply with:

- Low Sulfur Fuel/LNG
- Exhaust Gas Cleaning Systems
- Shore Power in Port

Reducing Carbon

Driven by Global Climate Change Concerns

IMO agreed upon goals:

- 40% fuel efficiency improvement by 2030
- 50% reduction in overall Carbon Emissions by 2050
- Phase out CO₂ emissions this century

Cruise Industry committed to doing its part to help meet global goals

Industry Investment in Controlling Emissions

- Over \$1B in technology
 - Exhaust Gas Cleaning Systems (“Scrubbers”)
 - Reducing fuel demand (efficiency):
 - Hull design / coatings
 - Solar panels
 - Window tints (Air Conditioner use)
 - Shore side electricity systems
- Over \$8B in alternate fuels
 - LNG (17 ships on order)

2018 ENVIRONMENTAL TECHNOLOGIES AND PRACTICES



62%

of global capacity is served by advanced wastewater treatment systems; 100% of all new builds will have advanced wastewater treatment systems installed



83%

of new build capacity will benefit from advanced wastewater treatment systems capable of meeting the more stringent discharge standards of the IMO MARPOL Annex IV Baltic Sea Special Area



60%

of global capacity utilizes Exhaust Gas Cleaning Systems (EGCS) to meet or exceed air emissions requirements; more than 48% of new build capacity will have EGCS installed



MORE THAN
34%

of new build capacity will rely on LNG for primary propulsion



www.cruising.org

Cruise Lines International Association (CLIA) is the world's largest cruise industry trade association. CLIA represents the interests of cruise lines, travel agents, port authorities and destinations, and various industry business partners before regulatory and legislative policy makers.

CLIA CRUISE LINES
INTERNATIONAL
ASSOCIATION, INC.

ONE INDUSTRY. ONE VOICE.

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Shore Side Electricity Systems

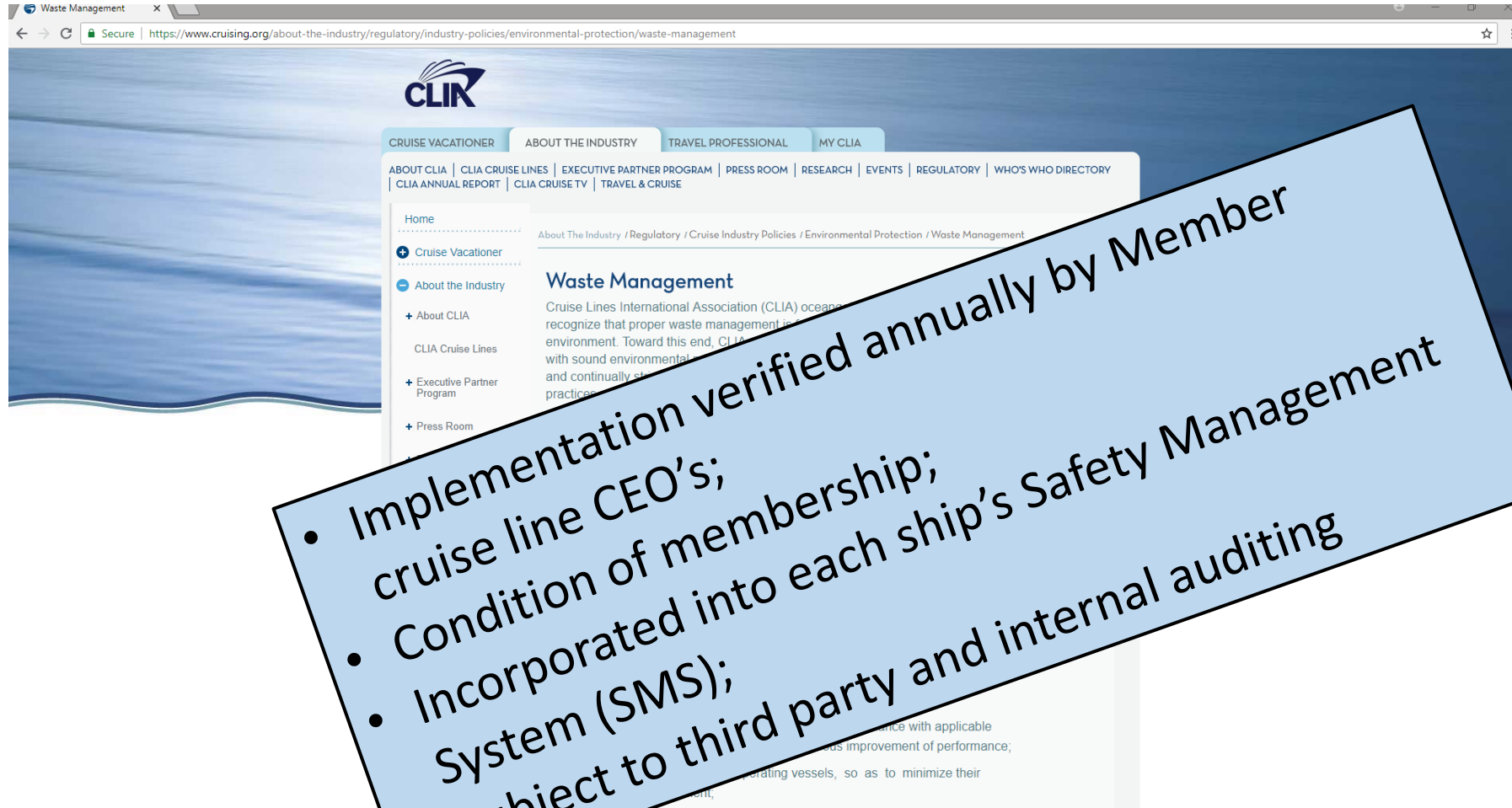
- CLIA supports continued port infrastructure development where cruise ships call for the availability of a clean supply of power close to the port that will achieve an overall emission reduction
- CLIA supports IMO invitation for proposals from Member States for onshore power supply equipment that is made available for shipboard installation to meet an international standard.
- 28% of cruise capacity fitted with shore side electricity systems; More than 55% of ships configured to add shore side electricity systems
- 30% of new builds planned to be fitted with shore side electricity systems
- Only 13 ports/specific berths have shore side electricity capacity to support CLIA oceangoing cruise ships (10MW)

| SHORE SIDE ELECTRICITY / COLD IRONING | | | | |
|---|-----|------------------------------|-------|--|
| Ships fitted with Shore Side Electricity (SSE) systems | 55 | 141,873 | 27.9% | The following 13 ports/specific berths visited by CLIA oceangoing ships are fitted with shore side electricity / cold ironing capacity Greater than 10MW: Brooklyn, Halifax, Hamburg Altona, Montreal, San Diego, San Francisco Berth 35, Los Angeles, Long Beach, San Pedro Berths 92 & 93, Seattle, Shanghai, and Vancouver Canada Place. 7-9 MW: Juneau |
| Ships planned to be retrofitted with SSE systems | 11 | 22,408 | 4.4% | |
| New build ships committed to be fitted with SSE systems | 17 | 58,712 29.8% of newbuilds | | |
| Ships configured to add SSE in the future | 121 | 284,248 | 56.0% | |
| New build ships which will be configured to add SSE in the future | 33 | 118,153 60% of new builds | | |

Incentive and Recognition Programs

- Classification Society Programs
- Shipowner voluntary certification of Environmental Management System against ISO 14001:2015
- E-ZERO and QUALSHIP 21

Industry Environmental Policies



Waste Management

Secure | <https://www.cruising.org/about-the-industry/regulatory/industry-policies/environmental-protection/waste-management>

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About The Industry / Regulatory / Cruise Industry Policies / Environmental Protection / Waste Management

Waste Management

Cruise Lines International Association (CLIA) oceanographers recognize that proper waste management is essential to the environment. Toward this end, CLIA has developed a Waste Management System (SMS) with sound environmental principles and continually strong practices.

...with applicable
...improvement of performance;
...operating vessels, so as to minimize their

- Implementation verified annually by Member cruise line CEO's;
- Condition of membership;
- Incorporated into each ship's Safety Management System (SMS);
- Subject to third party and internal auditing

Respecting the Destination

- Safety and Environmental Compliance: Required!
- Committed to responsible use of the port:
 - Work with local officials / pilots
 - Safe navigation
 - Respect other waterway users
 - Infrastructure and facilities