

Agenda item 13

Any other business

Updated overview CLIA Environmental Technologies and Practices

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AUGUST 2019 CLIA HIGHLIGHTS

ENVIRONMENTAL COMMITMENT, INNOVATION AND RESULTS OF THE CRUISE INDUSTRY

\$22 BILLION

Invested in new energy efficiency technologies and cleaner fuels

40% TARGET

Reduction in rate of carbon emissions by 2030 (compared to 2008)

14.1 YEARS

Average age of fleet, vs. 14.6 years in 2018

ADVANCE WASTEWATER TREATMENT SYSTEMS (AWTS)

AWTS systems utilize advanced tertiary-level treatment to generate effluent discharges often equivalent to best shoreside treatment plants and, consistent with CLIA policy, well beyond international requirements.

100% NEW SHIPS

on order specified to have these systems (up 26% over 2018)



68% GLOBAL CAPACITY

is served by advanced wastewater systems (up 13% over 2018)

LIQUIFIED NATURAL GAS (LNG)

LNG has virtually zero sulfur emissions, a 95% to 100% reduction in particulate emissions, an 85% reduction in NOx emissions, and up to 20% reduction in greenhouse gas emissions.

26 LNG-POWERED

ships currently ordered or under construction



44% NEW CAPACITY

committed to rely on LNG for primary propulsion (60% increase in global capacity over 2018)

EXHAUST GAS CLEANING SYSTEMS (EGCS)

EGCS reduces sulfur oxide levels by as much as 98%, a typical total particulate matter reduction of 50% or more, including elemental and organic carbon and black carbon, and nitrogen oxides by up to 12%.

68% GLOBAL CAPACITY

utilizes EGCS to meet or exceed air emissions requirements (up 17% over to 2018)



75% NEW SHIPS

not relying on LNG will have EGCS installed (8% increase in global capacity over 2018)

SHORE-SIDE POWER CAPABILITY

Cruise ships may operate on shore-side electricity at 16 ports worldwide, reducing overall emissions while at port.

30% GLOBAL CAPACITY

are fitted to operate on shore-side electricity (up 10% over 2018)

18% TO BE RETROFITTED

with shore-side electricity systems (up 300% over 2018)

88% NEW SHIPS

will be fitted with shore-side electricity systems or configured to add shore-side power in the future



This table provides aggregated data across CLIA's global oceangoing cruise line membership. The table reflects the number of ships equipped with certain technologies, corresponding passenger capacities (lower berth at double occupancy) and the percentage of the entire fleet represented.

INVESTMENTS, COMMITMENTS AND PRACTICES	AUGUST 2019			NOTES
	SHIPS REPORTING (OF 268)	CAPACITY LOWER BERTH DOUBLE OCCUPANCY (533,302 Est. Total Fleet)	AGGREGATE % OF REPORTING CAPACITY	
Oceangoing Ships Reporting	249	522,916	98% of Total CLIA Fleet	<p>CLIA's Environmental Protection Policy is available here. Each year, cruise line CEO's verify implementation as a condition of membership. The Policy is incorporated into each ship's Safety Management System (SMS) and is subject to third party and internal auditing.</p> <p>Additional environmental reports, including third party research on air and waste water performance, are available here. Many individual cruise line sustainability reports are publicly available on company websites. Ships being removed in 2019 may remain in service outside the CLIA fleet.</p>
New Ships On Order	88	248,193		
Ships (to be) added to the fleet between 1 January 2019 and 31 December 2019	19	40,446		
Ships (to be) removed from the fleet between 1 January 2019 and 31 December 2019	3	4,383		
Average age of fleet as of 1 January 2019	14.1			
EXHAUST GAS CLEANING SYSTEMS (EGCS)				
Ships fitted with exhaust gas cleaning systems (EGCS)	129	356,326	68.1%	EGCS systems are designed to remove 98% of sulfur & well over 50% of particulate matter, including elemental & organic carbon and black carbon. Catalytic filters & other systems further reduce particulate matter by over 30% & nitrogen oxides by up to 12%.
- Ships fitted with open loop EGCS	80	198,514	38.0%	Twelve ships are being retrofitted with EGCS and planning is continually evolving for more than thirty additional ships consistent with annual plans.
- Ships fitted with open loop EGCS and additional wash water filters	52	128,448	24.6%	Existing & forecast EGCS installations are for hybrid or open loop systems and many include wash water filters. Some include a catalytic filter on the engine exhaust prior to the EGCS, as well as continuous monitoring equipment to automatically record all parameters. A variety of technologies further clean the EGCS wash water stream including fine-mesh

- Ships fitted with hybrid EGCS	49	157,812	30.2%	<p>filtration, purification, centrifugal separation & dissolved air with flocculant. EGCS wash water filter residue & process tank residue are disposed of ashore.</p> <p>Four ships operate EGCS continuously in global operations even beyond regulatory requirements (ports, (S)ECAs, etc.).</p>
- Ships fitted with hybrid EGCS and additional wash water filters	35	115,116	22.0%	<p>EGCS wash water sample analysis shows that average PAH and nitrate levels are well below IMO washwater criteria and there is little to no contribution from the EGCS process to concentrations of a number of trace metal parameters (Arsenic, Cadmium, Lead, Mercury, Selenium and Thallium). Sample analysis shows average washwater concentrations are below the limits for comparable land-based industrial point source waste water standards and average washwater concentrations also compare favorably to water quality standards with strict criteria. Studies are available here and here.</p>
New build ships committed to be fitted with EGCS	29	104,088 (42% of new build capacity)		
LIQUIFIED NATURAL GAS (LNG)				
Ships able to operate on LNG in port	2	6,572	1.3%	
New build ships committed to use LNG as primary fuel for propulsion	26	109,358 (44% of new build capacity)		
ALTERNATIVE FUELS				
Ships capable of using alternative fuels other than LNG (methanol, biodiesel etc.)	152	363,164	69.4%	<p>Many cruise ships are equipped to operate on both biodiesel and traditional fossil fuels.</p> <p>Several companies are exploring fuel cell and equivalent technologies for future new builds or retrofit projects.</p> <p>Ships use Marine Gas Oil (MGO) in many regions to comply with IMO ECAs (North American & Caribbean Sea, North Sea and Baltic Sea), EU Mediterranean Sea ports, the Arctic, China's emission control area, Australian ports, and to meet other locally imposed requirements. Ships may also use Very Low Sulphur Fuel Oil (VLSFO) or Ultra Low Sulphur Fuel Oil (ULSFO) in these regions to comply with emissions requirements. Ships fitted with EGCS will generally use this equivalent technology or, in the alternative, will use MGO.</p>
SHORE SIDE ELECTRICITY				
Ships fitted with Shore Side Electricity (SSE) systems	59	157,245	30.1%	The following 16 ports visited by CLIA oceangoing ships have at least one berth fitted with shore side electricity for cruise ships:
Ships planned to be retrofitted with SSE systems	45	92,649	17.7%	Brooklyn, Halifax, Hamburg Altona, Juneau, Kristiansand, Los

New build ships committed to be fitted with SSE systems	20	82,882 (33% of new build capacity)		Angeles, Long Beach, Montreal, Oslo, Prince Rupert B.C., San Diego, San Francisco Berth 29, San Pedro Berths 92 & 93, Seattle, Shanghai, and Vancouver Canada Place.
Ships configured to add SSE in the future	90	202,536	38.7%	Shore side electricity installations should follow the international standard agreed by the International Maritime Organization consistent with ISO/IEC/IEEE 80005-1.
New build ships which will be configured to add SSE in the future	35	135,385 (55% of new build capacity)		
ADDITIONAL AIR POLLUTION & ENERGY EFFICIENCY TECHNOLOGIES				
Ships fitted with particulate filters	28	77,906	14.9%	Some ships equipped with Selective Catalytic Reduction systems (SCR) use them in every port and when transiting inbound and outbound.
Ships fitted with Selective Catalytic Reduction (SCR) Systems	16	31,002	5.9%	
Ships capable of complying with NOx Tier III limits	15	25,457	4.9%	
Ships that have air lubrication systems fitted	15	53,354	10.2%	
Ships with low friction hull coatings installed	203	461,838	88.3%	
WASTE WATER				
Ships that have an advanced waste water treatment facility on board, approved, used and capable of meeting or exceeding IMO MARPOL Annex IV discharge norms	157	355,428	68.0%	Many ships are equipped with advanced waste water treatment systems (AWTS) that are capable of exceeding MARPOL Annex IV requirements and are operated to meet or exceed the more stringent sewage discharge criteria in Alaskan waters and/or the Baltic Sea Special Area, as well as gray water requirements under the U.S. Vessel General Permit (VGP).
New build ships that will have an advanced waste water treatment facility on board, approved and capable of meeting or exceeding IMO MARPOL Annex IV discharge norms.	88	248,193 (100% of new build capacity)		CLIA Members recognize the extraordinary eutrophication situation in the Baltic Sea. While the requirements of the IMO Baltic Sea Special Area do not take effect for existing ships until 2021, by CLIA Policy, when operating in the Baltic, ships are to discharge MARPOL Annex IV waste ashore where adequate port reception facilities are available under a 'no special fee' arrangement.
Ships that have a waste water treatment facility on board, approved and capable of meeting the discharge standards of the IMO MARPOL Annex IV Baltic Sea Special Area	28	43,818	8.4%	
# of new build ships that will have a waste water treatment facility on board, approved and capable of meeting the discharge standards of the IMO MARPOL Annex IV Baltic Sea Special Area	48	169,644 (68% of new build capacity)		



Nations Must Enforce IMO 2020 Sulphur Regulations

FOR IMMEDIATE RELEASE

18 September 2019

The World Shipping Council (WSC), BIMCO, the Cruise Lines International Association (CLIA), and the International Parcel Tankers Association (IPTA) calls on International Maritime Organization (IMO) member states to fully implement the new global marine fuel sulphur cap mandated through the IMO. As of January 1, 2020, the maximum sulphur content of fuel consumed at sea will be limited to 0.50%, unless an exhaust gas cleaning system is used.

The new rules, including the January 1, 2020, implementation date, have been known for a long time, and the industry has worked diligently to be ready to comply. However, the cost of compliance is high, so it is critical that the rule is consistently applied and enforced. There must be a level playing field if this important regulation is going to work.

“Recent reports suggesting that some nations might not fully implement the new rules are disturbing. Lack of full implementation would risk undermining improvements to public health and the environment,” said John Butler, President & CEO of the World Shipping Council.

“The rules and implementation date for the new sulphur limits are clear and must be enforced. We urge any country considering deviation to abandon those ideas and put plans in place to fulfill their enforcement responsibilities as of January 1, 2020, and we encourage the IMO to remind member states of their commitments,” Butler added.

Angus Frew, Secretary-General and CEO of BIMCO, observed that “The primary reason to move to low sulphur fuel is to improve air quality. For nations not to implement this regulation is to continue to put at risk the health of their coastal populations.”

Brian Salerno, Senior Vice-President for Environmental Policy at CLIA, noted that “The cruise industry is prepared for the 2020 global sulphur limit through a diverse approach using low-sulphur fuels, alternative technologies such as exhaust gas cleaning systems (EGCS) and new ships propelled by liquefied natural gas (LNG) fuel. Consistent application of the requirements globally remains critical, as adopted by the IMO.”

IPTA Chairman, Manish Jain, commented “IPTA members are supportive of the IMO as the sole agency with the mandate to regulate global shipping. 1 January 2020 will herald a major change for ship operations and IPTA members have been working hard to prepare for it. It is important that IMO member states play their part in ensuring consistent implementation of the global sulphur cap that they developed and adopted.”

Butler concluded: “There is a lot at stake for the IMO community here. This regulation affects vessel operations 24/7/365 everywhere on the planet, and it will be expensive. This will be an important test case for IMO member states to demonstrate that they will exercise the political will to implement and enforce the fuel sulphur limits they have adopted.”

The World Shipping Council is an association of liner shipping companies with offices in Brussels, Singapore and Washington, D.C. Its members transport over 90 percent of containerized international trade and a high percentage of transoceanic vehicle carrier traffic. BIMCO is the world’s largest international shipping association, with around 1,900 members in more than 120 countries. BIMCO’s global membership includes shipowners, operators, managers, brokers, agents and P&I clubs. Cruise Lines International Association (CLIA) is the world’s largest cruise industry trade association, providing a unified voice for the global cruise community. CLIA supports policies and practices that foster a safe, secure, healthy and sustainable cruise ship environment for more than 28 million passengers who cruise annually. The International Parcel Tankers Association (IPTA) represents the interests of the specialized chemical tanker sector.

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Updated overview CLIA Environmental Technologies and Practices

Full overview is also available online:

- [Report](#)
- [Infographic](#)

Thank you for your attention