

Reducing emissions, waste in the cruise line industry

 By [Sindy Peters](#)

8 Jun 2016

The top environmental priorities for the Cruise Lines International Association (CLIA) include emissions reduction, improving efficiency, and waste management solutions.



Donald Brown

We interviewed Donald Brown, director of Technical & Regulatory Affairs, Environmental & Health at CLIA, to find out more about the latest sustainability technologies being introduced in the cruise line industry, as well as some of the sustainability achievements to date.

■ ***What role does the Cruise Lines International Association play in motivating its members to implement mitigation measures to reduce emissions?***

CLIA has worked with leading maritime organisations to develop and implement policies and practices that drastically lower emissions. CLIA worked with the International Maritime Organisation (IMO) to develop international maritime requirements that will lead to a 30% reduction in new marine vessel CO2 emissions by 2025. CLIA has supported development of ship energy efficiency management plans (SEEMP) and facilitated implementation of its mandatory requirements for all ships. These have reduced fuel consumption and CO2 emissions. CLIA supported development of the Energy Efficiency Design Index (EEDI). This created a technical solution for governments regarding the unique ship types used by the cruise industry, and facilitated implementation of its mandatory requirements for new ships.

■ ***What are the latest sustainability technologies being invested in in the cruise liner industry?***

In the last decade, the cruise industry has invested billions of dollars into new technologies and designs that are transforming the modern fleet with improved efficiency and performance. They include the following:

Emissions reduction

The introduction of liquefied natural gas (LNG) fuelled ships: The industry has committed more than \$8bn to the construction of highly advanced LNG-fuelled cruise ships that will have lower emissions and higher energy efficiency. Carnival Corporation christened AIDAprima in May, the flagship vessel for its German-based AIDA Cruises brand. It has dual-fuelled engines that can be powered by LNG while in port. In April 2016, MSC Cruises (which cruises out of Cape Town) signed a letter of intent with STX France for the construction of up to four new LNG-powered cruise ships. Carnival Corporation, which cruises out of Cape Town, has invested \$400m to design, build and install ECO-ECG systems on more than 70% of its fleet. This technology removes the oxides of sulfur that come from the combustion of fuel that contains sulphur. It also ensures compliance with established North American ECA and other global IMO emission and fuel standards.

The installation of exhaust gas cleaning technologies: Nearly one-third of CLIA member cruise ships have or are in the process of installing exhaust gas cleaning systems to reduce nearly all sulphur dioxide emissions.

Waste management

Advanced wastewater treatment better than most coastal cities: The cruise industry pioneered advanced wastewater treatment systems that can produce water cleaner than most wastewater treatment facilities in coastal US cities.

CLIA member ocean-going cruise lines must adhere to a zero discharge for trash and untreated sewage. This policy far exceeds the legal requirements and the existing standards of the vast majority of the maritime industry.

Repurposing waste on cruise ships more effectively than on land: Cruise ship waste management professionals oversee the recycling of 60% more waste per person than the average person recycles on shore each day. Cruise lines recycle more than 80,000 tons of paper, plastic, aluminium and glass each year. Unrecyclable waste on cruise ships can be as little as 1.5 pounds per person a day, compared to the average of 4–5 pounds per person on land in the US.

Efficiency examples

Naturally occurring condensation from shipboard air conditioning units is reclaimed and then used to wash the decks of CLIA member lines' ships, saving up to 22.3-million gallons of fresh water annually.

Recycled hot water from the engines and other systems is used for heating passenger cabins and other shipboard purposes.

Innovative hull coatings and designs to reduce fuel consumption: For example, Royal Caribbean designed a more optimal hull shape with an advanced propeller system. As a result, there is an estimated energy savings of about 8% compared to traditional propeller-and-rudder set-ups.

Celebrity Cruises, which too departs from Cape Town, introduced the industry's first shipboard green roof and solar panels in 2008 on the Celebrity Solstice.



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■ ***How is public perception influencing the cruise liner experience?***

The global interest in cruising is greater than ever and it is important that the public understands our commitment to the environment. We have a vested interest in protecting the environment because it is upon beautiful oceans that we sail. Our leadership, investments and collaborations are all focused on advancing sustainable solutions.

■ ***What is the role of Cruise Forward?***

Cruise Forward is an industry program designed to draw awareness and understanding of the cruise industry's commitment and efforts in many critical areas, including the environment, safety, security and health.

■ ***What are some of the industry's sustainability achievements to date?***

Among our most notable achievements, is the work we've done with the IMO to develop regulations for a 30% reduction in new marine vessel CO2 emissions by 2025 and the implementation of mandatory ship energy efficiency management plans for route planning, maintenance, and operations, which have been reducing fuel consumption and CO2 emissions for existing ships since 2013.

Also, cruise ships' waste management programs have resulted in recycling and reuse on average 60% more waste per guest than the average person does on land, and CLIA members must not discharge trash or untreated wastewater into the ocean.

■ ***How, if at all, do cruise lines work with partners and suppliers in driving sustainability throughout the travel industry?***

CLIA and its members have partnered with multiple businesses, organisations and governments to improve environmental sustainability both within the cruise industry itself and to benefit the broader travel industry. The following are just a few examples of many:

- Carnival has supported the Nature Conservancy on ecosystem projects, including that of coral reefs, which help reduce risks to coastal communities from storms and rising sea levels.
- Royal Caribbean has partnered with the World Wildlife Fund on ocean conservation programs, which includes efforts to lower emissions and setting sustainable seafood targets.
- CLIA has partnered with the Ocean Conservancy on mutual areas of interest including efforts to bring greater visibility to marine spatial planning efforts in coastal regions and to provide support for eliminating the discharge of plastics at sea.

- CLIA worked with the IMO to establish reduced emissions targets by 2025.
- CLIA members partnered with the US National Parks Service to map humpback whales in Alaska, helping to prevent accidents between the whales and visiting cruise ships.

For more info, go to www.cruiseforward.org.

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