



Carnival Corporation's AIDA Cruises Brand Presents Latest Sustainability Report: World's First LNG-Operated Cruise Ship, AIDAnova, Commissioned in 2018

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The world's largest leisure travel company's AIDA Cruises, Germany's leading cruise line, documents further progress on its path towards emission-neutral cruising

MIAMI, July 15, 2019 /PRNewswire/ -- AIDA Cruises, the German brand of [Carnival Corporation & plc](#) (NYSE/LSE: CCL; NYSE: CUK), documented further progress on its path toward emission-neutral cruising in the latest edition of "[AIDA cares](#)." As early as 2023, 94% of all AIDA guests will be sailing on ships that can be fully operated with low-emission liquefied natural gas (LNG) or, in port can utilize green shore power.

After 10 years of research and development, AIDA Cruises achieved a technological quantum leap with the commissioning of AIDAnova on Dec. 12, 2018, putting the world's first cruise ship that is fully operated by low-emission LNG into service.

By 2023, two more of these innovative ships will take to the oceans for AIDA Cruises, in addition to the eight other LNG-powered vessels on order for Carnival Corporation due for delivery between 2019 and 2025. AIDA Cruises is also retrofitting the ships in the existing fleet on an ongoing basis with state-of-the-art green technology. The use of LNG, shore power from renewable energy sources, the use of modern Advanced Air Quality Systems (AAQS), the reduction or complete elimination of plastic and disposable products, and the reduction of food waste on board are key issues that AIDA Cruises is tackling.

"As Germany's market leader for cruises, we accept the ecological and social challenges that we face both now and in the future, and we are taking responsibility. Today we are already exploring together with our partners the use of fuel cells, batteries or liquefied gas from renewable sources in the cruise industry. We are committed to both the Paris climate targets and those of the International Maritime Organization (IMO). Our long-term goal is clear: emission-neutral cruising," said AIDA President Felix Eichhorn at the launch of "AIDA cares 2019".

Overview of the key facts:

Use of LNG: AIDA Cruises to commission two more LNG-powered ships with low-emission propulsion by 2023.

AIDA has already been engaging in research into and development of the use of LNG in the cruise industry for over 10 years.

With AIDAnova's launch at the end of 2018, the company commissioned the world's first cruise ship that can be operated entirely with low-emission LNG both at sea and in port. Two more of these innovative AIDA ships will be commissioned in 2021 and 2023 respectively. Thanks to the use of LNG, emissions of particulates and sulfur oxides are eliminated almost completely, while emissions of nitrogen oxides and carbon dioxide are sustainably reduced. At present, AIDAnova is sailing in the Western Mediterranean, and is supplied with LNG every 14 days in Barcelona. Previously, AIDAnova had been supplied in Tenerife/Canary Islands, also on a 14-day basis.

Leading the cruise industry's use of LNG to power cruise ships, Carnival Corporation has an additional 10 vessels due for delivery between 2019 and 2025 for Costa Cruises, P&O Cruises (UK), Carnival Cruise Line and Princess Cruises, in addition to AIDA Cruises.

Use of shore power: All AIDA ships built since 2000 (12 ships) will be equipped for shore power connection.

On average, an AIDA ship spends 40% of its operating time in port. Shore power is therefore an important subject for AIDA Cruises when it comes to retrofitting the ships in the existing fleet with green technology. By using shore power from renewable energy sources while the ships are in port, emissions can be virtually reduced to zero.

As early as 2004, with the commissioning of AIDAdiva, AIDA Cruises was already considering the use of shore power as an option for eco-friendly ship operation when building both AIDAdiva and all further ships. This was 10 years before the first plans for a shore power plant for cruise ships started to take shape in Germany. Since 2017, AIDAsol has been using the shore power plant in Hamburg-Altona during regular operations.

Ten ships of the AIDA fleet are currently equipped with a shore power connection or are technically prepared for it. All AIDA ships built from 2000 onward (12 ships) will be able to use shore power by the end of 2020.

To ensure that the eco-friendly shore power technology aboard AIDA ships can be used more extensively in the future, port infrastructures need to be developed. In 2018 AIDA Cruises teamed up with the state governments of Schleswig-Holstein and Mecklenburg-Western Pomerania, forming partnerships for environmentally-friendly cruise tourism, with the aim of providing shore power for cruise ships at the ports of Kiel and Rostock by 2020. AIDA Cruises is ready to start test operations in both ports in 2020.

Advanced Air Quality Systems: Nine ships already equipped.

For all AIDA ships that cannot be entirely powered by LNG, Advanced Air Quality Systems developed by Carnival Corporation are currently the most eco-friendly alternative for reducing ship emissions aboard AIDA ships when they are at sea.

In 2013, as part of an investment program, AIDA Cruises had already started to retrofit its fleet with these Advanced Air Quality Systems. Currently, nine of 12 AIDA ships have been equipped with them: AIDAprima, AIDAprera, AIDAdiva, AIDAluna, AIDamar, AIDAvita, AIDAbly, AIDAsol and AIDAbella.

AIDA set a company goal of equipping all ships in the existing fleet (except AIDAcara) that cannot be entirely powered by LNG in this way to improve

air quality.

Thanks to these systems, emissions of particulate matter and sulfur oxide can be significantly reduced, while emissions of unburned hydrocarbons are proportionally less and emissions of nitrous oxide are lower when compared to marine gas oil emissions. These systems are being successfully deployed in the global travel regions and/or ports AIDA Cruises is licensed to operate in.

As of July 2019, Carnival Corporation has installed over 220 Advanced Air Quality Systems on 77 of the more than 100 ships in its fleet, with a goal of installing nearly 400 scrubber systems over time in its multi-engine ships. By 2020, the company expects 85% of its global fleet to be fitted with Advanced Air Quality Systems at an investment of over \$500 million.

Next technological leap: First practical trial of fuel cells aboard an AIDA ship planned as early as 2021.

AIDA Cruises' long-term goal is emission-neutral cruising. Together with its partners in the worlds of research, science and business, AIDA Cruises has been a pioneer for many years in research into and the use of alternative propulsion technologies and state-of-the-art environmental technology.

As part of its Green Cruising Strategy, for instance, AIDA is exploring the possibility of CO₂-free production of liquefied gas from renewable sources ("Power to gas" project) or the use of fuel cells and batteries for cruise ships. Within the scope of the "Pa-X-ell 2" project (promoted by Germany's Federal Ministry of Transport and Digital Infrastructure), practical trials of fuel cells aboard an AIDA ship are planned as early as 2021 in conjunction with the Meyer Werft shipyard and other partners.

Fuel in use:

The use of low-sulfur fuels has already been a reality in many of AIDA Cruises travel regions for years. In the North Sea, the Baltic Sea, off the coasts of North America and in all other ECA-regions worldwide, AIDA Cruises utilizes low-sulfur fuel containing at most 0.1% sulfur. In all European ports, the engines of AIDA ships have been only using fuel containing a maximum of 0.1% sulfur for almost a decade now.

After 10 years of research and development, the exclusive use of low-emission LNG on a cruise ship became a reality as well with the launch of AIDAnova at the end of 2018. AIDA Cruises will have two more of these innovative ships in service by 2023.

Avoidance of plastic and disposable items:

The reduction and, ideally, complete elimination of plastic and disposable items is a key element of AIDA Cruises' sustainability strategy. Wherever possible, disposable items have been replaced with reusable ones.

Many beverages are produced directly aboard the AIDA ships and/or are not purchased in bottles but in special large-volume beverage containers. Plastic straws have been replaced aboard AIDA ships with straws made of biodegradable starch. Furthermore, straws are not automatically provided with every beverage but only with cocktails or at the guest's request. Wherever disposable cutlery or cocktail sticks remain unavoidable, these are made of wood. Items served with coffee, such as cookies, come without wrapping. AIDA guests enjoy their coffees "to go" from reusable cups rather than disposable plastic cups.

In staterooms and bathrooms, AIDA has dispensed with the use of plastic bags in garbage bins. Laundry bags in the stateroom closets are made of compostable starch, while freshly dry-cleaned items are returned to guests' staterooms without a plastic cover. AIDA Cruises has already been offering only paper bags in its onboard shops since 2013 and, naturally, all spa and cosmetic items on board are free of microplastics.

With regard to the remaining disposable items such as paper napkins, AIDA Cruises ensures that these are biodegradable wherever possible.

Avoiding food waste:

Thanks to a wide range of initiatives, both large and small scale, AIDA Cruises is succeeding in reducing food waste on board every year.

Naturally, food is prepared fresh and sustainably aboard all AIDA ships – not only for all guests, but also for the crew. AIDA is eager to ensure that no endangered animal species find their way onto the menu, and that wherever possible foodstuffs should be unprocessed, avoiding convenience products. This alone avoids a huge quantity of packaging waste.

Since the first AIDA ship was commissioned over 20 years ago, AIDA kitchens have been working with what is known as the "cook and chill" system. This means that prepared food is only delivered to the restaurants if it is actually needed. All other food remains refrigerated. Since 2016, the brand's entire fleet has been working with the so-called buffet runner system where the staff at the buffet restaurants use their mobile end device to place an order directly with the main kitchen. There, only the food that is actually required at that moment is prepared and delivered. This system is also used, incidentally, in the crew restaurants.

Many of the dishes at the buffet restaurants are prepared fresh at live cooking stations or offered in small individual portions. If guests enjoy the dish, they are free to help themselves to more, rather than sending food back. Table beverages are served not in bottles but in glass carafes. As the restaurants come up to closing time, the range of foods available is not reduced, but rather the size of the serving dishes at the buffet stations. All accumulated waste, including food scraps, is regularly measured aboard the AIDA ships, and steps to further reduce it are developed on an ongoing basis.

AIDA Cruises has already been transparently documenting its commitment to the environment and society since 2007 in its annual sustainability report, AIDA cares, which also sets out all of the key environmental figures. AIDA Cruises has published further information about its commitment to the environment and sustainability in its latest sustainability report, AIDA cares 2019, available at www.aida.de/aidacares.


About Carnival Corporation & plc

Carnival Corporation & plc is the world's largest leisure travel company and among the most profitable and financially strong in the cruise and vacation industries, with a portfolio of nine of the world's leading cruise lines. With operations in North America, Australia, Europe and Asia, its portfolio features Carnival Cruise Line, Princess Cruises, Holland America Line, Seabourn, P&O Cruises (Australia), Costa Cruises, AIDA Cruises, P&O Cruises (UK) and Cunard.

Together, the corporation's cruise lines operate 103 ships with 243,000 lower berths visiting over 700 ports around the world, with 19 new ships scheduled to be delivered through 2025. Carnival Corporation & plc also operates Holland America Princess Alaska Tours, the leading tour company in Alaska and the Canadian Yukon. Traded on both the New York and London Stock Exchanges, Carnival Corporation & plc is the only group in the world to be included in both the S&P 500 and the FTSE 100 indices.

With a long history of innovation and providing guests with extraordinary vacation experiences, Carnival Corporation has received thousands of industry awards – including recognition by the Consumer Technology Association™ as a CES® 2019 Innovation Awards Honoree for OceanMedallion™. A revolutionary wearable device that contains a proprietary blend of communication technologies, OceanMedallion enables the world's first interactive guest experience platform transforming vacation travel on a large scale into a highly personalized level of customized service. The prestigious CES Innovation Awards honor outstanding design and engineering in consumer technology products.

Additional information can be found on www.carnival.com, www.princess.com, www.hollandamerica.com, www.seabourn.com, www.pocruises.com.au, www.costacruise.com, www.aida.de, www.pocruises.com, and www.cunard.com.

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