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“Ports worldwide are investing in shore-to-ship power”

**PONANT Sustainable expeditions**

French-owned Ponant’s newest expedition ship, the 270-passenger Le Commandant Charcot, is one of the greenest, exploring remote destinations including Antarctica on LNG and battery power. Ponant offsets 150 per cent of its carbon emissions and is the first cruise line to achieve Green Marine certification, awarded to companies that commit to reducing their impact.

The line takes sustainable tourism seriously, planning all its itineraries in collaboration with communities to avoid overwhelming small, remote populations. Food is sourced locally wherever possible.

**VIRGIN VOYAGES Carbon neutral emissions**

Virgin Voyages made its direct emissions carbon neutral right from its launch last year, buying carbon offsets in wind and solar projects.

Its first ship, Scarlet Lady, is one of the first to incorporate a high-tech system created by the Swedish company Climeon that uses otherwise wasted heat from engine cooling water

to generate electricity. Virgin also bans single-use plastics on board (no water bottles or coffee cups, no ketchup sachets or disposable cutlery) and has no buffet, which it says cuts food waste by an estimated 225 tons per ship per year, according to the line’s Sea Change report.

**A-ROSA Rechargeable riverboats**

A-Rosa is one of the most ambitious river cruise lines when it comes to sustainable sailing. All the ships in the fleet are equipped with shore power connectivity to avoid having engines running in port. The company is launching a new, 280-passenger ship on the Rhine, A-Rosa Sena, this summer, with hybrid propulsion so the ship can glide silently into port on its battery-powered engine, hook up to shore power and recharge overnight. A streamlined hull design will reduce drag, creating even better fuel efficiency.

**AURORA EXPEDITIONS Futuristic design**

Aurora Expeditions is one of the first lines to build ships with the futuristic Ulstein X-Bow, a Norwegian invention of an inverted bow that’s broad at the top and pointed at the bottom. This design slices quietly through the waves with minimal vibration, cutting fuel consumption by up to 60 per cent.

Australian-owned Aurora is already certified 100 per cent carbon neutral. Greenhouse gas emissions across the company are offset by buying carbon credits in, for example, a wind farm in Taiwan.

The company is to host the first Antarctic Climate Expedition in February 2023, led by the renowned oceanographer and conservationist Dr Sylvia Earle, after whom its newest ship is named. The invitation-only expedition will help formulate 23 resolutions to inspire changes for global net-zero emission by 2050.

**SILVERSEA CRUISES Fuel cells**

The luxury line Silversea, better known for its elegant ships and all-inclusive service, is launching Silver Nova next year, the first in a series of ships that will use ambitious hydrogen fuel cell technology to provide 100 per cent of power while in port – a first in the cruise industry.

The ships will use three power sources: dual fuel engines with LNG as the main fuel; batteries; and fuel cells. The line says that it will also work with the Meyer Werft shipyard in Germany towards making the actual process of shipbuilding carbon neutral.

**Biofuel, battery power: we’re entering a new era of sustainable cruising, says Sue Bryant**

**W**hile cruising has not traditionally been considered

the most eco-friendly of holidays, real change is in the air. Anybody who cruises regularly will have seen the more obvious steps towards sustainable travel at sea, as cruise lines ban single-use plastics and introduce high-profile recycling campaigns or collaborations with conservation charities.

But we’re really still at the beginning of a new era of greener cruising, which is only going to get better as technology improves.

Operators are building ships that run on liquefied natural gas (LNG), producing 25 per cent less carbon dioxide, zero sulphur emissions and up to 95 per cent less nitrogen oxide than conventional fuel. Over half the new ships on order from members of the Cruise Lines International Association (CLIA), which represents 90 per cent of the world’s cruise ships, will use LNG as their main fuel. But LNG is still only a stepping stone to the next generation of greener fuel, with lines investing millions into the development of synthetic LNG, biofuels and hydrogen fuel cells.

Cruising is becoming more sustainable in other ways too. Wastewater management systems on new ships are more advanced than many ashore. Marine engineers are coming up with high-tech hull designs that reduce drag. Ports and cruise lines are investing in shore power, so that ships can connect to the grid in port and stop their engines.

Collectively, some of the biggest companies in the cruising industry have announced that they’re

aiming for zero greenhouse gas emissions by 2050. Here’s how some of them are going about it.

**CARNIVAL CORPORATION More sustainable fuel**

Carnival Corporation, the biggest cruise company, is “aspiring” to achieve net carbon-neutral ship operations and zero-emissions ships by 2050. Greener fuel is one of the ways this will be achieved.

At the moment, AIDA Cruises, Costa Cruises, Carnival Cruise Line and, most recently, P&O Cruises, all owned by Carnival Corporation, have ships powered by LNG, with more due to be launched. Rivals Disney Cruise Line and MSC Cruises are doing the same. But cleaner fuel is only as good as the supply chain and there are still very few ports in which these ships can refuel.

**HURTIGRUTEN Hybrid power**

Hurtigruten Expeditions was a pioneer with its hybrid-powered expedition ships, Roald Amundsen and Fridtjof Nansen, the first of which launched in 2019. Now the line is converting the rest of its expedition fleet to hybrid power, reducing total emissions by some 20 per cent.

Meanwhile the seven ships in Hurtigruten’s Norwegian Coastal Express fleet, which sails up and down the Norwegian coast, are being converted either to hybrid power or to run on biofuel, made in part from fish.

Hurtigruten is also a leader in the reduction of single-use plastic. This has been completely scrapped from all the company’s operations, while some of the crew uniforms are made from recycled fishing nets. Food served on board is sustainably and locally sourced.

**HAVILA VOYAGES Battery power in the fjords**

Havila Voyages, which has just started to sail Norway’s coast alongside Hurtigruten, has just launched the first of four hybrid-powered ships combining LNG fuel with even bigger batteries. These ships are future-proofed for when hydrogen power or synthetic LNG becomes an option. Recharging the batteries is sustainable too, because the charging stations along the Norwegian coast are fuelled by hydropower.

Havila Capella, the first of the four ships, can glide into pristine fjords on battery power alone, for up to four hours at a time, with no noise and no emissions. Others will soon have to follow suit; the Norwegian government has said that Geirangerfjord and Naeroyfjord will be zero-emission locations from 2026 at the latest.



From top: the northern lights over Lofoten, Norway; Virgin Voyages’ Scarlet Lady; Ponant’s Le Commandant Charcot, which explores remote places such as Antarctica, below

