

Easy being green

After years of drawing criticism over its environmental record, the cruise industry has made great strides in establishing greener credentials. Dinah Hatch explores the industry's latest endeavours with Crystal Cruises' Tom Greene and Enrico Della Valentina of the Maritime Research Institute Netherlands.

The cruise industry has been the whipping boy of the environmental lobby for as long as most people can remember, but while its critics have been busy knocking the size of its carbon footprint, it has been quietly going about minimising it.

The likes of Princess Cruises, Crystal, Holland America Line, NCL and Disney have all made huge strides to go green in recent years, while a major landmark was achieved in February when new regulations were adopted by the US Environmental Agency concerning cruise discharges.

In 2001, Princess Cruises kicked off a major initiative in the pursuit of greener practices when it invested \$4.5 million to implement its cold ironing programme in Juneau, Alaska. Cold ironing is when a ship plugs into a port's electricity supply while docked in order to receive hydroelectric power on board.

Princess Cruises has rolled out this programme at the US ports of Seattle, Los Angeles and San Francisco and all of its ships are now fitted-out with the necessary cable connections. The cost of equipping each ship is around \$500,000.

And cold ironing's benefit to the environment is huge. For example, in the state of California 70% of cancer risk is thought to be down to the toxic air contaminants created by diesel particulate matter – the largest contributors of which are

cargo-handling equipment and ships using diesel engines at dock while in port. A ship that is plugged into shore supplies rather than creating its own power in port does not create this type of pollution.

Like many green initiatives, the initial cost of implementing cold ironing is high. Ongoing costs range from \$4,000 to \$5,000 a day for surplus hydroelectric power as opposed to \$3,500 a day for diesel fuel, although the rising cost of diesel is going some way to mitigate this

Sending a green signal

The environmental issue has also been high on the agenda in recent years for Crystal Cruises, which recently scooped the Ports of Stockholm's Environmental Buoy Diploma for its good handling of waste separation at source and black and grey water management.

One of Crystal's latest green initiatives includes auditing its fleets' lighting and energy consumption, creating savings of more than 960,000kW/h, the equivalent of nearly 200t of fuel a year.

It has also introduced 100% recyclable coat-hangers, which avoids adding to the nine billion wire and plastic hangers sent to landfill each year. It also uses washable, reusable garment bags instead of plastic laundry bags.

Crystal's director for environmental and occupational safety, Tom Greene, believes

it is only common sense for cruise lines to minimise their environmental footprint. 'It is more productive and a better use of resources to be proactively diligent in this area. More importantly, it just makes good sense to do everything we can to protect the environment through which we sail. We depend on having healthy, thriving and attractive destinations to take our guests on cruises,' he says.

'The industry will continue to move forward to find new methods and take advantage of new technologies to reduce its environmental impact. This is more easily done with new builds than retrofitting existing ships. There has also been great improvement in wastewater processing and in the reduction of air emissions.'

Meanwhile, Holland America Line (HAL) has been operating a Ship to Shelter community charitable programme that donates reusable goods from its ships to local people in need. Initiated last year with the Port of San Diego and this year with Port Everglades in Florida, the cruise line donates partly-used stateroom toiletries along with kitchen crockery, silverware and televisions.

'Over the years, Holland America Line has worked with non-profit organisations around the world to donate reusable goods in a socially conscious, environmentally friendly method,' executive vice-president Richard Meadows said when the programme was launched.

'These items are periodically replaced on our ships and can be put to good use for a worthy cause.'

HAL is also involved in a \$1.5 million seawater scrubber pilot programme looking at the feasibility of reducing engine emissions on its ships.

The seawater scrubber system uses the natural chemistry of seawater to remove virtually all sulphur oxide as well as reducing particulate matter emissions. The seawater is then treated to remove harmful components before being discharged overboard.

Over at Norwegian Cruise Lines (NCL), personnel have recycled 96t of cardboard, 206t of wood pallets, 275m³ of cooking oil, 364t of plastics, 909t of scrap metal and 1,813t of glass in order to conserve natural resources.

The company also sent 253t of rubbish and food waste to a waste-to-energy facility, which generated enough electricity to power around 575 homes.

Since 2007, NCL has recycled cooking oil used on its ships at the Port of Miami. In the past 12 months more than 15,000

gallons of oil was donated to a local farmer who converted it into 870 gallons of bio-diesel.

The company says it recycles everything from lube oil to sludge and has invested heavily in environmental protection technology.

Each of its ships is equipped with solid and liquid waste processing equipment while effluent from its advanced wastewater treatment system meets the strict discharge standards of the US Coast Guard and the state of Alaska.

Long-term change

Enrico Della Valentina does not work for a cruise line but he plays a large part in cleaning up the industry. As a project manager at the Maritime Research Institute Netherlands, his job is relevant right at the beginning of a ship's building process when he and his colleagues brief cruise lines on design.

With environmental concerns at the fore right now, he says cruise lines are working hard on new ships to make them as green as possible.

'In the last five years the cruise industry has been saying that the main expense for them is no longer the crew's salary but the cost of the fuel they consume. So there is a two-fold need to reduce fuel consumption: to save on costs and also to reach a higher level of greenness, which is becoming increasingly important,' he says.

'Until recently, the key issue was speed. That's a problem now because it is hard to combine efficiency with comfort. It is very hard to create a silent ship,

with no vibrations, that is as efficient as it could be.' So, as an independent player, does he believe cruising is doing enough to minimise its footprint? 'The green ship that is built now will stay in the market for the next 20 to 30 years, but there are many ships sailing as we speak that were built 20 to 30 years ago that were not built with the environment in mind. While the cruise industry is heading in the right direction, there is still a long way to go.' **wc**

Enrico Della Valentina

Enrico Della Valentina joined the Maritime Research Institute Netherlands as project manager in 2004. In 2007 Enrico became project manager of the ship powering department.



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