



### CONNECTING TO SHORESIDE ELECTRICITY

Plugging into shoreside electricity enables ship engines to be switched off and reduces emissions while the ship is in port.

**40%** of the global cruise fleet by capacity has been equipped to connect to shoreside electricity.



### FUEL CELLS

Fuel cells can help to power ship propulsion or auxiliary power systems without generating greenhouse gases when hydrogen is used as fuel source.

Fuel cells can be powered by various fuels such as methanol, ethanol, natural gas, biogas, or hydrogen derived fuels, all of which reduce greenhouse gas emissions.



### NEW SUSTAINABLE MARINE FUELS

Cruise lines are investing in development of sustainable marine fuels. These include advanced biofuels, bio-methanol and synthetic e-fuels.

Advanced biofuels are fuels that are made using non-food biomass (plant material and animal waste).

E-fuels, like e-methane and e-methanol, are all fuels in gas or liquid form that are produced from renewable (solar or wind power, for example) or decarbonised electricity. This raw material differentiates them from biofuels, which are primarily produced from biomass. The carbon content can be taken from different sources (biomass, industry, or direct air capture) but such that they remain net zero on a lifecycle approach.



### BATTERY TECHNOLOGY

Battery technology can help in ensuring engines and fuel cells operate at their most efficient, and supply short period of zero emissions use.

More than **15%** of cruise ships to be delivered in the next five years will be equipped to incorporate fuel cells or batteries.



### USING DIGITAL TECHNOLOGY TO BE MORE ENERGY EFFICIENT

From tracking the energy use of appliances in a ship's galley to routing ships optimally, digital technologies offer a new energy-saving tool.

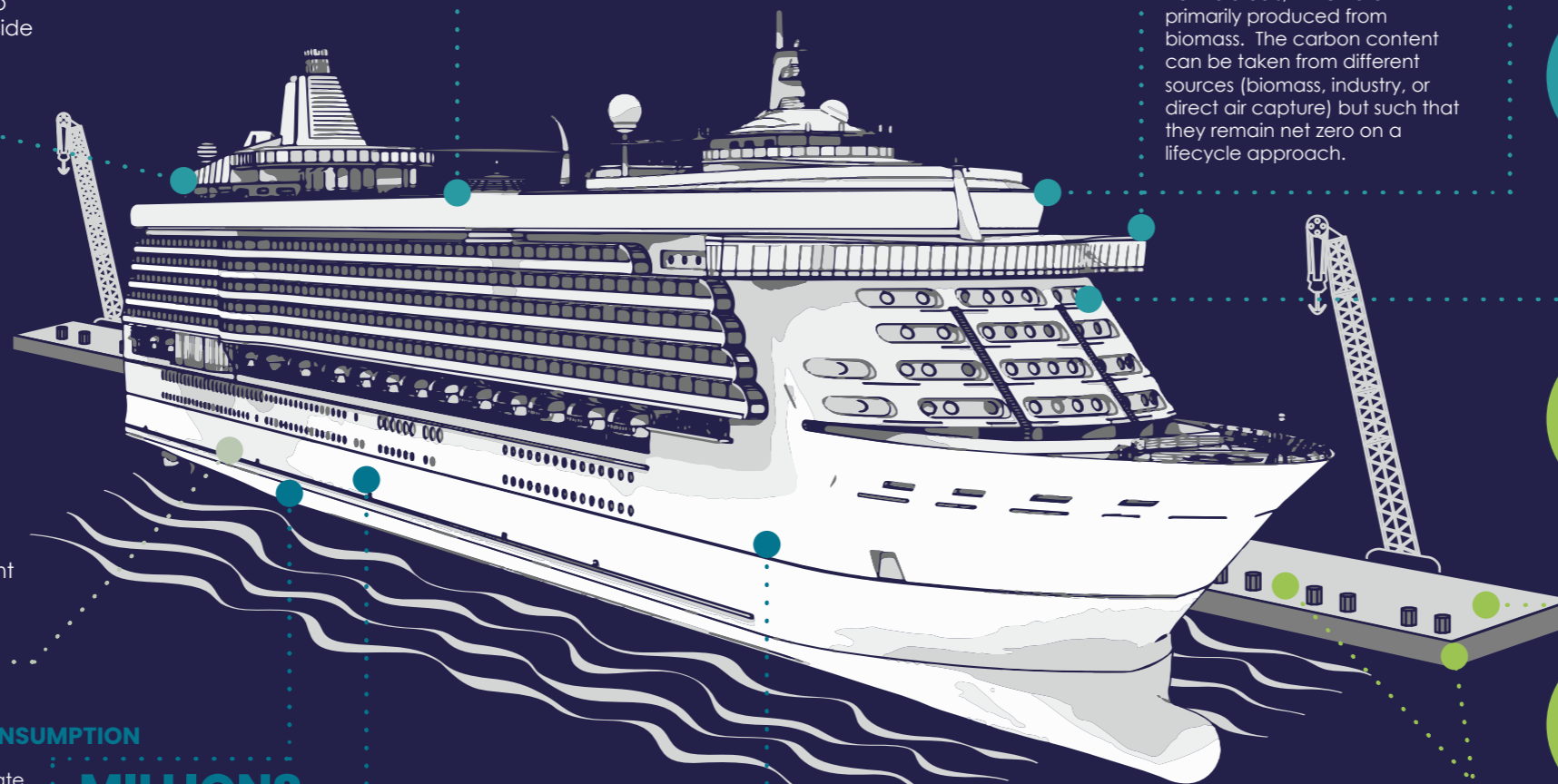
Each new class of ship that is launched is around **20%** more efficient than the last.



### LIQUIFIED NATURAL GAS

More cruise ships are using liquefied natural gas (LNG). LNG is a transitional fuel as the most readily available low carbon fuel with a clear pathway via bio-LNG and Synthetic LNG to net zero.

LNG is important as it reduces CO<sub>2</sub> emissions by **20%**. Even when methane slip is taken into account the reduction is significant.



### GENERATING ECONOMIC BENEFITS FOR CRUISE DESTINATIONS

Cruise tourism brings economic and social benefits to communities and can be vital for some of the more remote coastal and island regions.

On average a cruise guest spends **€660** in port cities during a seven-day cruise.



### PARTNERING WITH CITIES & PORTS

The cruise industry works with cities and ports to develop action plans for sustainable tourism.

As cruise tourism is planned well in advance, it provides a lot of opportunity to work with communities to ensure local benefits are maximized.



### MANAGING FUEL CONSUMPTION

Air lubrication systems create microscopic bubbles to reduce drag as ships move through water and help to reduce fuel consumption. Special hull coatings also reduce friction and therefore fuel consumption.

**MILLIONS** of microscopic bubbles coat some ships' hulls and reduce drag.



### SUSTAINABLE WASTEWATER MANAGEMENT

Advanced wastewater treatment systems often exceed those of shoreside treatment plants.

**100%** of new ships on order are scheduled to have advanced wastewater treatment systems.



### SAFEGUARDING OCEAN HABITATS

Every cruise ship receives multiple inspections each year – announced and unannounced – to ensure implementation of strict environmental and safety regulations.

Cruise lines are required to implement **THOUSANDS** of requirements set by the IMO, ILO, national maritime and other relevant authorities.



### CRUISE IS A SUCCESS STORY FOR EUROPE

Almost all the world's ocean-going cruise lines are built in Europe. The cruise sector is an engine for growth for Europe's industrial economy.

More than **93%** of cruise ships are built in Europe. 78 cruise ships on order for the next five years represents over €45 billion direct investment into Europe.



### A CIRCULAR ECONOMY ONBOARD

Cruise lines use sophisticated processes to remove, reuse, recycle and convert waste to energy.

**100%** of waste generated onboard is repurposed on some ships.