

Greenhouse Gas Emissions

Reducing greenhouse gas (GHG) emissions is our #1 sustainability priority.

In fact, we are producing ~15% less total* GHG emissions today than our peak historical year (2011), despite increasing capacity by roughly 38% since that time.

*As of YE2025

We are tackling decarbonization with a comprehensive strategy that prioritizes lowering our energy use today while developing the flexibility to transition across multiple fuel pathways in the future.

Our Decarbonization Strategy Has Three Areas Of Progress And Innovation:

1 Energy Efficiency Investments

By reducing the amount of energy our ships require, we directly reduce fuel consumption, our largest source of GHG emissions. These investments are designed to deliver near-term efficiency gains while also preparing our fleet to integrate future low carbon technologies as they become available.

- **Power Saver Packs:** We are pressing on with our fleetwide rollout — including HVAC upgrades, LED lighting and advanced energy management systems — that work together to reduce the energy required for onboard systems and services on each ship.
- **Air Lubrication Systems:** This proven technology cushions the flat bottom of a ship's hull with air bubbles, which reduces frictional resistance and the propulsive power needed to drive a ship through water.
- **Waste Heat Recovery:** We are identifying innovative ways to capture waste heat to convert to energy, such as using heat generated by a ship's engine to make steam and potable water, generate electricity and even power technology that produces chilled water for cooling — further improving the efficiency of our air conditioning systems.
- **Steerable Propulsion Systems:** Over 40 of our ships utilize Azipod® systems for greater maneuverability, which translates into improved fuel efficiency and reduced emissions.
- **New Ships:** Our seven new ships scheduled to join our global fleet through 2033 are expected to be 20%+ more efficient per passenger than previous ship models and are fitted with more hydrodynamic hull designs, high efficiency advanced air conditioning systems, LED lighting, smart energy management systems and shore power capability.
- **Replacing Legacy Vessels:** We've also exited 13 older, less-efficient ships in the past 5 years.



2 Operational Improvements

Reducing fuel usage is one of the fastest ways to lower our emissions, and we are focused on optimizing our itineraries, as well as our navigational and operational procedures to minimize fuel use and reduce emissions. Here is how:

- **Smart Routing:** Advanced voyage optimization, weather routing and itinerary planning tools find the most fuel-efficient path between ports with no trade-off in guest experience.
- **Strategic Destination Development:** Our exclusive destinations like Celebration Key in The Bahamas are located near several U.S. home ports, enabling more efficient itineraries and sailing patterns while leveling up the guest experience.
- **Clean Hulls:** We are advancing hull maintenance with underwater drones and robots that inspect coatings and determine cleaning needs, optimizing maintenance and preserving the low friction hull coating while reducing drag and improving hydrodynamic performance to lower fuel use fleetwide.

3 Low-GHG Power Generation

We are focused on pioneering new technologies and alternative fuels, while working closely with third-party experts, technology providers and research organizations to identify promising pathways for sustainability solutions not yet readily available for the cruise industry.

- **Biofuels:** Since 2022, we have successfully tested several biofuels as a replacement for fossil fuels, and started long-term trials. In 2025, we transitioned to in-service use across four of our cruise lines.
- **LNG:** We pioneered liquefied natural gas (LNG) in the cruise industry in 2018, delivering immediate GHG reductions today compared with conventional fuels, and we now lead the industry with 11 LNG cruise ships in operation and ten more on order.
- **Batteries:** We have installed maritime-scale battery technology to supply electrical power, and enable engine-free and emission-free operation for limited periods.
- **Shore Power:** We are expanding shore power capability to allow ships to “plug in” to shoreside electric power, where available, while in port rather than running their engines, which reduces emissions and noise in port.
- **Other Fuels:** Through our key partnerships and Classification Societies, we are also assessing bio and e-methanol, bio-LNG, e-LNG and hydrogen as future low carbon fuel options for cruise ships. 100% of our ship engines are ready to be adapted for sustainable alternative fuels such as biofuels, green methanol and synthetic fuels when available at scale.

Princess Cruises EU Innovation Fund

In 2025, Princess Cruises secured EU Innovation Fund backing for Project INDIGO, a transformative retrofit that will equip a ship to run on low-carbon methanol paired with hybrid energy storage. Working with the ship's classification society, engine supplier and shipyard, the project will help shape future low-carbon fuel and hybrid propulsion standards and regulations.

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Emissions Trading System
Innovation Fund