GREENHOUSE GAS EMISSIONS

Reducing greenhouse gas (GHG) emissions is our #1 sustainability priority. We are pursuing net zero GHG emissions from our ship operations by 2050 and already are producing less total GHG emissions than our peak historical year (2011), despite increasing our guest capacity in that time.

Our pursuit of net zero emissions is multi-faceted and involves taking proactive action to continuously improve the energy efficiency of our operations, applying the tools and technologies available today, while investing in the development of low-carbon fuels at scale.

Our decarbonization strategy has four components:

1 FLEET OPTIMIZATION

We are building larger, more efficient ships and upgrading our existing fleet to operate more efficiently throughout their lifecycle.

- By focusing on efficiency and new technologies, our six new ships scheduled to join our global fleet through 2033 can be more than 20% more efficient per passenger than the previous ship class.
- At the same time, we've also exited 26 older less-efficient ships in the past five years.
- We are fine-tuning every aspect of engine monitoring in real-time to continuously find ways to improve operational performance.
- Several of our ships utilize Azipod® steerable propulsion systems, which help deliver greater maneuverability for improved fuel efficiency and reduced emissions.
- In addition to optimizing hull and propeller designs to minimize drag for energy savings, we are trialing systems to more regularly clean hulls of marine plaque and debris to improve hydrodynamics.

2 ENERGY EFFICIENCY

One of the key ways we reduce GHG emissions is by using less fuel. We've invested over $500 million in energy-efficient innovations since 2015 to improve our fleet's energy efficiency and reduce fuel consumption, including:

- Installing Power Saver Packs that work together to reduce the energy required for onboard systems and services on each ship.
- 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.
- Installing Air Lubrication Systems to cushion 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.
- Identifying innovative ways to reuse energy from waste heat recovery, such as using heat generated by a ship's engine to make steam.

3 ITINERARY EFFICIENCY

We are designing amazing itineraries for our guests while also finding ways to use less fuel, including:

- Our investment in eight corporate-owned port destination projects in strategic locations close to several key home ports helps reduce travel time and distance, contributing to a reduction in absolute GHG emissions.
- Operational improvements and techniques such as weather routing and speed reduction where possible also directly contribute to reducing our absolute GHG emissions.

4 NEW TECHNOLOGIES & ALTERNATIVE FUELS

We are focused on pioneering new technologies and alternative fuels, while working closely with companies, universities, research bodies, nongovernmental organizations, and other key organizations to identify and scale sustainability initiatives not yet ready for the cruise industry.

- We pioneered liquefied natural gas (LNG) in the cruise industry in 2018, delivering immediate GHG reductions compared with conventional fuels, and we now lead the industry with 10 LNG cruise ships in operation and six more on order (as of August 2024).
- 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.
- We are also piloting maritime-scale battery technology, a methanol-powered fuel cell and industry-first trials utilizing low-emission biofuel as a fossil fuel replacement.

This document includes claims related to our greenhouse gas emissions reductions, goals, initiatives, accomplishments, and progress reports. Supporting data for such greenhouse gas emissions claims, including data verification information, is published in our Sustainability Reports on **carnivalcorp.com/sustainability** on an annual basis.