LNG: FUELING THE FUTURE

Liquefied Natural Gas (LNG) is on the rise to become the preferred marine fuel of the future. The clean burning properties of LNG means far less ship emissions to meet the global emission standard of the International Maritime Organization (IMO) effective January 2020. The new standard requires ships limit emissions that negatively affect the environment. LNG has safely been used to fuel ship engines for over 50 years. LNG is transported in specialized containers that meet all international and U.S. regulatory requirements for safe transport. Canaveral Port Authority has committed resources and is working closely with Canaveral Fire and Rescue, the U.S. Coast Guard and other federal and state agencies to ensure the safe use of LNG at Port Canaveral.

What is LNG? Liquefied Natural Gas (LNG) is a natural gas — the same product widely used in homes, schools, hospitals and businesses for heating, cooling, cooking and hot water.

-260°F

LNG is super cooled to -260°F to become a colorless and odorless liquid.

Environmental Impact LNG as ship fuel significantly reduces harmful emissions of ship operations.

Marine engines powered by LNG virtually eliminate sulfur oxides (SOx) and reduce nitrogen oxides (NOx) up to 85%.

Safety LNG has been powering marine engines for more than 50 years.

Natural gas generates 27% less carbon dioxide than diesel fuel oil in combustion.

Insulated tank walls are specifically designed to safely store LNG at the correct pressure and temperature.

The Future LNG is the fuel of the future for commercial space and cruise industries, which requires our Port to invest in capabilities, partnerships and infrastructure to support its use.

The space industry plans to power launch vehicles with LNG because it’s an ideal fuel for deep space missions due to its high energy content and cryogenic properties.

LNG market demand by millions of tons

<table>
<thead>
<tr>
<th>Year</th>
<th>1990</th>
<th>2000</th>
<th>2010</th>
<th>2020</th>
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</thead>
<tbody>
<tr>
<td>Value</td>
<td>100</td>
<td>150</td>
<td>250</td>
<td>400</td>
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Number of LNG cruise ships in service and on order through 2027 (as of March 2019)

- Carnival: 11
- MSC Cruises: 5
- Disney: 3
- Royal Caribbean: 2
- Viking Ocean: 2
- TUI Cruises: 2
- Ponant: 1

Credit: Canaveral Port Authority