Providing LNG Where Needed, When Needed, and in the Quantity Needed
LNG America provides...

LNG America provides LNG as a fuel for high horsepower engines by providing the infrastructure needed for owners and operators to convert with confidence that the supply will be available where needed, when needed, and in the quantity needed.

LNG America brings together more than 100 years of natural gas, transportation, and energy experience to help customers in the transition to LNG as a fuel.

LNG America helps companies convert to LNG with confidence by providing a reliable supply of LNG. Combining LNG supply sources with logistics equipment and strategically located storage depots provides an end-to-end solution for owners and operators.

LNG America has developed specific solutions for the marine industry, oil and gas business, railroads, mining companies and other high horsepower installations. LNG America has an approach that will help companies move forward and utilize the benefits of clean burning natural gas produced right here in North America.

LNG SUPPLY

LNG America has an existing relationship with Cheniere Energy to obtain LNG from their Sabine Pass LNG production facility currently under construction in Louisiana. The company is also planning to obtain LNG from other planned sites at North American locations beyond the easy reach of Sabine Pass.
LNG America will connect supply of LNG to our customers through a network of logistics assets and storage facilities. The network will allow us to provide our customers with reliable and cost competitive LNG where needed, when needed, and in the quantity needed.

Target Customers

**Marine:** The U.S. Marine industry uses 7.1 billion gallons (diesel gallon equivalent) (DGEs) of fuel every year. With increasingly strict emission limits for marine vessels, LNG offers a cost-effective way to power ships with LNG while also reducing life-cycle operational costs. As major engine manufacturers are now offering dual fuel and pure natural gas options, the choice becomes easier.

**Mining:** Mining companies use over 2.1 billion gallons of diesel fuel for all facets of mining operations, from power generation to the heat-producing elements of the process to truck transportation of raw materials. As emission restrictions and the demand for cost-competitive fuel increases, mining companies are beginning to test LNG-powered mining vehicles and other equipment for an improved environmental footprint.

**Rail:** With LNG-fueled locomotives being tested today, the rail industry is gearing up for a switch to LNG. Several major North American railroads are testing LNG as a locomotive fuel in an effort to capture the cost competitive benefits of LNG and reduce their emissions footprint. Just as the industry switched from coal to diesel fuel, this transition is being driven both by economics and environmental concerns.

**Oil and Gas Exploration:** A growing number of oil and gas companies are turning to natural gas to power drilling rigs in the field. When this fuel cannot be locally sourced, they turn to LNG to obtain the benefits of natural gas on demand. Currently, the oil and gas business consumes 1.7 billion gallons of diesel fuel annually. (According to EIA sources).

**Trucking:** LNG is increasingly the alternative fuel of choice for the high horsepower, heavy-duty vehicle market, including long-haul trucking fleets, transit buses and waste collection trucks due to its cost competitiveness and low emissions. LNG-powered engines run cleanly and quietly, making them particularly attractive for use in urban areas. Further, with the arrival of new trucks equipped with natural gas fueled engines from leading original equipment manufacturers supported by their national dealer networks, the adoption of LNG as the fuel of choice for heavy-duty transport is an increasingly viable option.
LOGISTICS

**LNG Shuttle/Bunker Barge**
A core asset in the LNG America logistics chain is the LNG barge which can be used to shuttle LNG to marine depots and with the full capability to bunker a large ship.

**Gemini Class**
Capacity - 3,000 Cubic Meters

**Mercury Class**
Capacity - 1,000 Cubic Meters

**LNG ISO containers for Intermodel Transport**
ISO Containers can hold up to 10,000 gallons of LNG and are easily transported via truck, barge, or rail. LNG ISO containers can be filled at the LNG source, staged at a regional storage depot and delivered directly to the customer location.

- Naval Architect - Jensen Maritime
- Classification Society - ABS
- Cryogenics Engineer - Taylor Wharton
- Containment - Type C Tank Vacuum Jacket
- Notation - Maltese Cross A1-Liquified Gas Tank Barge

In collaboration with Jensen Maritime, Inc., ABS, and Taylor Wharton, LNG America has developed a comprehensive LNG logistics solution for the Americas.
Marine Depots

Marine depots are designed as staging areas where LNG can be placed at major ports or waterways for subsequent distribution to customers. Each marine depot will have storage capacity and be designed to be flexible and scalable. They are capable of loading LNG bunker barges, trucks, ISO containers, and third-party vessels. They will also serve as fuel stops for towboats and other small marine craft in the area.

Inland Depots

Inland depots are land-based and designed to meet customers’ needs by creating a convenient centralized location to source LNG for a given region. With variable storage capacity through the use of ISO containers, the inland depots will be a place where customers can source LNG for regional demand when needed.
### LNG America Conversion Table

#### Daily Measure

<table>
<thead>
<tr>
<th>Unit</th>
<th>1</th>
<th>20</th>
<th>40</th>
<th>60</th>
<th>80</th>
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<th>150</th>
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<tr>
<td>MMCF/Day</td>
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<tr>
<td>000 LNG Gallons/Day</td>
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<td>249</td>
<td>499</td>
<td>748</td>
<td>997</td>
<td>1,247</td>
<td>1,870</td>
<td>2,493</td>
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<td>000 DGE/Day</td>
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<td>150</td>
<td>300</td>
<td>450</td>
<td>600</td>
<td>750</td>
<td>1,125</td>
<td>1,499</td>
<td>1,874</td>
<td>2,249</td>
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<tr>
<td>Tons LNG/Day</td>
<td>21</td>
<td>424</td>
<td>847</td>
<td>1,271</td>
<td>1,694</td>
<td>2,118</td>
<td>3,177</td>
<td>4,236</td>
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<td>Cubic Meter LNG/Day</td>
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<td>9,168</td>
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<td>48</td>
<td>73</td>
<td>97</td>
<td>121</td>
<td>182</td>
<td>242</td>
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<td>363</td>
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<td>Barge - 3000 M³</td>
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<td>0.31</td>
<td>0.61</td>
<td>0.92</td>
<td>1.22</td>
<td>1.53</td>
<td>2.29</td>
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#### Yearly Measure

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<tr>
<td>MM LNG Gallons/Year</td>
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<td>182</td>
<td>273</td>
<td>364</td>
<td>455</td>
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<td>000 Tons LNG/Year</td>
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<tr>
<td>000 Cubic Meter LNG/Year</td>
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<td>44</td>
<td>66</td>
<td>88</td>
<td>110</td>
<td>133</td>
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<tr>
<td>Barge - 3000 M³</td>
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<td>223</td>
<td>335</td>
<td>446</td>
<td>558</td>
<td>837</td>
<td>1,115</td>
<td>1,394</td>
<td>1,673</td>
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</table>

Assumptions: Diesel BTU/gal 137,380

- Liquified Natural Gas Information
- LNG Gallon Weight (pounds) 3.50
- LNG - Gallons/Metric Ton 630
- LNG - Gallons/Ton 571
- LNG BTU/Gal (HHV)* 82,620
- LNG Gal to DGE 1.66
- BTU/Standard Cubic Foot of Natural Gas 1,000
- Compression Factor 618

*LNG America uses the HHV of LNG for all conversion and equivalence calculations

LNG is only flammable when the mixture is between 5-15% natural gas. When the mixture of air to natural gas is less than 5% it won’t ignite. When the mixture is more than 15% natural gas to air, there is not enough oxygen for it to burn.

The above graph shows that Liquefied Natural Gas requires no additional compression beyond atmospheric pressure once it reaches -260° F. As it warms, more pressure is required to maintain its liquid form.