



# Securing Florida's Energy Future



# Calypso

Calypso LNG, LLC • Calypso U.S. Pipeline, LLC



**Suez**  
ENERGY  
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Calypso, the deepwater port and pipeline proposed off the East Coast of Florida, is being developed to serve Florida's growing demand for natural gas using proven technologies that are safe, reliable and environmentally friendly.

## Florida's Energy Needs and Unique Geography Demand an Innovative Solution

### The state's projected growth rate exceeds its electric generation capacity.

Florida's inviting climate, pristine beaches and many tourist attractions make it one of the nation's fastest growing states.

- The state welcomes almost 1,000 new residents per day and 80 million visitors each year.
- Florida is the third largest consumer of petroleum and electricity in the country.
- Florida's electricity demand is expected to increase 37% between 2005 and 2015, according to the Florida Public Service Commission.
- Power plant demand for natural gas is expected to increase from 32% today to 44% by 2015.
- Pipelines currently serving the state already operate at over 90% capacity during the summer.
- By 2010, Florida will not be able to deliver all of the natural gas it needs unless new natural gas supplies and pipeline capacity are added.

## Calypso: A Project Overview

**Calypso will include an offshore receiving port for liquefied natural gas shipments and a pipeline connected to South Florida's existing pipeline infrastructure for natural gas.**

**The Calypso Deepwater Port (DWP)** is a marine offloading buoy and anchoring system that will reside approximately 120 feet below the ocean surface when not in use. The DWP will consist of two buoys, in water depths of 800 to 950 feet, approximately 2.6 miles apart. Liquefied natural gas (LNG) will be transported to Florida in specially built vessels designed to moor to the buoys and anchor systems. The LNG will then be re-gasified on board the vessels and transported

As a peninsula, Florida is the only sizable market in the country served almost solely from the U.S. Gulf Coast and the Gulf of Mexico, a supply that has been especially vulnerable to hurricanes. In addition, Florida is at one end of the pipeline system and has to compete with the rest of the Atlantic Coast for its gas.

### Florida needs a superior energy resource that balances environmental sensitivity with energy security.

The Calypso project *is* that solution. It is being developed to deliver more than 1 billion standard cubic feet of natural gas per day directly into southeast Florida. This represents approximately 25% of the state's peak demand for natural gas on a hot summer day, and this supply will be dedicated exclusively to Florida.

through a sub-sea pipeline that interconnects to Florida's main pipeline system.

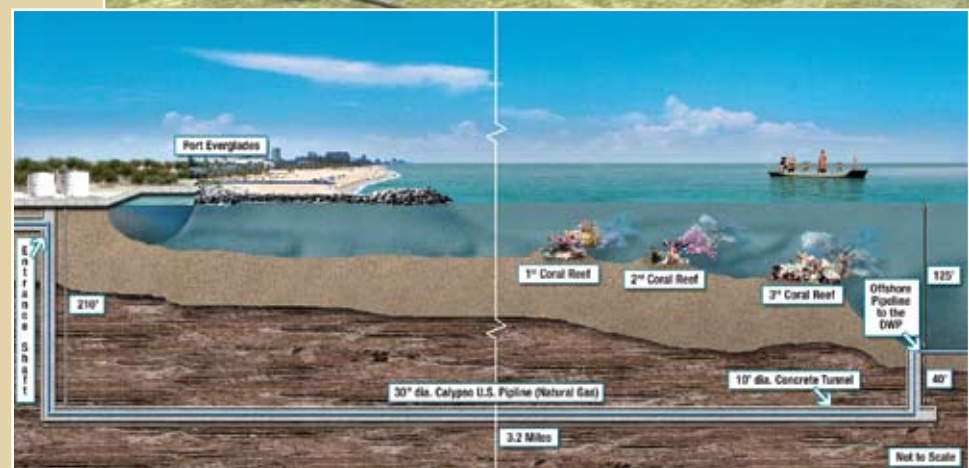
**The Calypso Pipeline** will be installed beneath the three offshore coral reefs inside of a 10-foot diameter tunnel to avoid any impact to the reefs. It will make landfall within Port Everglades.

The pipeline will connect with the existing Florida Gas Transmission pipeline system approximately six miles inland. The Calypso Pipeline will also have the capability to directly connect to two large power plants in the Fort Lauderdale area.

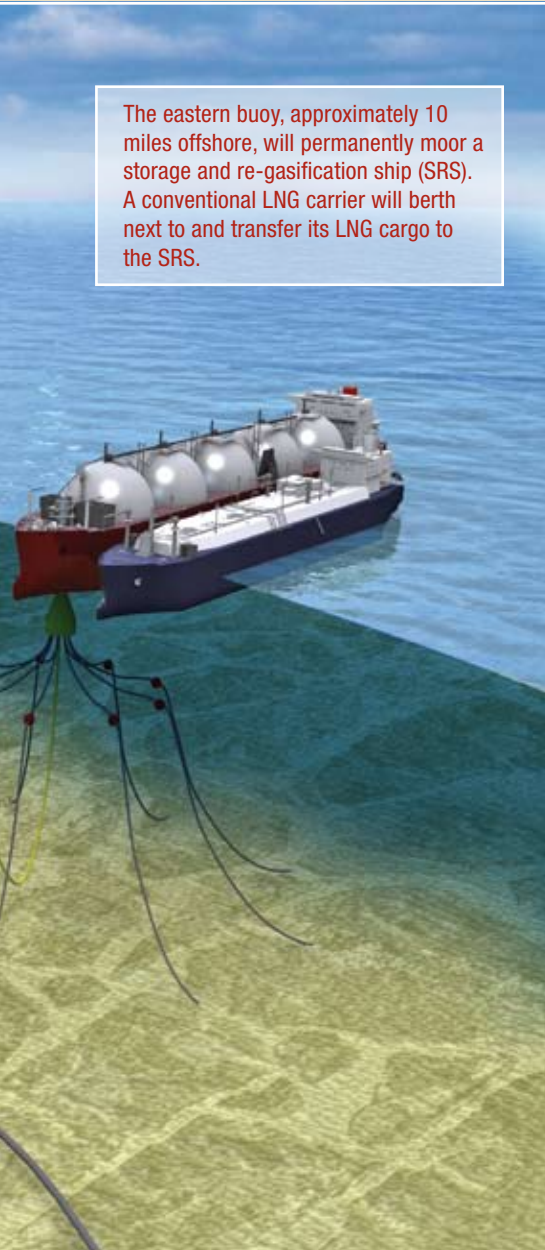
The western buoy, approximately 8 miles offshore, will receive a transport and re-gasification vessel (TRV), which will temporarily connect and discharge its re-gasified LNG cargo.



30-inch flow lines installed on the sea floor will connect each buoy to the Calypso pipeline.



The eastern buoy, approximately 10 miles offshore, will permanently moor a storage and re-gasification ship (SRS). A conventional LNG carrier will berth next to and transfer its LNG cargo to the SRS.



## Natural Gas: The Fuel of Choice

Natural gas is one of the most environmentally friendly fuels — it is not corrosive or toxic, and does not pollute land or water resources. Carbon-based emissions from a natural gas power plant are 40%-50% less than a coal power plant. These benefits are especially important as Florida considers how to balance its energy demands with protection of the environment.

## Weather-resistant Power Supply

Calypso can ensure a reliable supply of energy should a hurricane strike. The design proposed for the Calypso DWP will enable vessels to rapidly detach from the buoys and move out of a storm's path. Vessels can reconnect to the buoys and resume natural gas delivery into the pipeline immediately following the storm's passage.

Although the Calypso DWP intends to cease operations and relocate the vessels during hurricanes, the technology is prepared to withstand harsh environments and heavy winds. Offshore production storage and offloading units have operated in storms with maximum wave heights of over 82 feet in the North Sea, through typhoons in the South China Sea, and severe weather off the coast of West Africa.

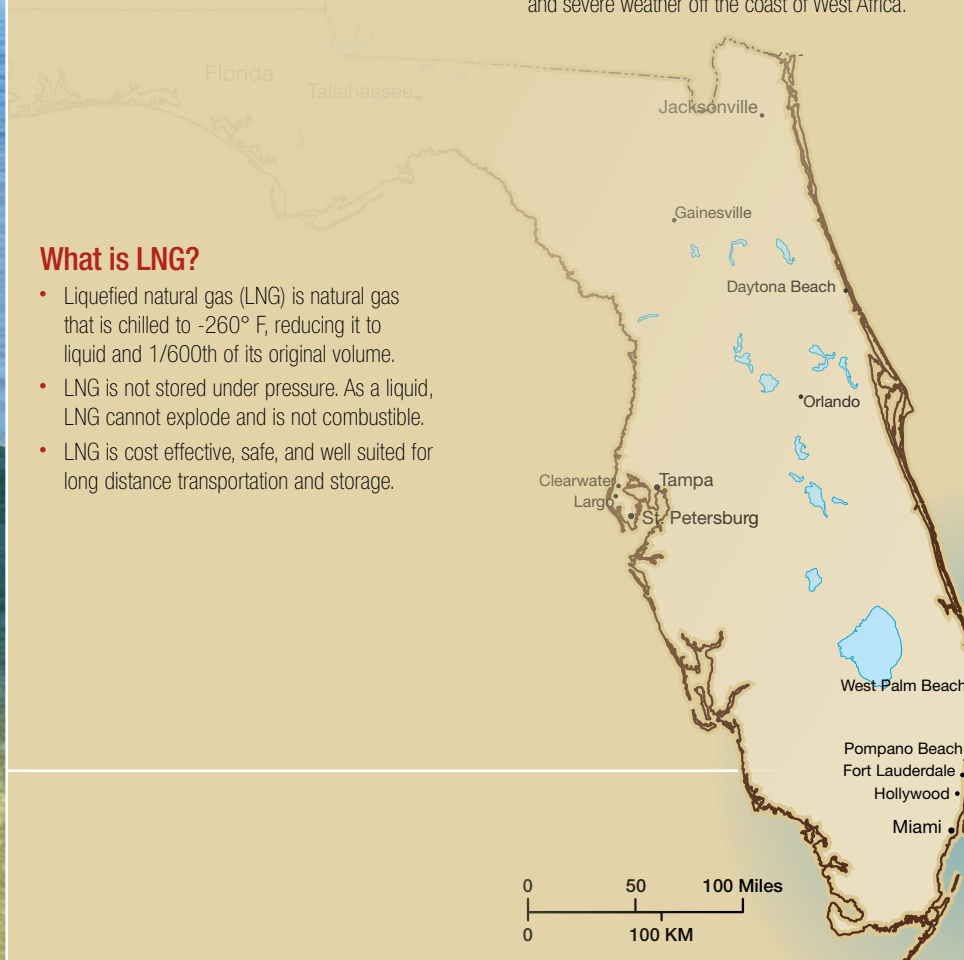
## The Best Location for Florida

The Calypso DWP, to be located approximately eight to 10 miles off the coast of Broward County, provides the best approach to meeting Florida's urgent energy needs. Compared to alternatives, such as a pipeline from the Gulf of Mexico, Calypso offers a number of critical benefits:

- Further diversifies gas supply away from the U.S. Gulf Coast and Gulf of Mexico.
- Brings dedicated gas supply to Florida.
- Uses no coastal land.
- Located beyond the nearest shipping lane, creating no new shipping congestion to existing ports.
- Results in more efficient use of Florida's pipeline system.
- Improves Florida's energy security, as gas deliveries can be resumed immediately after a hurricane passes.

## What is LNG?

- Liquefied natural gas (LNG) is natural gas that is chilled to  $-260^{\circ}\text{F}$ , reducing it to liquid and 1/600th of its original volume.
- LNG is not stored under pressure. As a liquid, LNG cannot explode and is not combustible.
- LNG is cost effective, safe, and well suited for long distance transportation and storage.



View of actual LNG ship in the Calypso Deepwater project location from Fort Lauderdale Beach



Cruise ship off of Fort Lauderdale Beach



## Proven Safety and Reliability

Deepwater Ports like Calypso provide a safe and secure offshore location for delivering, processing, and unloading LNG. This floating storage technology has been operating safely and reliably throughout the world since the 1970s, primarily for petroleum products. One LNG Deepwater Port is currently operating in the Gulf of Mexico, with another 12 proposed in North America.

The safety record of LNG ships far exceeds any other sector of the shipping industry, logging over 60 million nautical miles without a major accident or breach resulting in spillage of LNG. Currently, there are more than 225 LNG ocean tankers safely transporting more than 110 million metric tons of LNG annually to ports around the world.



LNG Carrier *SUEZ Matthew* arriving in port

## Environmentally Friendly

Natural gas is the cleanest, most environmentally friendly of all fossil fuels. A new supply of natural gas would increase the level of clean-burning natural gas available for use in Florida in order to meet growing energy demands without polluting land or water resources. Also, by acting to secure a clean, reliable energy supply today, Florida should have a plentiful and diversified energy supply for the future.

SUEZ has invested substantially in technologies to ensure the Calypso project has minimal impact to Florida's natural environment.

- Construction methods have been adapted to include tunneling to minimize impacts to the ocean environment and coral reefs.
- Current design calls for using a "closed-loop" vaporization system, which uses virtually no sea water to warm the LNG back into natural gas. This process minimizes impacts to marine life.

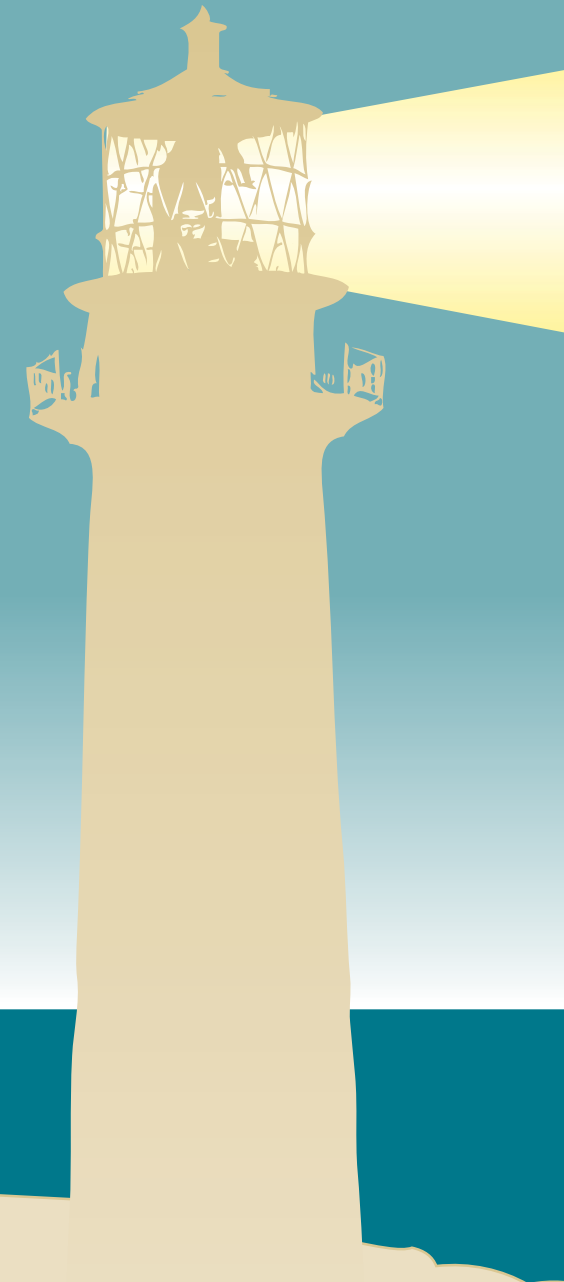
Because no coastal land will be used for cargo deliveries, storage, or re-gasification, the Calypso project ensures that Florida's treasured coastlines and sea shores will be preserved.

## Trust in Calypso and SUEZ

Calypso LNG, LLC and Calypso U.S. Pipeline, LLC are subsidiaries of SUEZ Energy North America, Inc. (SENA), the most experienced importer of LNG in the United States, with more than 35 years of reliable, safe operation and a deep commitment to the local community.

SENA is a business unit of SUEZ Energy International (SEI), which is the only major energy company that owns and operates LNG facilities on both sides of the Atlantic. SEI also develops, designs, constructs, and operates energy facilities around the world.

SUEZ ranks fifth worldwide among the most socially responsible companies according to the 2006 *Fortune* magazine study on "the most accountable companies." This ranking confirms the commitment of SUEZ – and all of its subsidiaries – to sustainable development, which has been at the heart of its business strategy and operations since the group's creation.



# Calypso

### For More Information about Calypso

Please visit us at [www.suezenergyna.com](http://www.suezenergyna.com) for more information.

### To Learn More about LNG

Visit The Center for LNG at [www.lngfacts.org](http://www.lngfacts.org)

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