AES LNG

May 2018

AES LNG

Infrastructure

Andres DR

In operation since 2003

- LNG tank capacity 160,00m^3 serves:
- AES Andres 319MW and AES DPP 358 MW CCGT plants
- 3 party power plants
- >70 industrial clients, ~15k gas vehicles
- Exports to other Caribbean countries

Colon, Panama

Operations to begin summer 2018

- Owned 50/50 by AES and Inv. Bahia
- LNG tank capacity 180,00m^3

Will serve:

- AES' 380MW Colon CCGT plant
- Domestic and regional demand for gas

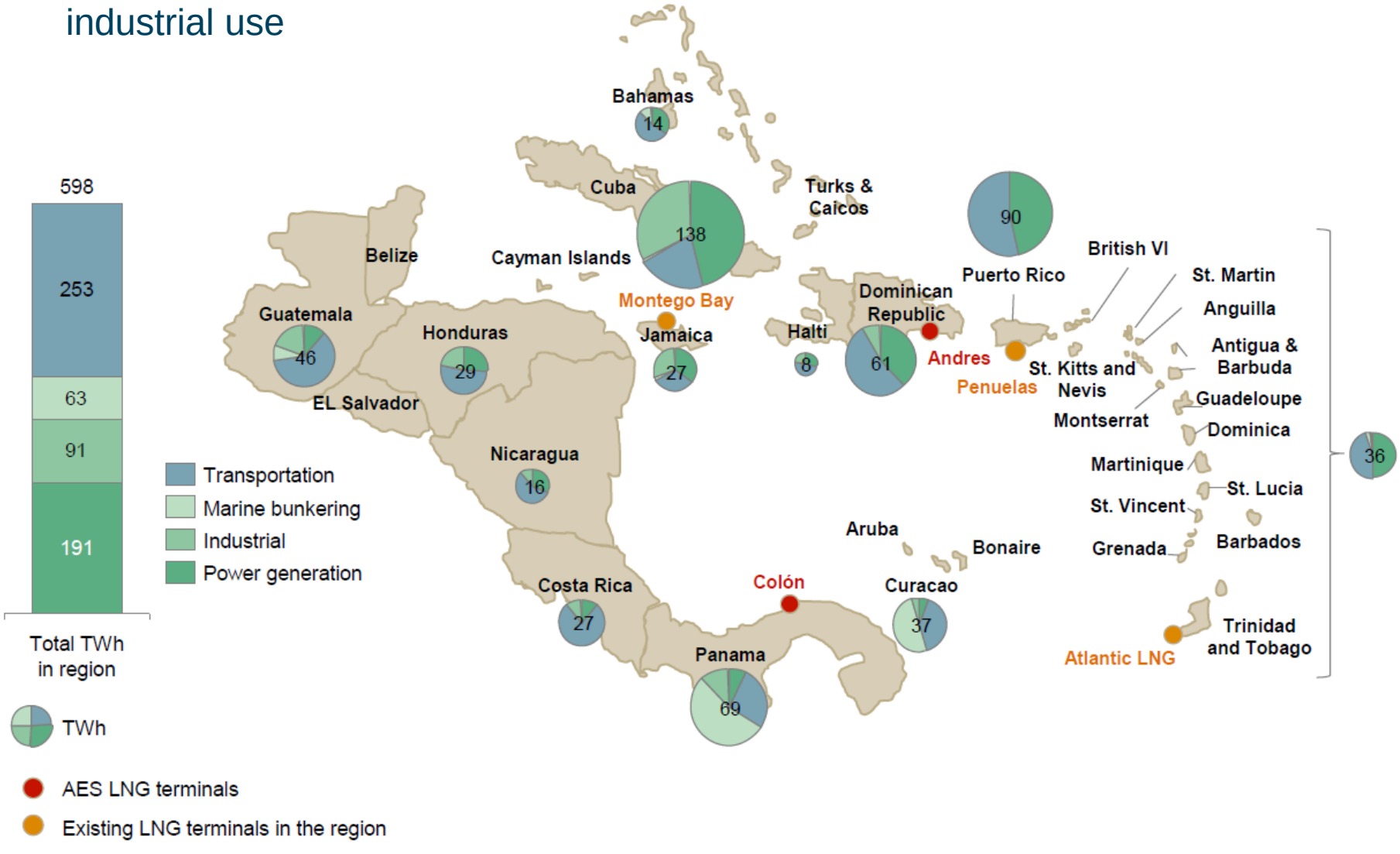
Services

- **Trans-shipment:** Charting and operations of small-scale LNG vessels
- **Containers:** LNG in containers for small generators and industrial customers
- **Bunkering:** Re-fueling of LNG powered vessel transiting the Panama Canal
- **Logistics:** Optimizing and redistributing LNG to maximize efficiency
- **Infrastructure:** Support customers to create bespoke LNG solutions
- **Integration:** Work with customers to support renewables integration and optimization

AES REGIONAL LNG DISTRIBUTION HUBS

Oil products consumption is large in the region

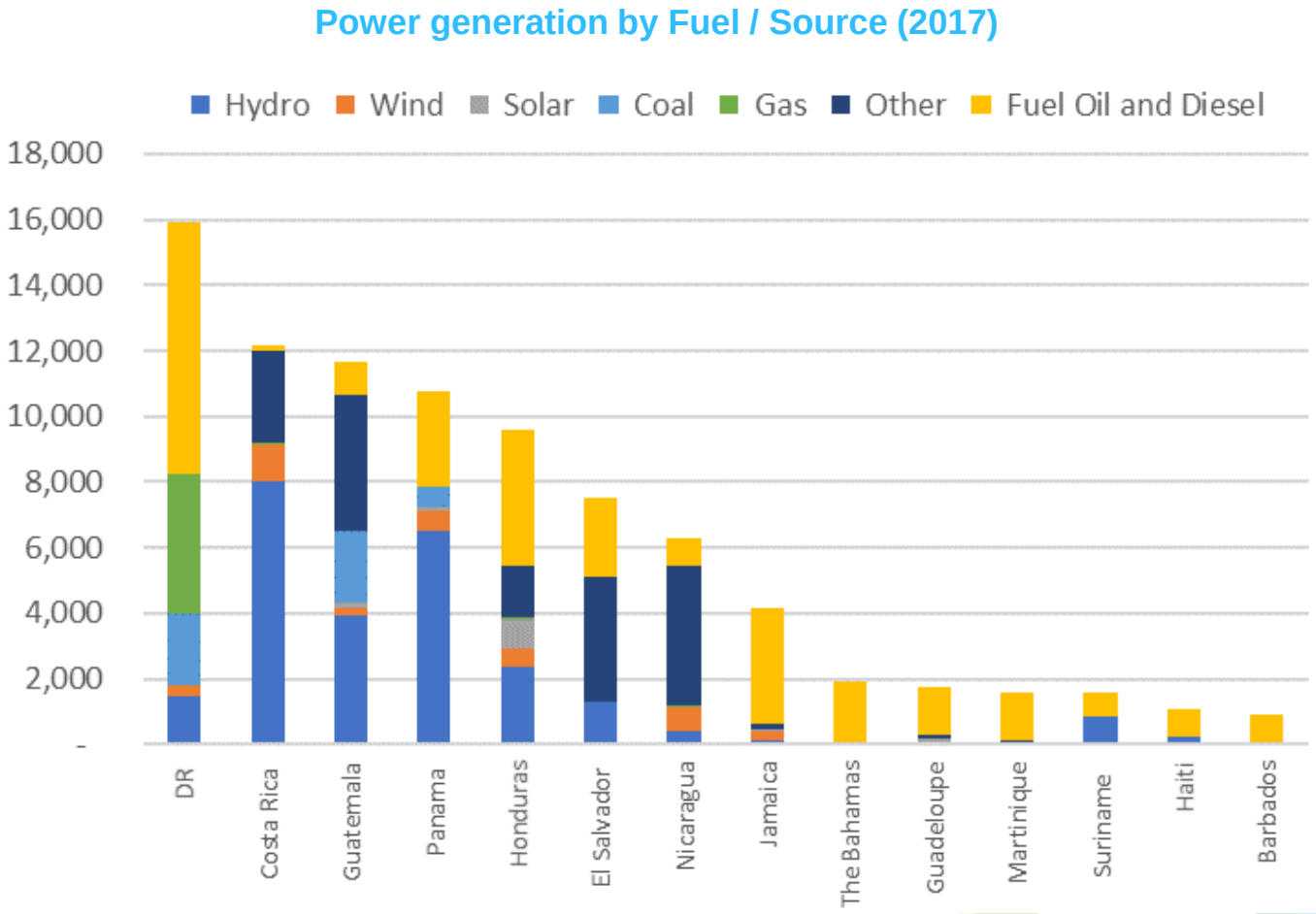
Total demand for transportation, marine bunkering, power generation, and industrial use



Source: EIA; United Nations; BCG analysis

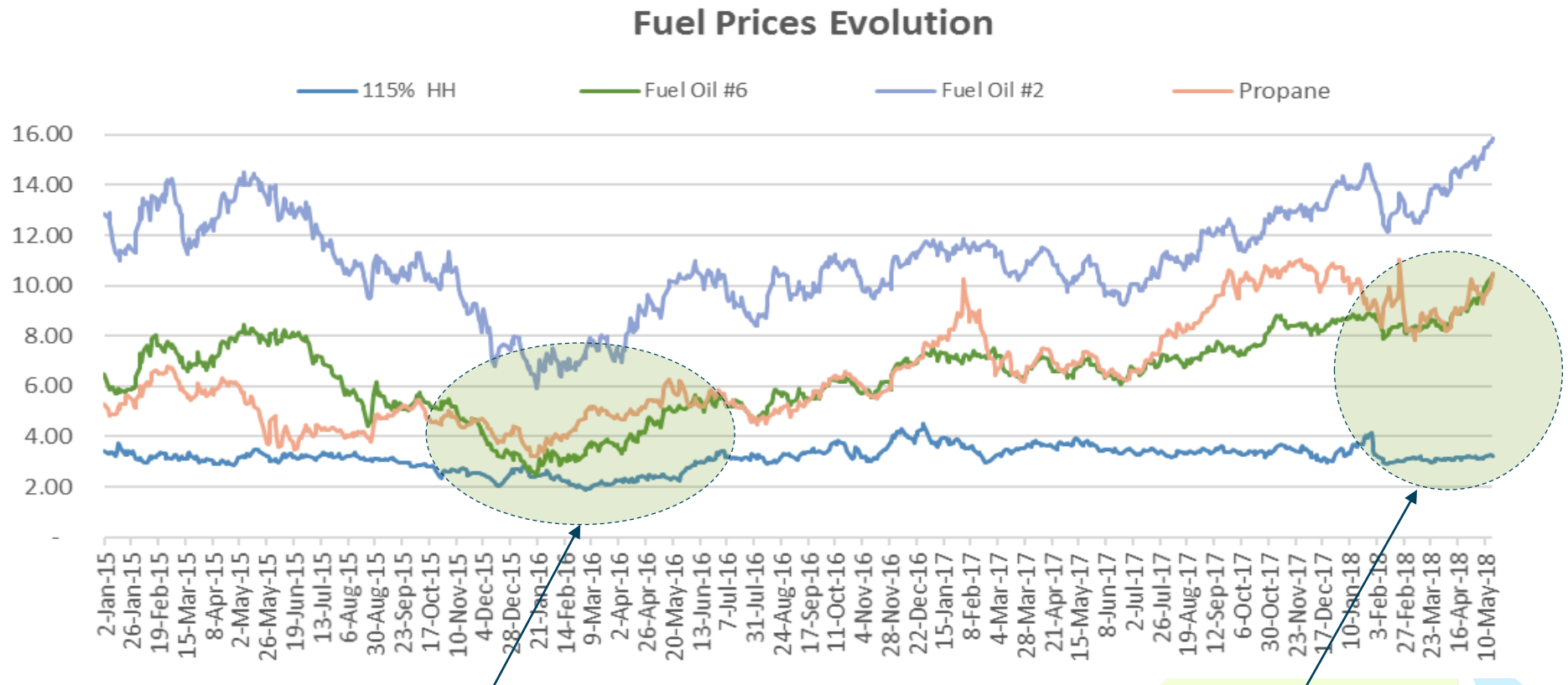
High Potential for Gas to Power Demand

Oil is still being extensively used for power generation in Central America and the Caribbean



Source: CEPAL, INESI

Favorable Spread Currently Expanding



Power prices in Caribbean markets have dropped by 20 – 30% (2015- mid 2017), following oil prices, described a period of low economics incentives for conversion to gas from diesel, propane or HFO#6

Spreads currently expanding providing positive economics for conversion to gas from diesel and most propane configurations

OUR EXPERIENCE

What are customers most concerned with?

- **Fuel savings / economic benefit**
- **Integration with renewables**
- **Security of supply**
- **Volume flexibility**
- **Reliability of operations**
- **Environmental benefits**
- **Footprint of storage and regas**
- **Counterpart credibility and experience**
- **End to end solution with one provider**
- **Safety matter**
- **Politics**

AES' and Engie's combined strengths and presence enhance our competitive advantage with solutions to face the market challenges

LNG DELIVERY VIA TRUCKS / ISO CONTAINERS

- Both terminals configured to load LNG in ISO Containers
- **AES experience in the Dominican Republic:**
  - Approximately 5,000 truck loadings per year serves a customer base of 70 industrial users and 15,000 vehicles
  - More than 43,000 trucks equivalent filled in past 7.5 years or approximately 38 TBTU (~13 ships standard vessels), without any safety incident
  - 2 year deal with Barbados for delivery of ~ 100 ISO containers /year

LNG ISO CONTAINER VALUE CHAIN

- Proximity to an international ports. AES will truck the ISO Containers one mile to the port of Caucedo or 50 miles to Rio Haina
- ISO containers can be easily transported on standard container vessels and offloaded at any container port

LNG BULK RELOADING CAPABILITY

- AES Andres can load small vessels of 10,000m3 or more
- AES Costa Norte in Panama will be able to load 3,500m3 or more
- Small vessel fleet growing with existing carriers available

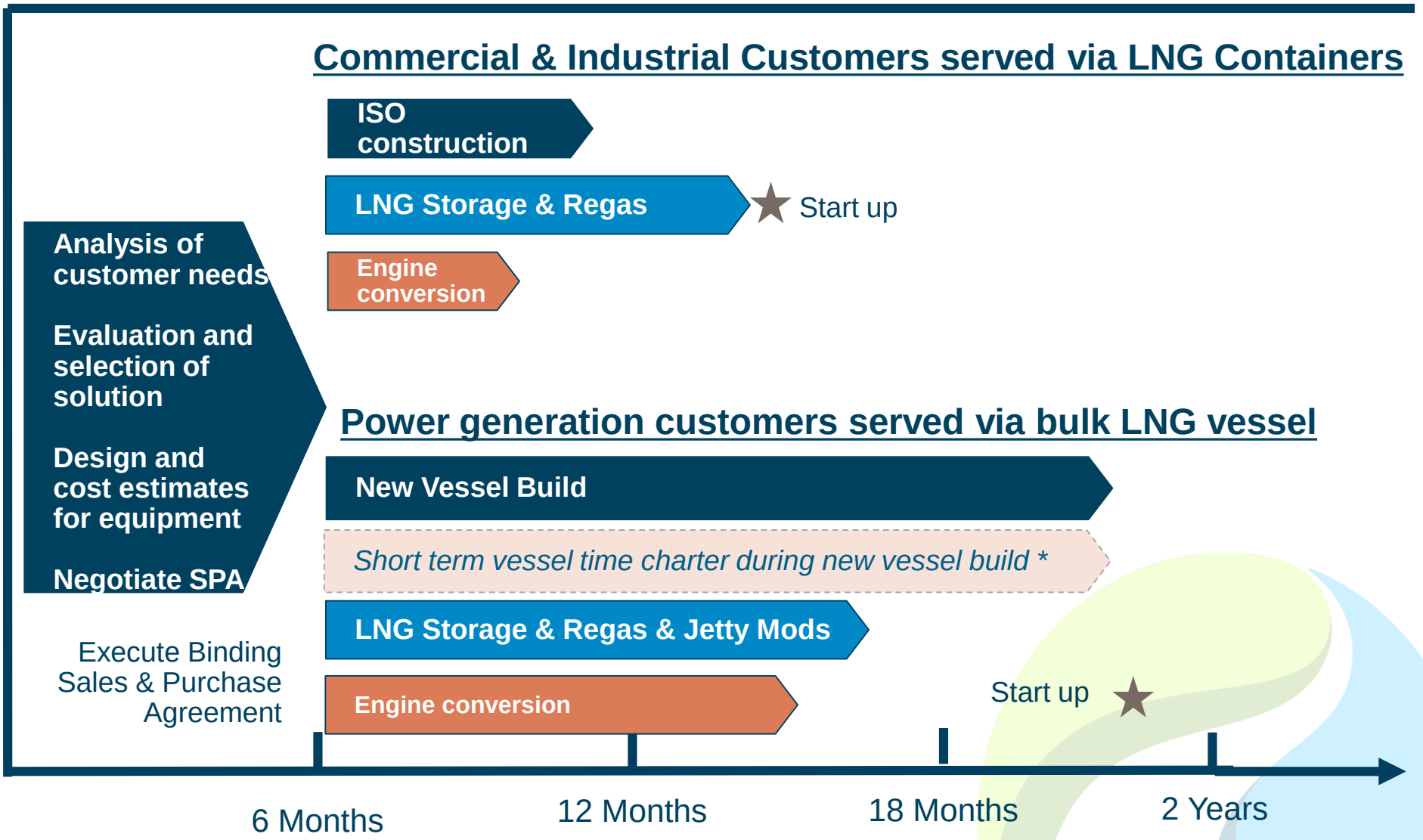
Vessel	Capacity CBM	Built
Norgas Innovation	10,000	1/2010
Norgas Creation	10,000	8/2010
Norgas Invention	10,000	1/2011
Norgas Conception	10,000	12/2011
Norgas Unikum	12,000	4/2011
Bahrain Vision	12,000	11/2011

Key data, MG 10,000 /12,000 cbm:

- LOA 137.1/152.3 m
- B 19.8/19.8 m
- Draft LNG 6.3/6.3m
- DWT 10,609/12,570t
- Speed 15/16 knots
- Pump Cap. CT2: 640 cbm/hour
  CT1: 380/640 cbm/hour

* Estimated demand from plants of that size assuming a number of factors

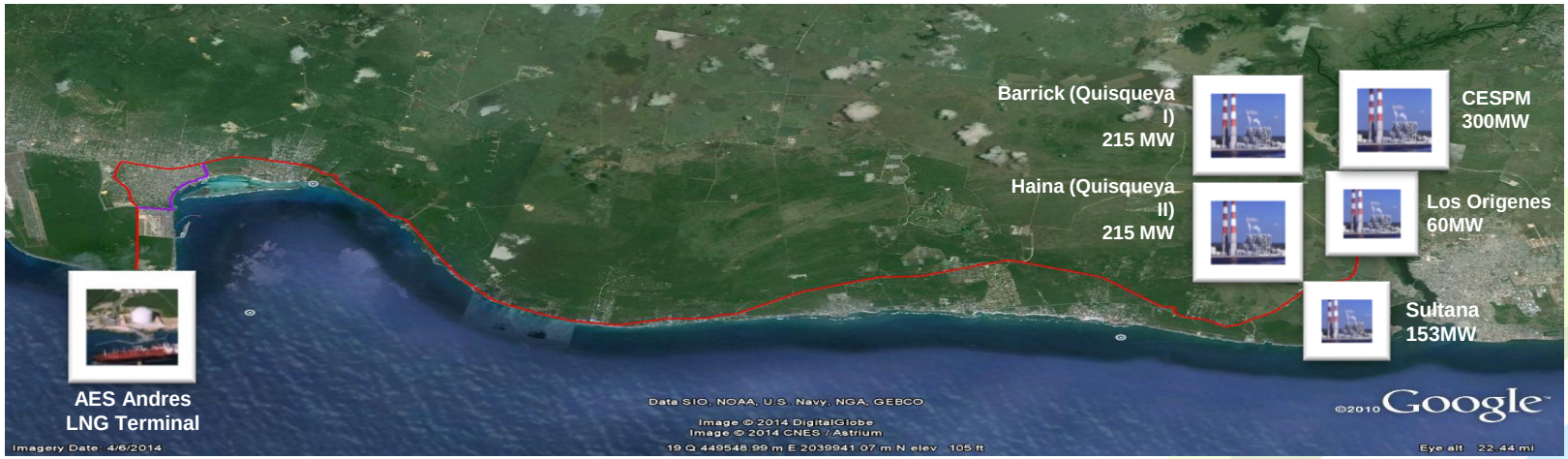
TIMELINES FOR PROJECT DEVELOPMENT



* If the receiving customer is ready to take the LNG earlier

Eastern Pipeline in the Dominican Republic will unlock a potential of 47 TBtus from 900MW of existing units

Plant	Owner	Status	Demand (TBTUs)
Quisqueya I	Barrick Gold / Gold Corp	In operation – dual fuel Wartsila engines	12
Quisqueya II	EGE Haina	In operation – dual fuel Wartsila engines	12
CESPM	Intergen	In operation – need to convert diesel CCGT	15
Los Origenes	Feris Iglesias	In operation – dual fuel units	3
Sultana	EGE Haina	In operation – need to convert FO6 units	5



Project faced several challenges in the past, now is scheduled to COD on Q4 2019

Gas to Power Example

Barrick will be the anchor tenant for the Eastern Pipeline

- Gas Supply to 215 MW off-the grid power plant to serve mining operations.
- 10 years of agreement for 12 TBTU/year.
- Competitive supply versus alternative fuel.
- Help achieves environmental targets and climate change goals for the client.

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ECONOMY May 14, 2018 | 12:02 pm

AES, Barrick strike a 10-year natural gas supply deal

Shares

Small Scale LNG in México: Industrial and Transportation Uses

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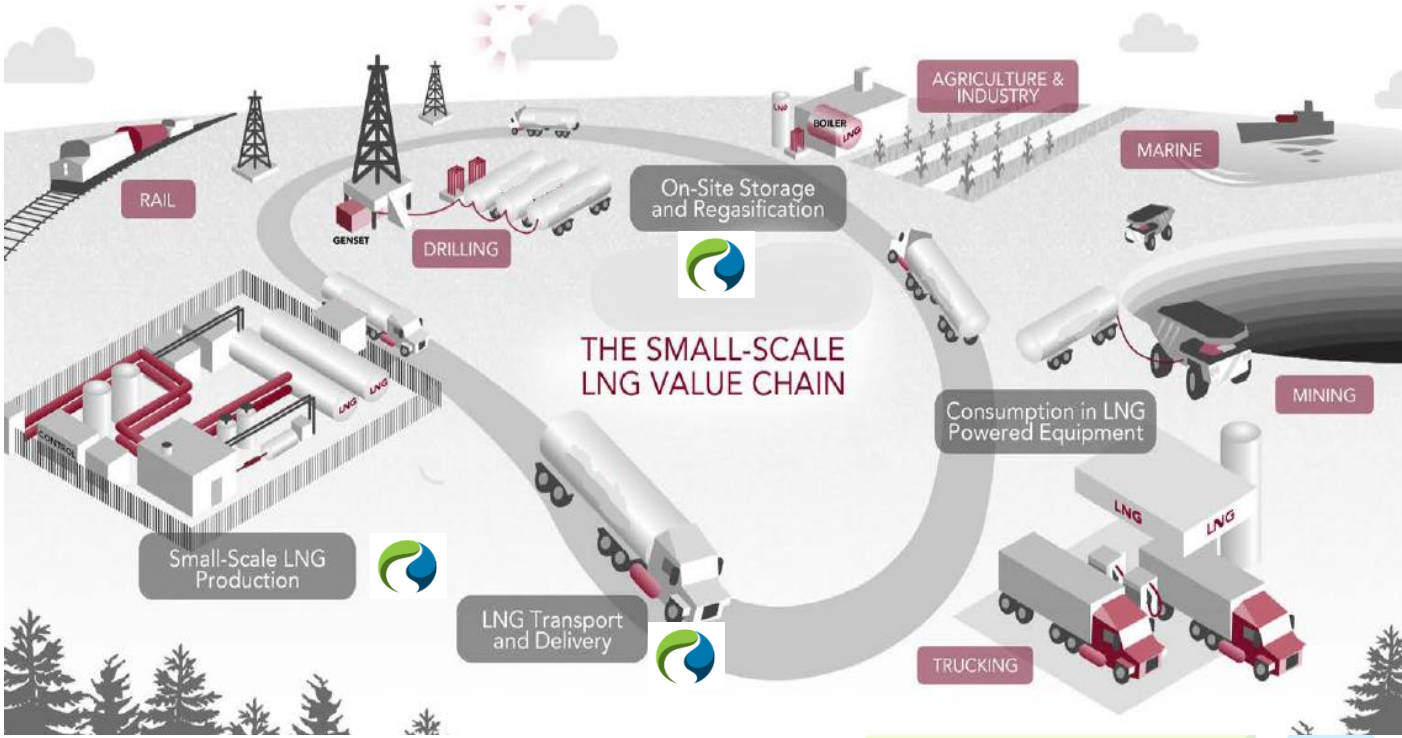
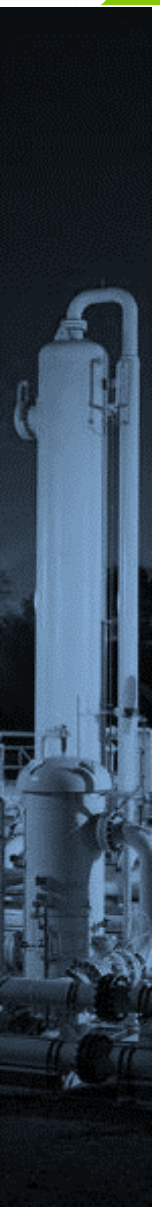


: Areas where EnerAB adds value



Small Scale LNG – Mexico

Purpose:

- Installing a LNG liquefaction facility near an existing natural gas pipeline, to produce and transport LNG it to the customers facilities.

Key facts:

- Displacement of diesel consumption by a environmental friendlier and cheaper solution
- Fuel costs savings 30-50% and emissions reduction benefitis for the clients
- Mining, power, paper, cement, rails, logistic as a targeted industries
- Technological and logistic partners are critical
- Small scale LNG facilities are particularly sensitive to economies of scale
- Business model replicable in multiple regions
- Larger configurations result in significant production cost reductions
- Relatively low equity involved in standalone solution
- Estimated investment payback 3-4 years (depending on the commodities)
- Easy commercial structure (fixed LNG fee and variable commodity cost)

APPENDIX

AES ANDRES LNG RECEIVING TERMINAL

- **Andres, Dominican Republic**
- **319 MW combined cycle generation**
- **Re-gasification terminal with LNG storage capacity of 160,000 m3**
- **Cryogenic Distribution Terminal**
- **34 kilometer gas pipeline to DPP**
- **Operations since 2003**
- **167 LNG cargos received without any safety incident**

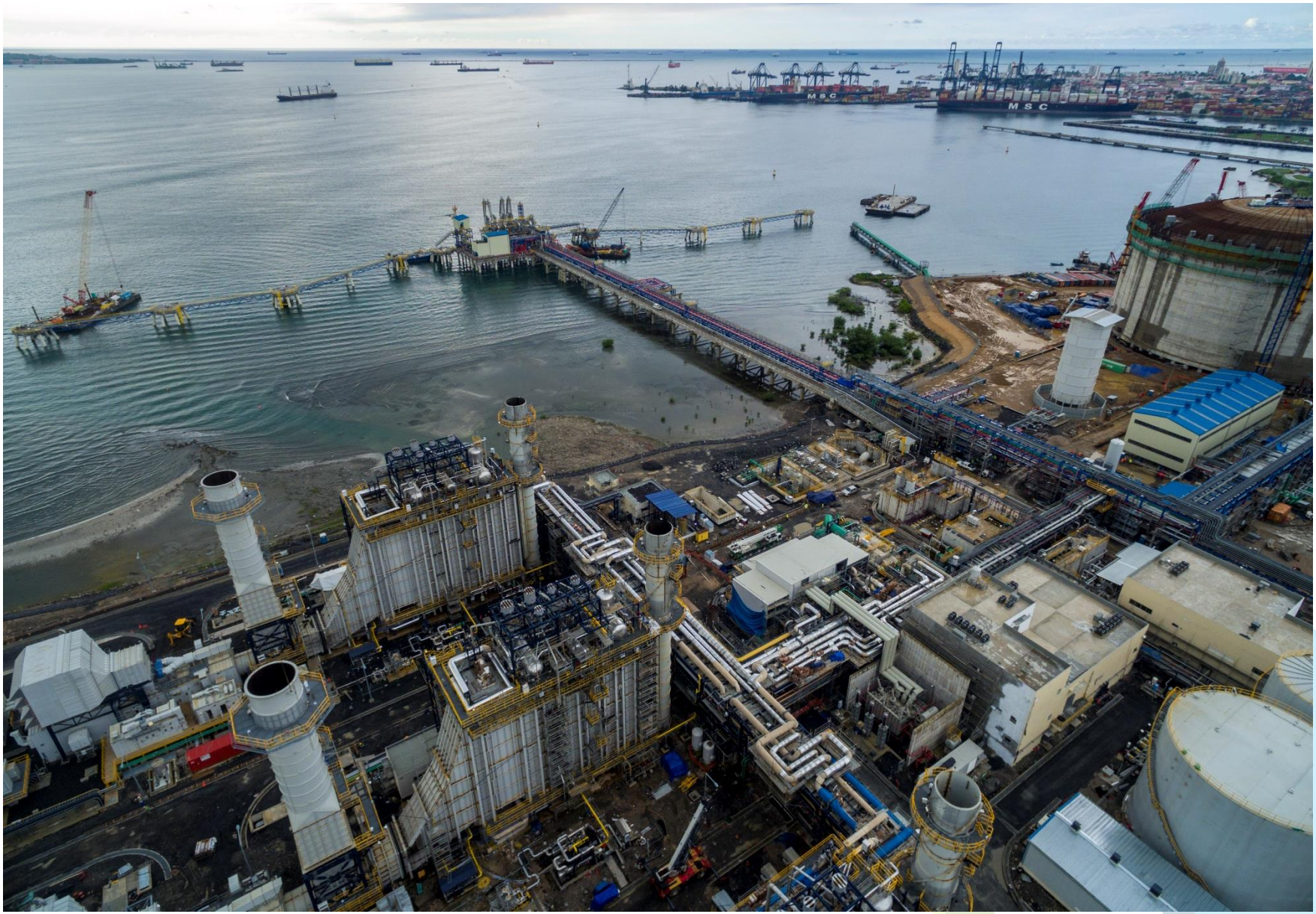
Completed $10M terminal reconfiguration to allow re-loading of LNG into vessels of 10km3 and up.

- Installed pumps to allow for loading of LNG at a rate of 1000m3/hour
- Upgraded jetty to allow for berthing of vessels of 10km3 and up
- First LNG re-load operation completed yesterday

AES COSTA NORTE LNG RECEIVING TERMINAL

- Telfers Island, Colón, Panama
- Installed capacity: 381MW net
- Technology: Combined cycle (3 + 1)
- Tank: 180,000 m3
- Bulk re-loading and truck loading capability
- PPAs: 350 MW with Distributors
- Total investment: US $ 1,150 million
- Investors: AES (50.1%) Inv.Bahia (49.9%)
- COD: Mid 2018
- Tank Completion: Mid 2019

AES COSTA NORTE LNG RECEIVING TERMINAL

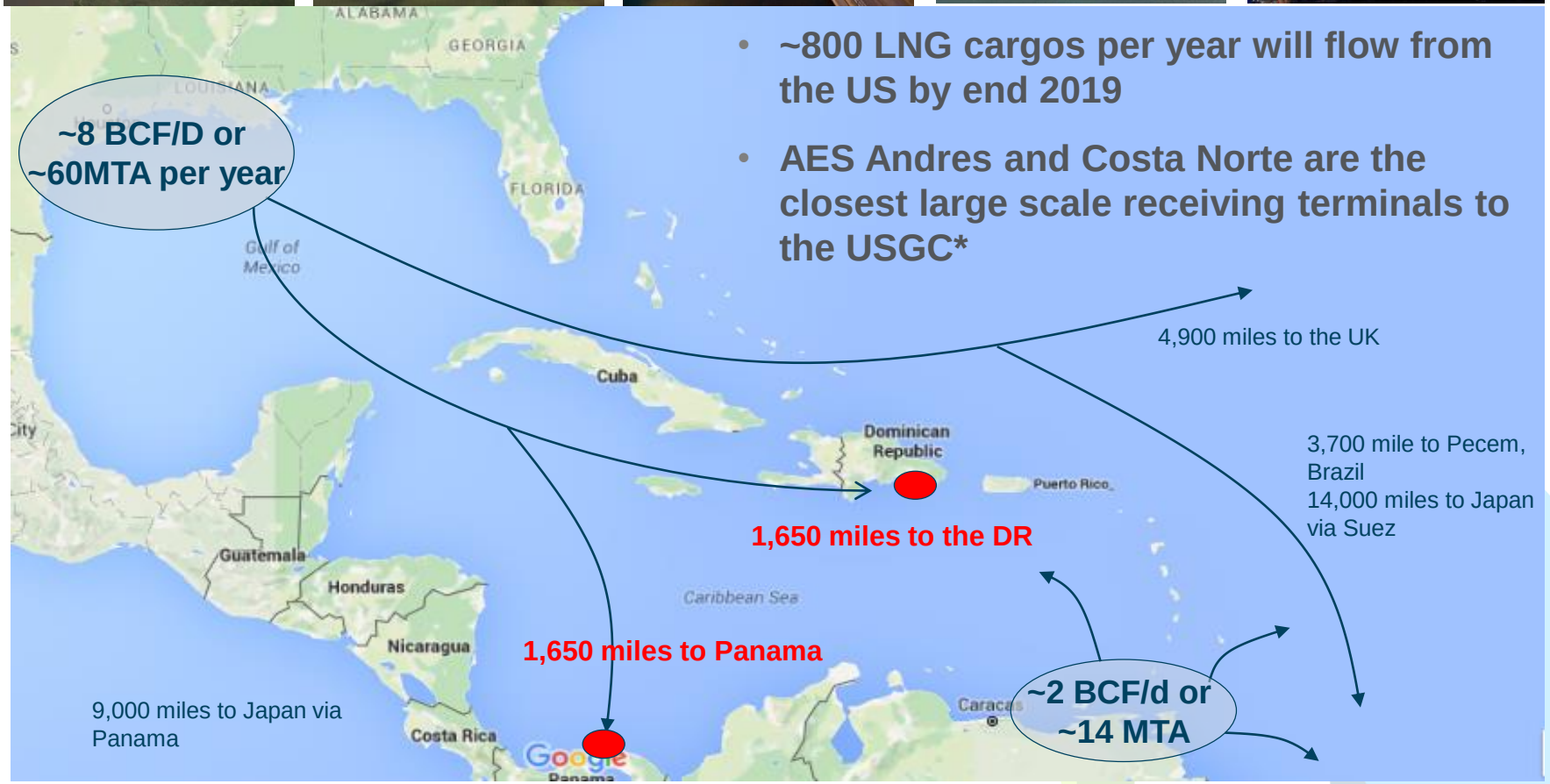


LNG AVAILABILITY & PRICES TIED TO US GAS MARKET

Sabine Pass | Freeport | Cameron | Corpus Christi | Cove Point







- ~800 LNG cargos per year will flow from the US by end 2019
- AES Andres and Costa Norte are the closest large scale receiving terminals to the USGC*

* Not including Altamira, Mexico, which is not expected to import material quantities of LNG due to increased pipe importation from the US