

# RESOURCES ENERGY, INC.



Alliance Presentation  
REI Update  
March 26, 2015

# **TOPICS OF KEY IMPORTANCE- REI 1MTA COOK INLET PROJECT**

**Alaska Advantage**

**Japan Market Overview- Demand for LNG**

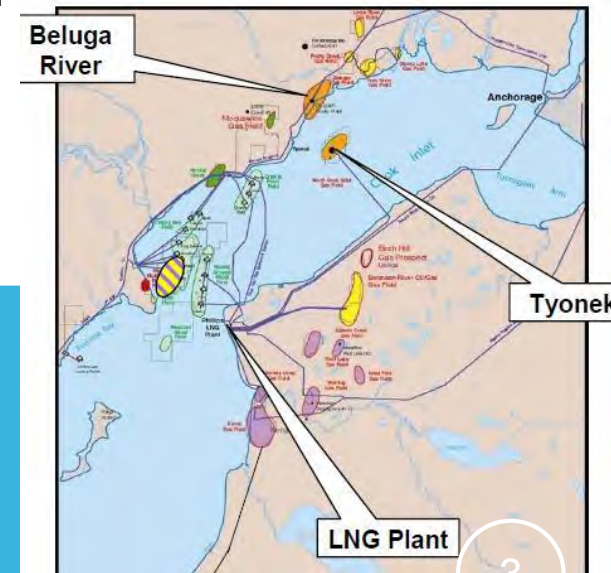
**Strong support from the State of Alaska**

**Critical Path Components and REI Agreements and milestones**

# REI LNG, IN COOK INLET, CAN BE ACHIEVED

**Cook Inlet, Alaska, is one of the best port for exports of high-value LNG to Japan**

- Local land use permits for terminal and pipeline are possible
- Thousands of construction and permanent jobs will be created
- Support from SOA/AIDEA
- Utilizes stranded Cook Inlet Gas
- Allows for expansion of gas from other regions of the state – such as the Foothills, Outer Continental Shelf , North Slope, etc. when pipeline is to be in place



# CRITICAL PATH COMPONENTS



## Government to Government Agreements

- AIDEA
- SOA- Governor
- SOA – DNR
- Others



## Japanese Buyers( PROPOSED)

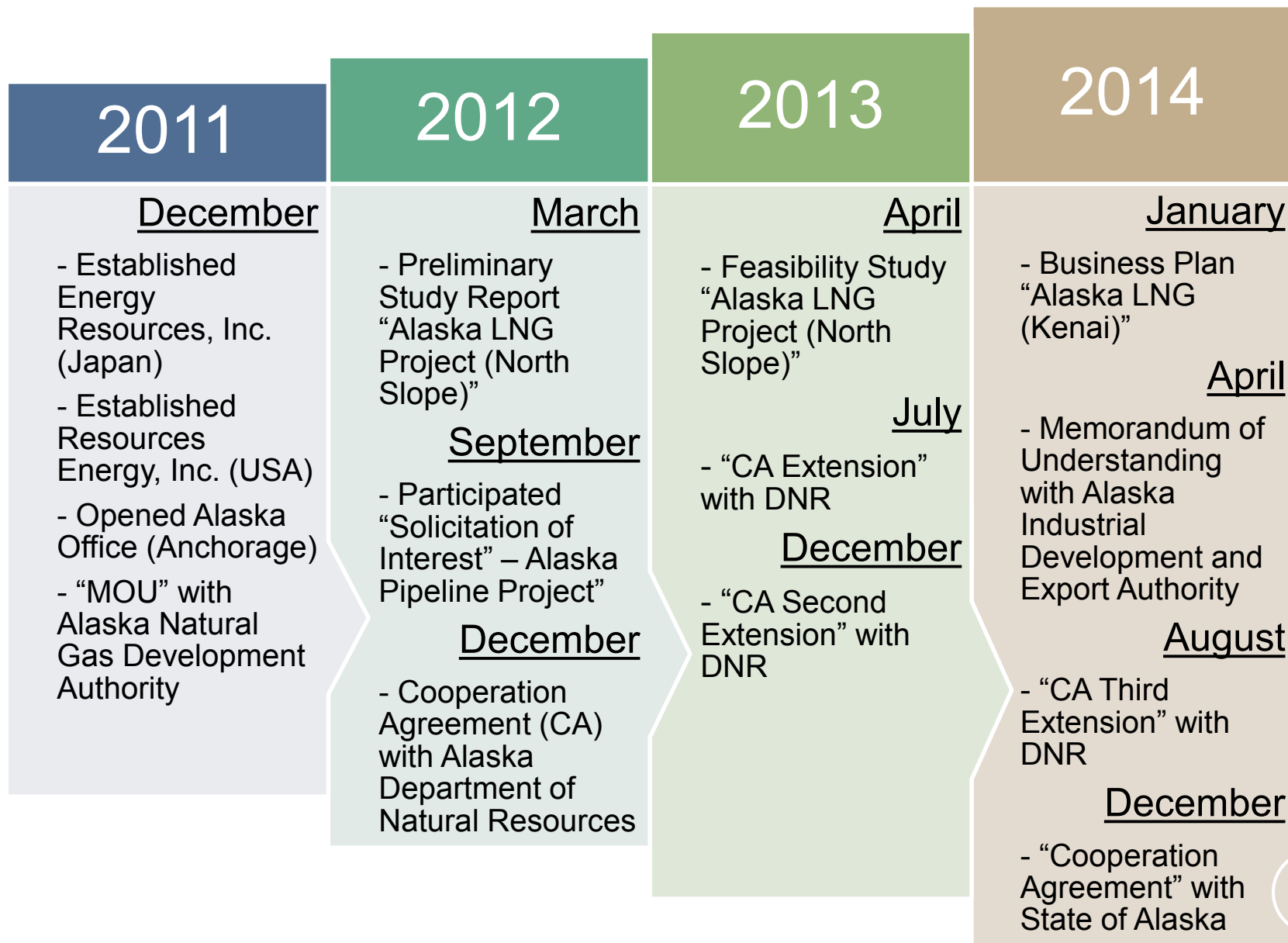
- Government, Hyogo Prefecture, Kyoto, etc
- Industrial
- City Gas and Electric Companies



## Joint Venture Partners

- Japan Companies
- US Companies and partnerships
- Native Corporations

# REI ACTIVITIES



# COOK INLET EXPORT LNG PROJECT

**Greenfield LNG plant: 1 MTA plant**

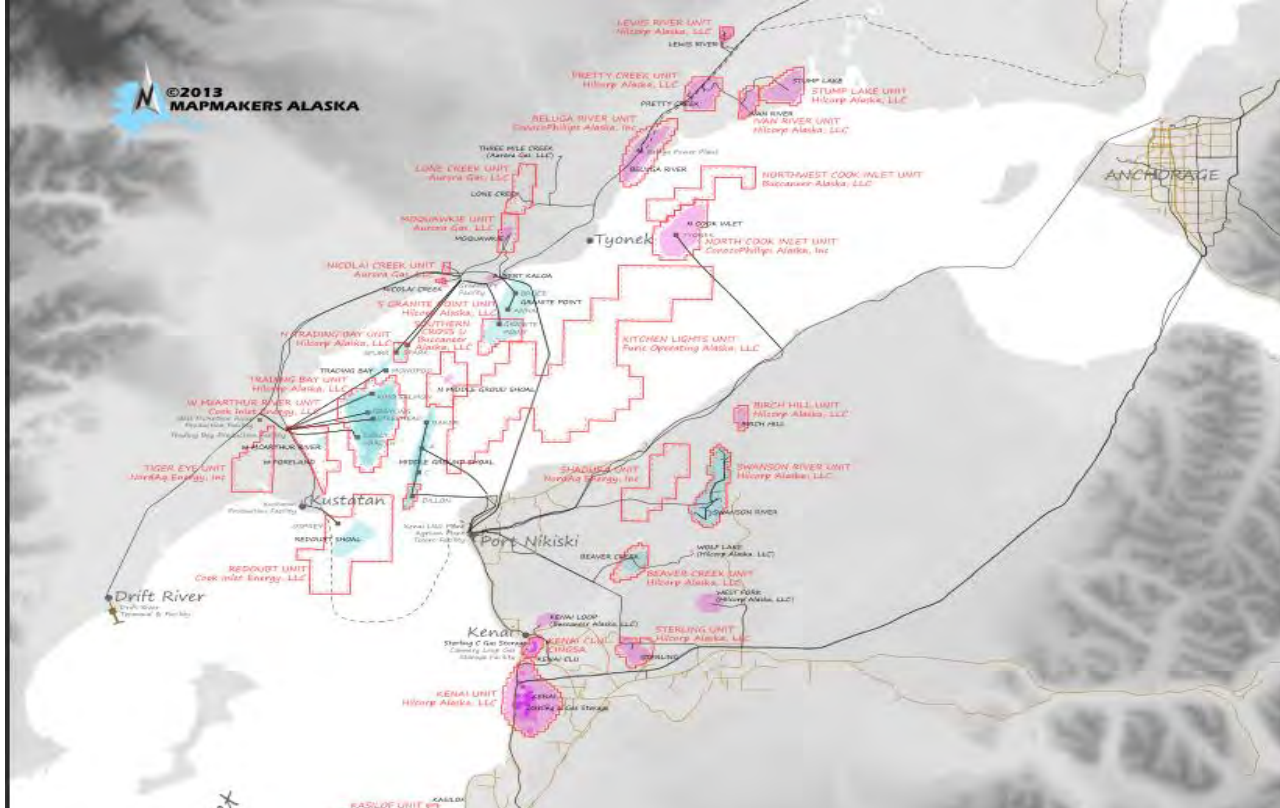
## **Aggregated Cook Inlet Gas supply as Feedstock**

- Division of Oil and Gas Studies
- USGS report
- Cook Inlet reservoir and production analyses (June and July 2014)

**Timeline is critical – prior to 2020 target for Export to Japan**

- **Earlier in-state demand for LNG could be made available**





COOK INLET RESOURCE POTENTIAL  
USGS 2011-19 TCF GAS POTENTIAL



**Cook Inlet Oil and Gas Activity**  
 State of Alaska, Department of Natural Resources, Division of Oil and Gas, July 2013

**Cook Inlet Energy**  
 Plans to drill up to two gas exploration wells on the Krotto Creek prospect, located in Sustina Basin Exploration License No. 2, winter 2013-2014.

**Sustina Exploration License Area 2**

**Nancy Lake State**

**Willow**

**Houston**

The map shows the Cook Inlet region of Alaska. A yellow callout box points to a specific area within the Sustina Basin Exploration License Area 2, indicating where Cook Inlet Energy plans to drill. The map also shows the boundary between the State of Alaska and Nancy Lake State, and the locations of Willow and Houston.

**SPURR WEST 26-11**

**Apache**  
Drilled their first Cook Inlet well, Kaldachabuna 2 on CIRI acreage.

**Aurora Gas**  
Plans to drill two wells and workover a third; expects an average production increase of 3 MCF per day per well.

**Trading Bay State Game Refuge**

**Redoubt Bay Critical Habitat Area**

**ConocoPhillips**  
Farming-out the rights to develop deep oil prospects at North Cook Inlet Unit to Buccaneer Energy; first well to be drilled by end of 2014.

**Furie**  
Completed drill stem testing at Kitchen Lights Unit No. 3 well; plans to move Spartan 151 jack-up to No. 4 well; moving forward with plans to install monopod platform to develop offshore gas.

**NordAq Energy**  
U.S. Fish & Wildlife Service signed record of decision giving access to the proposed Shadura development.

**Buccaneer**  
Recently renamed wells to reflect their pad number, permitting additional wells.

**Chugach National Forest**

**Hilcorp**  
Offering utilities gas to meet contracts through 2017; evaluating consolidation of four Cook Inlet pipelines into one system.

**Kenai National Wildlife Refuge**

**Department of the Interior**  
Cook Inlet OCS sale is listed as a special interest sale potentially planned for 2016.

**Kenai National Moose Range**

**Hilcorp**  
Acquired a 3-D seismic survey in and around Deep Creek Unit, estimate resources to be 3-4 times larger than current participating area.

**Hilcorp**  
Current Plan of Development for Ninilchik Unit includes gas well workovers and potential future testing of deeper oil prospectivity.

**Buccaneer**  
Drilled Cosmopolitan 1, the first well drilled using the Endeavour jack-up rig; planning Lower Tyonek flow test.

**Buccaneer**  
West Eagle Unit approved retroactive to September 30, 2012; first well to be spud by September 1, 2013.

**Legend:**

- Wells Drilled 2013
- Wells Drilled 2012
- Wells Drilled 2011
- Existing Wells Approved for Gas Storage
- Geothermal Leases
- Susitna Exploration License Area #2
- Units
- Alaska Seaward Boundary

**Map Location**



# RESERVE AND PRODUCTION STUDY RESULTS – COOK INLET

**The study evaluated 2P reserves (Risky Proved and Probable in SPE/AAPG et al. 2011 terminology)**

**Total range of 2P estimated at approximately 2.7-3.1 Tcf (2,700 – 3,100 Bcf)**

- Approximately 40 years of utility load (approximately 80 Bcf/yr)

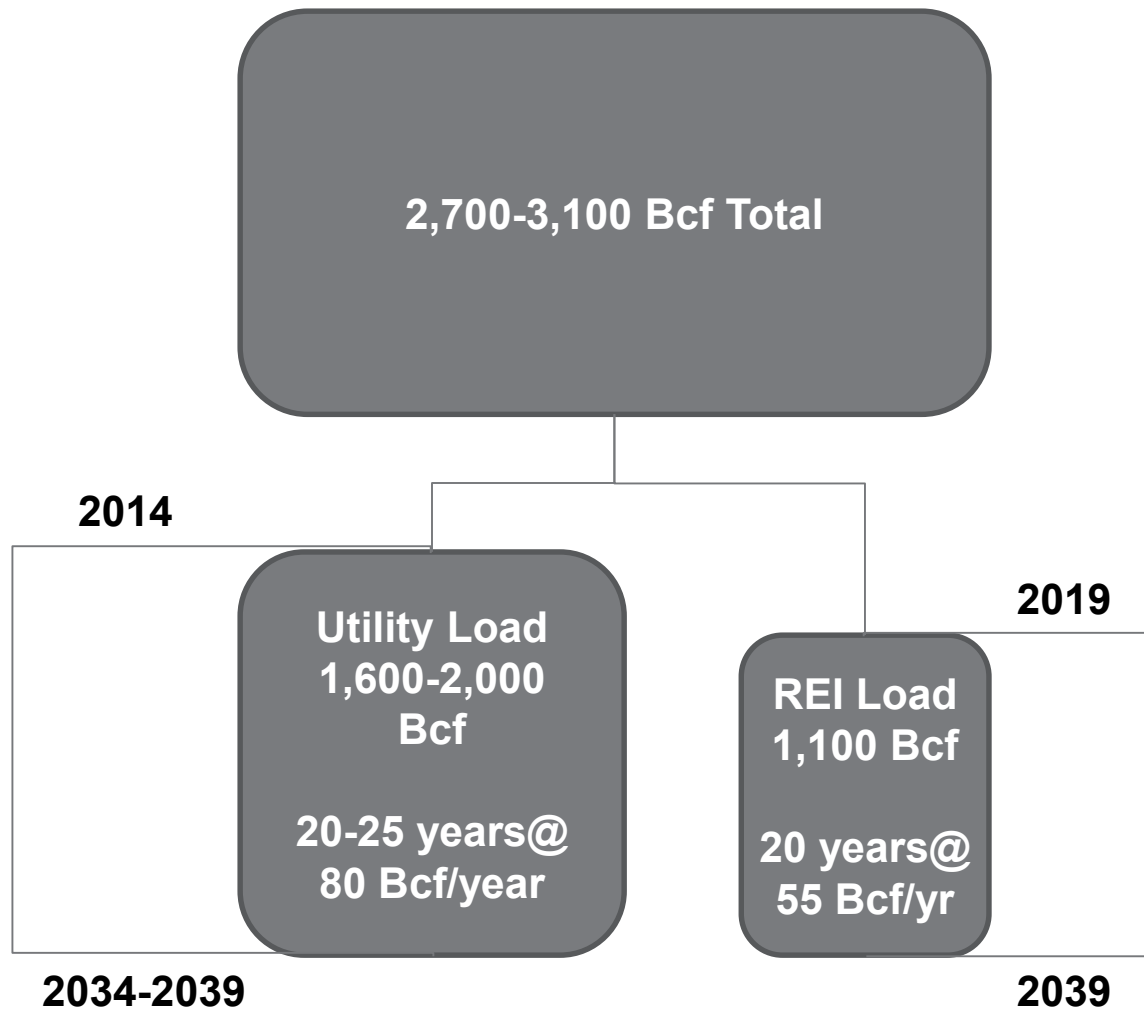
**REI's 20 year supply of feedstock is 55 Bcf/yr**

- Starts in 2019
- Represents 35-40% of the total 2P reserves

**Approximately 20-25 years of utility load would remain (2019-2039)**

**These 2P reserves could support a daily production rate for REI of 160,000 Mcf/d**

# ESTIMATED COOK INLET 2P RESERVES



Source: GEC LLC 2014, 2P Reserve Study, Cook Inlet

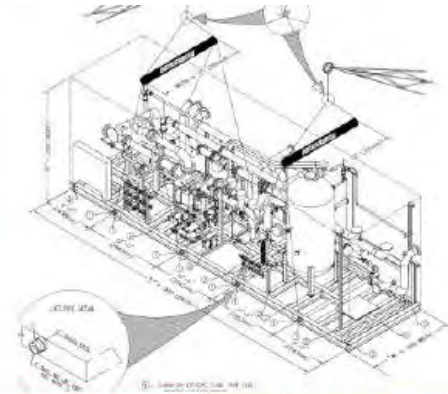
# MODULARIZED LNG PLANT



# SITE INSTALLATION

## Site Installation

### Rigging and Setting of Modules



© 2014 General Electric Company - All rights reserved

# COOK INLET TECHNICAL/FEASIBILITY STUDY

Outside Contractors  
that conducted the  
Technical/ Feasibility  
Study of the Project

Kellog Brown Root LLC (KBR) –  
Engineering Services

Global Energy Consultancy LLC  
(GEC) – Economics Analysis

Golder Associates Inc. (Golder) –  
Geotechnical Services



# PROJECT SCHEDULE

Target Year	Activities
2015	FEED
	FERC Request for Pre-Filing
	DOE Application
2016	FERC Pre-Filing and Formal Application
2017	FERC Final EIS Issuance
	Issuance of Authorization (FERC/DOE)
2018-2019	EPC
2019-2020	First LNG

# THE ALASKAN ADVANTAGES

Alaska has a 40+ year track record of delivering LNG to Asia/Japan without interruption

Proximity - 9 shipping days and no Panama Canal Toll

Not part of the lower 48 Shale debate and cumbersome DOE review process

All First Nation and Native land claim issues are resolved



# JAPAN MARKET OVERVIEW

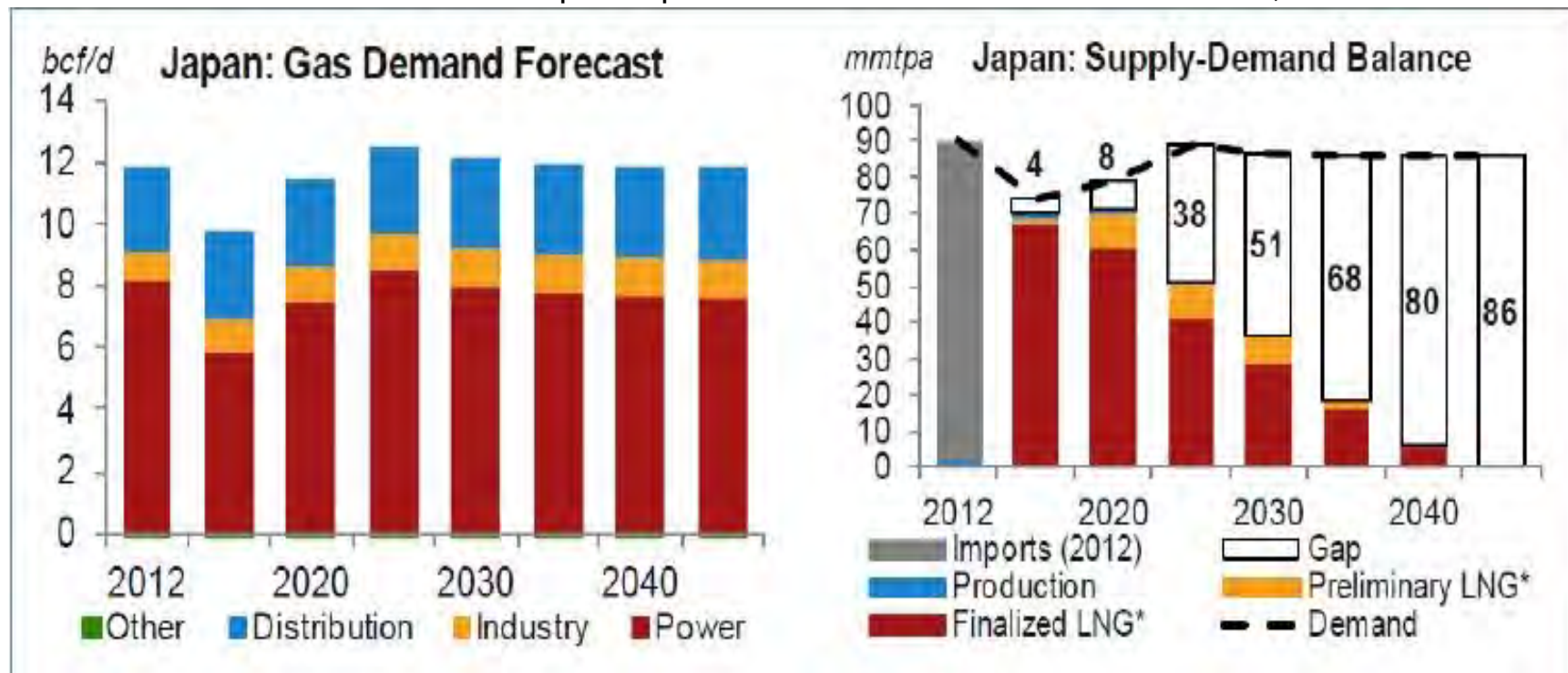
# LNG SUPPLY-DEMAND OUTLOOK FOR JAPAN

2015(REI forecast) World LNG Demand= about 260 million tons

Asian LNG Demand= about 170 million tons(65% of World Demand)

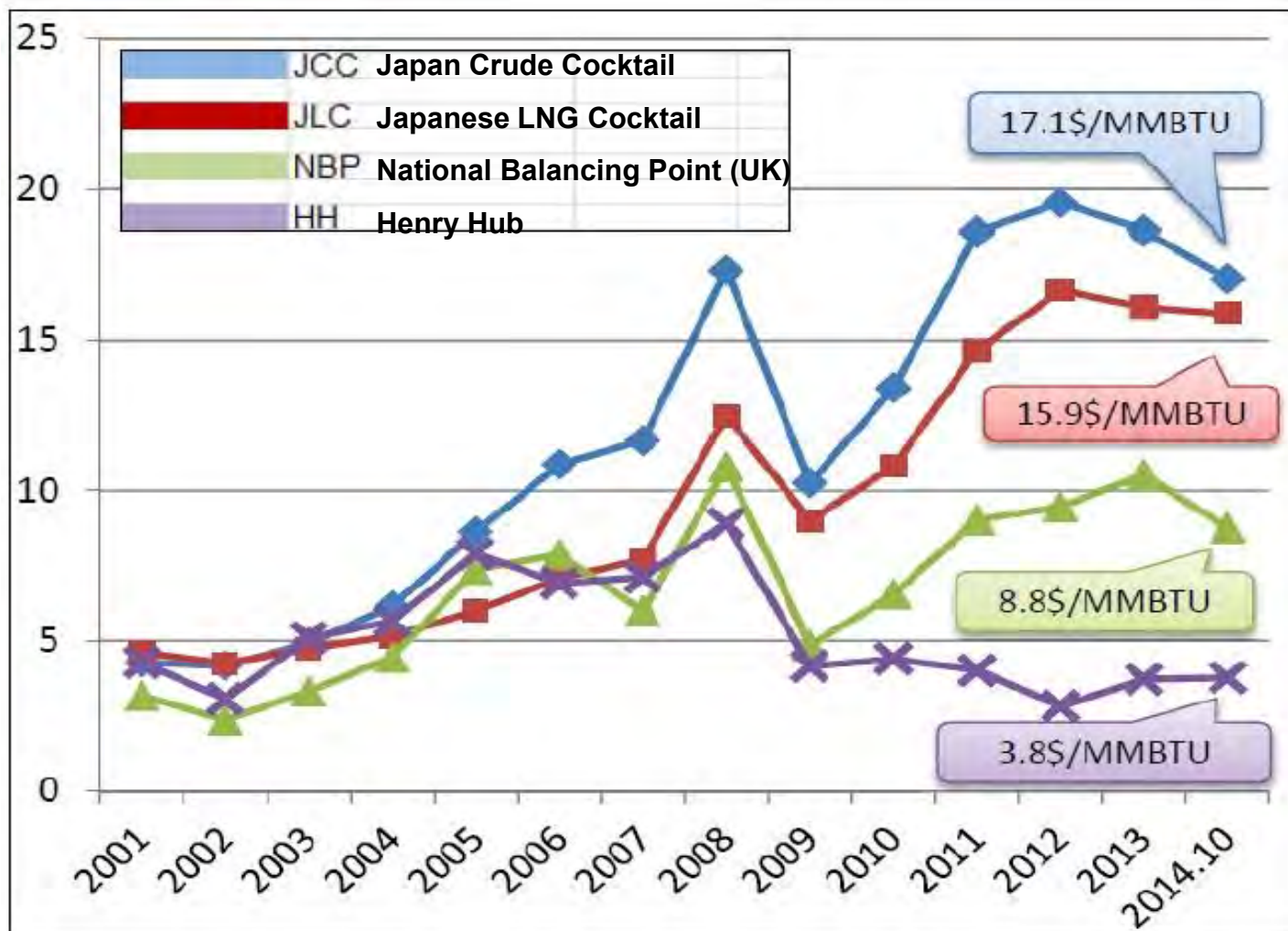
Japan LNG Demand=about 76 million tons(30 % of World Demand) and continue to be No.1 importer towards 2030.

(Note) 2012 Japan LNG Demand=85 million tons , about 9 million tons up from 2011, was due to the emergency LNG imports including spot cargoes to meet the gap caused by the suspension of about 50 units of nuclear power plants after Fukushima disaster in March, 2011.



Source: "Global LNG Supply & Demand Study", PFC Energy, May 2013

# JAPAN IMPORTED LNG PRICE (2001-2014)

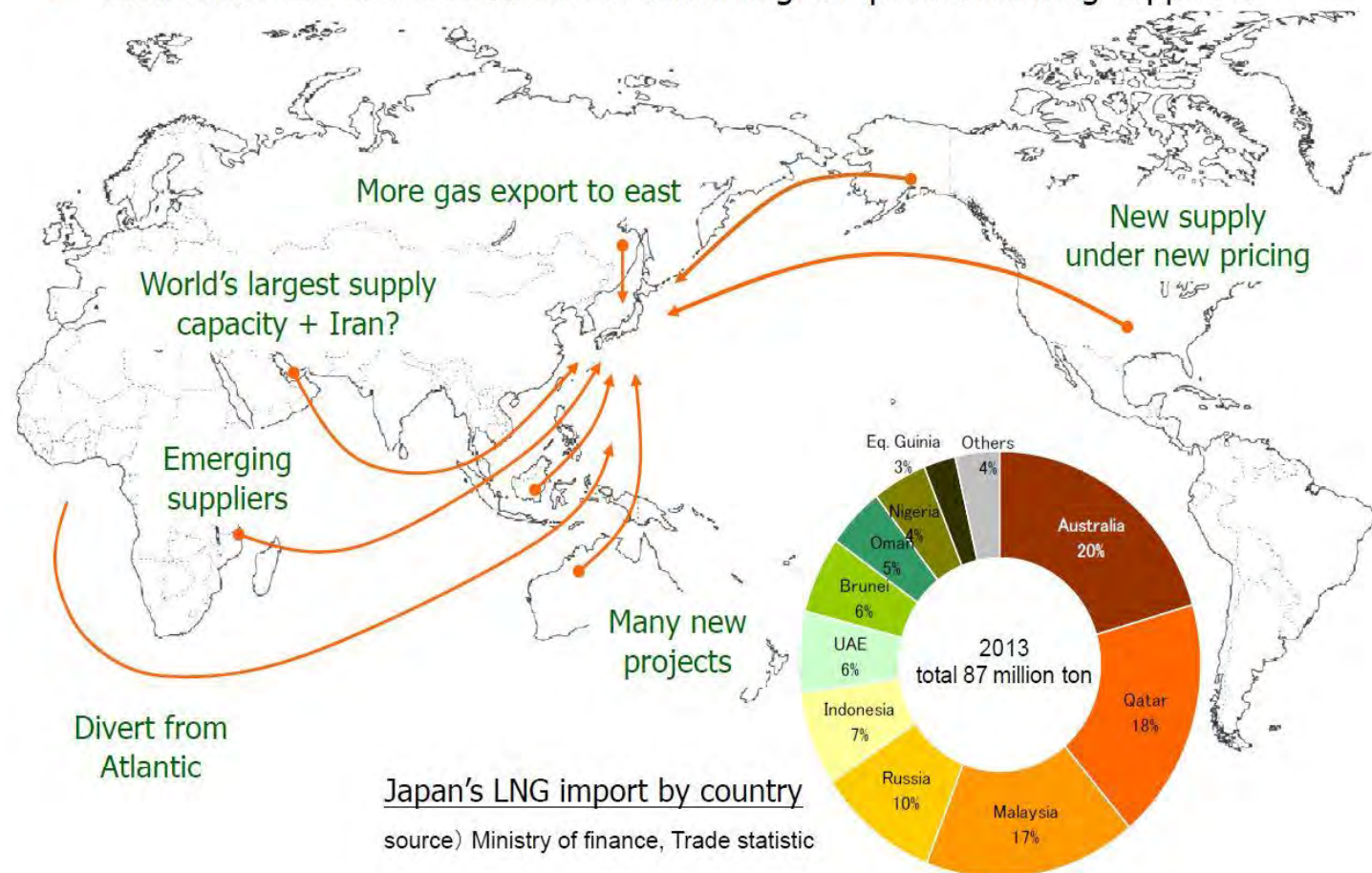


About  
\$13/mmbtu for  
Feb JLC



# LNG SOURCES(PRESENT/FUTURE) FOR JAPAN

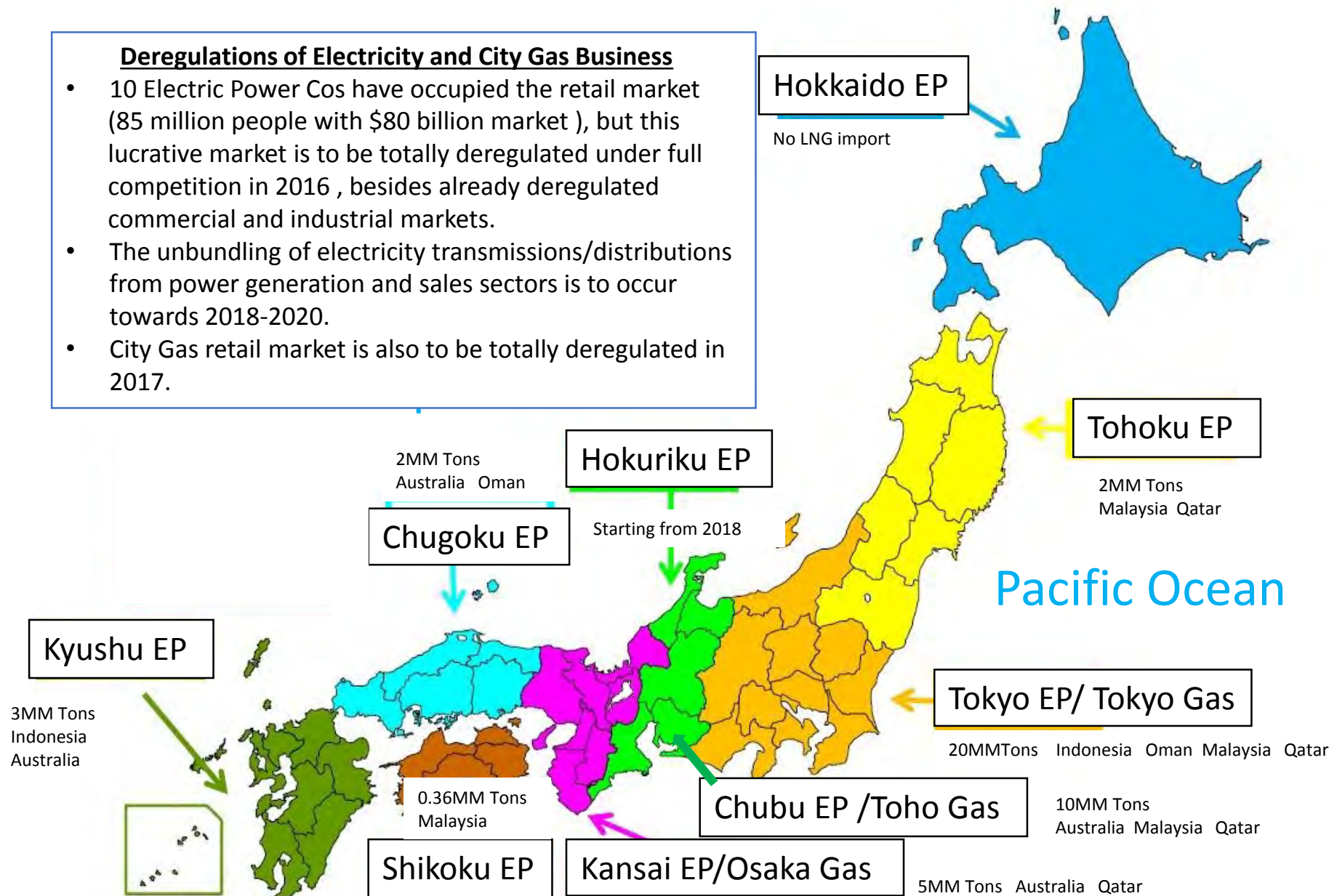
- Many new liquefaction projects are proceeding.
- 'First-come and first-served' rule is enhancing competition among suppliers.



# Japan Electric Power & City Gas

## Deregulations of Electricity and City Gas Business

- 10 Electric Power Cos have occupied the retail market (85 million people with \$80 billion market ), but this lucrative market is to be totally deregulated under full competition in 2016 , besides already deregulated commercial and industrial markets.
- The unbundling of electricity transmissions/distributions from power generation and sales sectors is to occur towards 2018-2020.
- City Gas retail market is also to be totally deregulated in 2017.

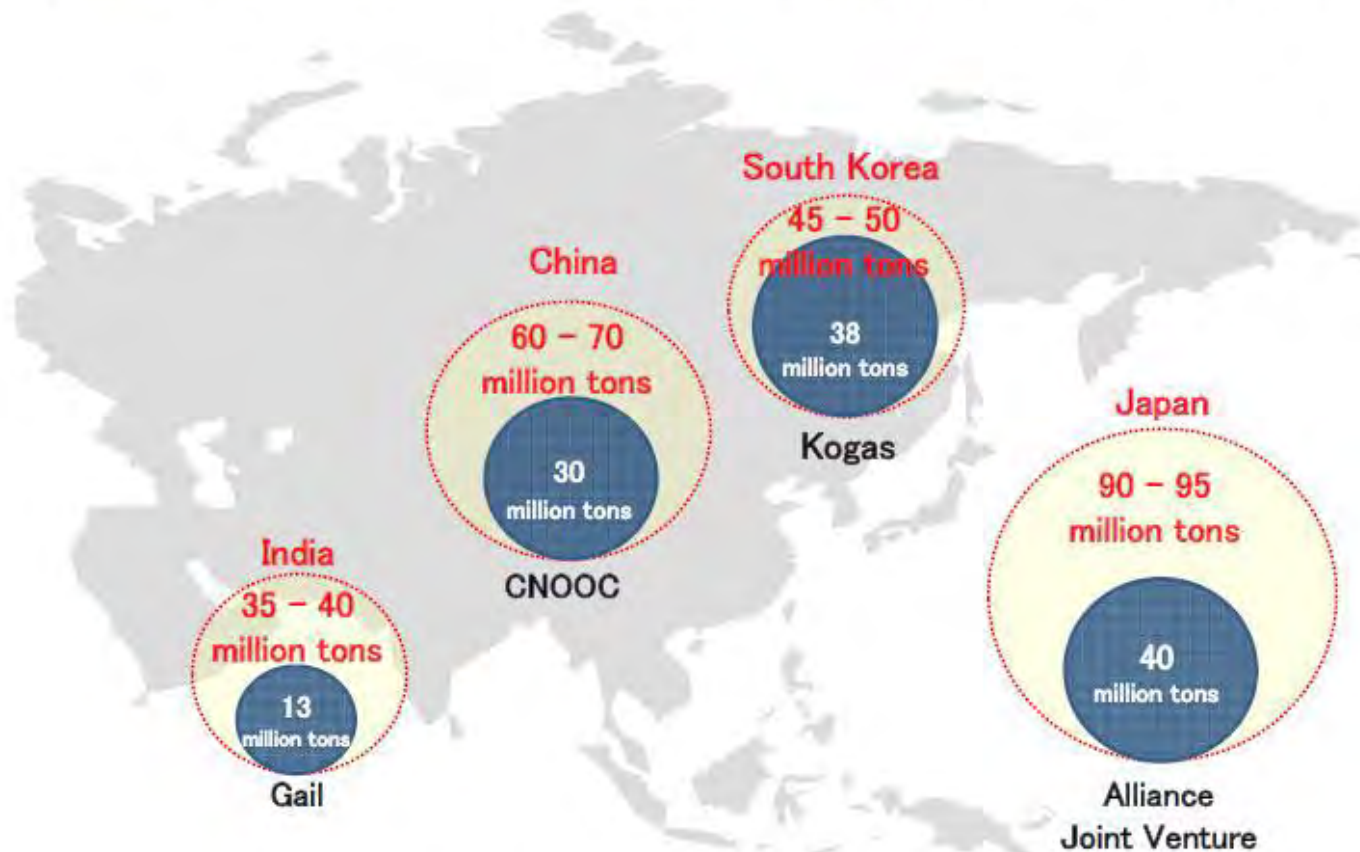


## Tokyo Electric and Chubu Electric Sign JVA

Both companies entered into a joint venture agreement to establish a JVA company in April for the realization of the alliance . They plan to execute further agreements to integrate into JVA company their existing fuel business, including LNG spas, LNG receiving terminals and LNG vessels as well as upstream assets.

They will have a combined LNG purchase quantity at around 40MTA and will become the world's largest LNG buyer. Tokyo estimates that in around 2025, share of the new JVA company's LNG imports would be at 45 percent of the Japan's total imports, 90mta. (Note) Similar alliance is expected to occur among Japanese electric power and city gas utilities such as between Kansai EP and Tokyo Gas.

### Major Asian Countries and Companies Scale of LNG Procurement After 10 Years



Source: prepared using several materials by research agencies



# LOCAL GOVERNMENTS' INITIATIVE TO IMPORT LNG FOR THERMAL POWER/INDUSTRY USE AT JAPAN SEA SIDE

## Background

### The Deregulation of Electricity and City Gas Business & Sale

- Municipalities & other industries can participate in Power Business, besides the major electric power and city gas companies

### Japan National Resilience Planning after Fukushima Disaster

- Importance of Energy Infrastructure(including LNG) at Japan Sea Side  
(Note) 93% of LNG receiving terminals currently at Pacific Ocean side



# BASIC BUSINESS MODEL

## Form PPP type organization for LNG project

- Maizuru Port: Kyoto Prefecture Government
  - Himeji(Hirohata Port): Hyogo Prefecture Government
- (Note) Future plan for natural gas pipeline connection between Maizuru and Hirohata.

## LNG Receiving Volume:

- 500,000 tons / per year
  - 2019~2020 start
  - Maizuru 500,000 tons / Hirohata 500,000 tons
- Total: 1,000,000 tons

## LNG Use and Distribution for Maizuru:

- Local city gas, industrial use : 100,000 tons
- Power Plant (IPP 500 MW) : 400,000 tons

### for Hirohata

- Local city gas, industrial use : 400,000 tons
- Power Plant (IPP 100 MW) : 100,000 tons

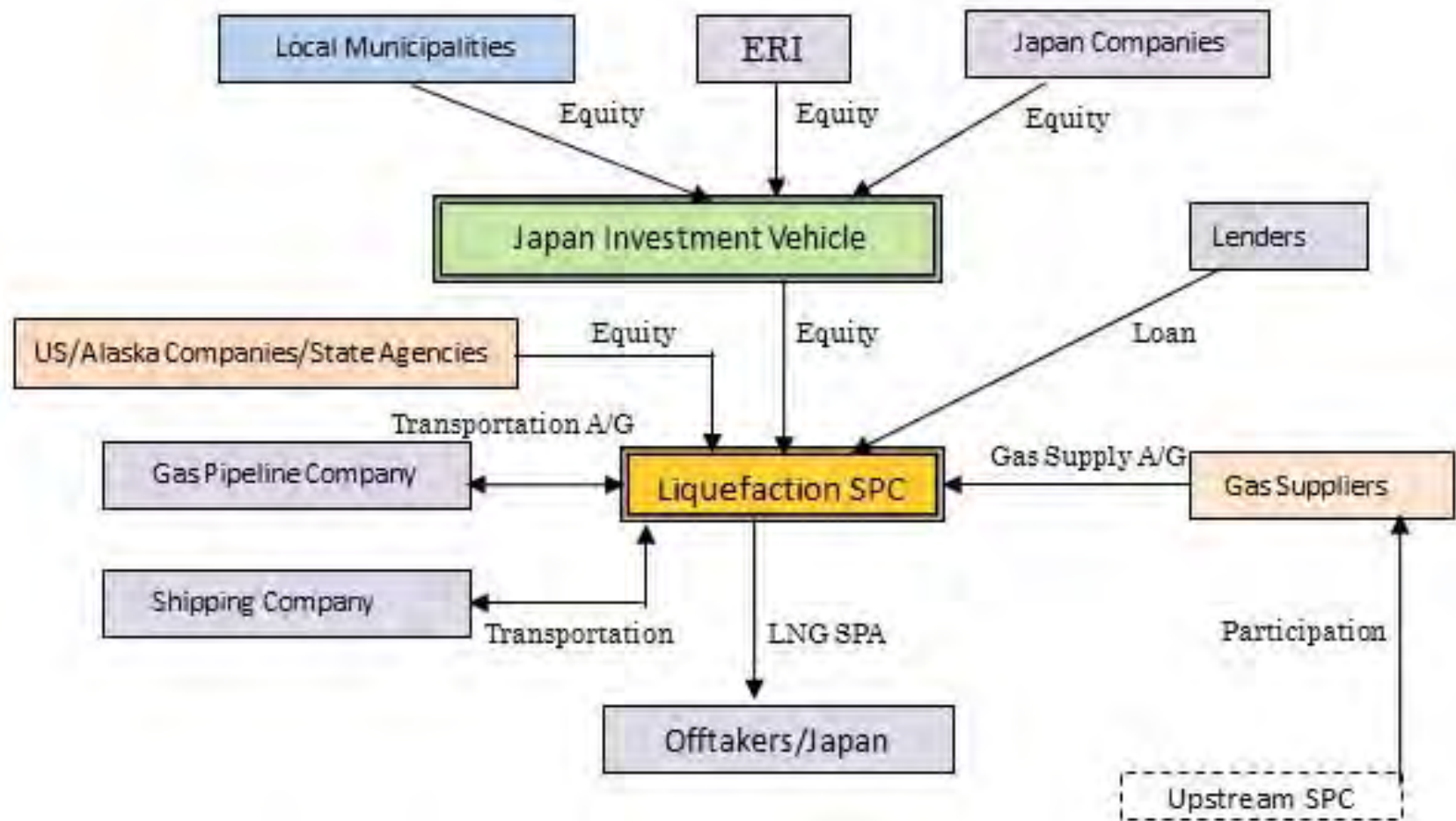
## Size of the business(LNG terminal, Power Plant)

- US\$ 700 million ~ 1 billion





# PROPOSED PROJECT STRUCTURE



# AGREEMENTS IN PLACE, LEGISLATIVE AND REGULATORY CONSIDERATIONS



# REGULATORY SCHEDULE

## Regulatory Regime Overview

- Satisfying regulatory requirements may require significant investment of time and resources.
- In the United States, Section 3 of the Natural Gas Act (“NGA”) governs construction of export facilities and export of LNG.
  - Primary regulatory authority under NGA:
    - FERC: LNG facility siting authority.
    - Department of Energy (“DOE”): Approval for exports of the commodity.

## Pipeline governed by Section 7 of the NGA.

- FERC: Regulation of pipelines.

- U.S. Energy Secretary Ernest Moniz: “We Won’t Be Obstacle to Alaska Gas Exports.”

“We want to be very explicit to say that we will treat Alaska differently. The public interest is not an issue for us,” Moniz said at the press conference. In another development, DOE has exempted the Alaska project from new U.S. Dept of Energy rule that LNG export projects complete their environmental reviews before a federal LNG export license is issued.

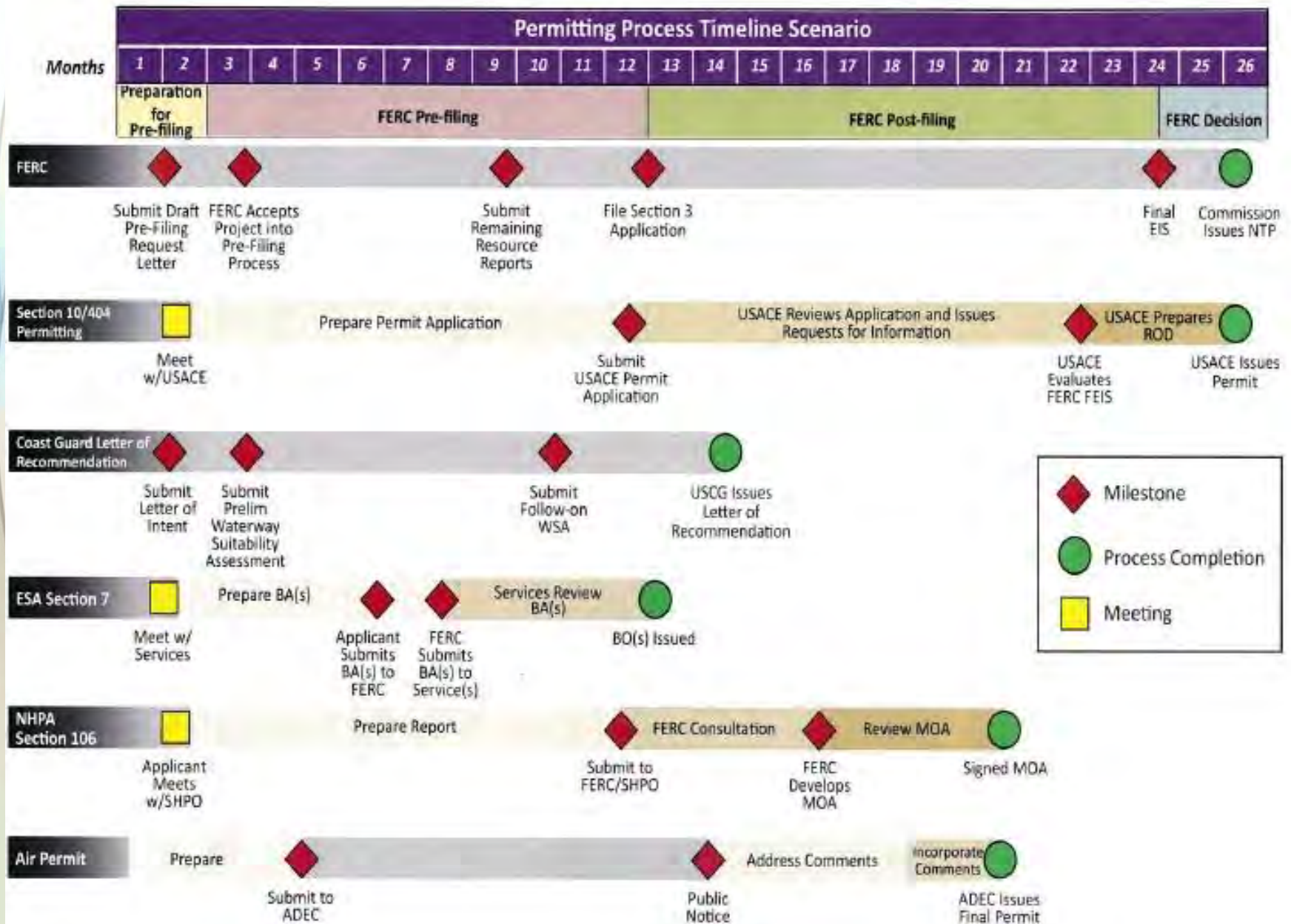


*“Getting Alaskan gas monetized is good for the Alaska (economy), good for the country and good for our international security obligations.”*

*Alaska, however, is again handled separately, Moniz said. A conditional export license for Alaska will be granted when the project moves further along in its development.*

*Moniz says the Obama Administration wants to spur a project to export North Slope natural gas, and he says the No.1 way his department can help is by staying out of the way.*

# HDR Regulatory Schedule





# PORT MACKENZIE



# TIMELINE AND SCHEDULE

# MILESTONES AND NEXT STEPS

## **Cooperation Agreements with the State of Alaska**

- Governor Walker – December 23, 2014
- DNR – December 2013

## **AIDEA agreements**

- Formal Expression of Interest – December 23, 2013
- AIDEA Board Approval of CRA related to the proposed LNG facility of REI – April 24, 2014
- Signed Cost Reimbursement Agreement – April 29, 2014
- AIDEA Board extends term and provides additional money for CRA, December 16, 2014

## **Business Case and Economic Model**

- Completed August 2014

## **Gas supply for Feedstock**

- Reservoir and production analyses completed June/July 2014

## **LOIs from market in Japan – underway**

## **KBR Study and Cost estimate**

- Site plan and layout

## **Land Acquisition**

- Option Agreement in place (valid through December 2015)

## **DOE and FERC preliminary discussions**

## **Joint Venture Partners - underway**

## **Targets by JUNE 2015:**

- FEED to start
- Definitive Consortium/ Market participants
- Definitive Gas Supply
- Financial Arrangement



# PROJECT CONTACT INFORMATION

## REI LNG Contact Details

**Shunichi Shimizu**

*President & CEO*

+81 3 5211 6155

[cueshun@eri-tyo.jp](mailto:cueshun@eri-tyo.jp)

**Eiji Maezawa**

*EVP & COO*

907-563-0357

[eiji.maezawa@rei-lng.com](mailto:eiji.maezawa@rei-lng.com)

**Mary Ann Pease**

*Vice President & General*

*Manager*

907-563-0301

[mpease@acsalaska.net](mailto:mpease@acsalaska.net)

\*primary contact

**Eiji Hashio**

*EVP*

+81 3 5211 6155

[hashio@eri-tyo.jp](mailto:hashio@eri-tyo.jp)