

# **Prospects of Asia-Pacific Gas Development, Japan's Effort**

#### INPEX CORPORATION

October, 2011

#### Agenda



### 1. Global natural gas market

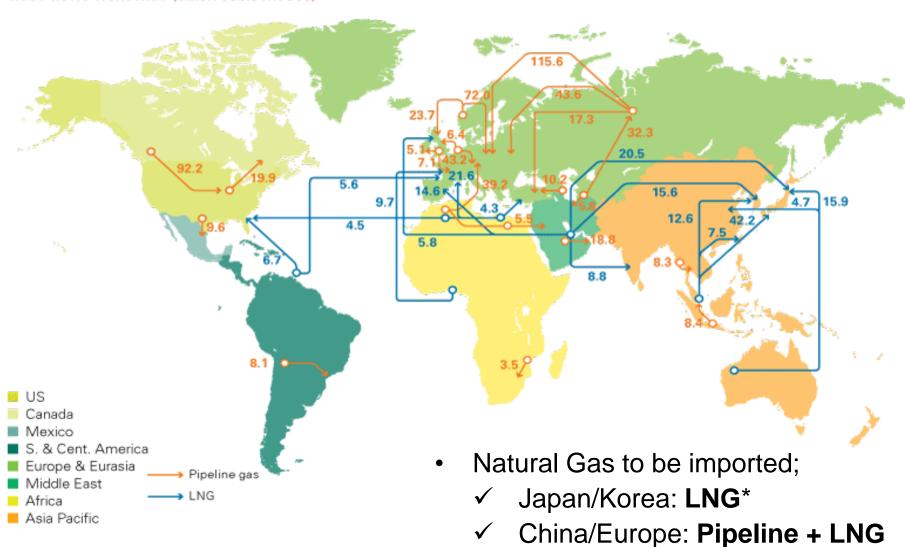
- 2. LNG demand forecast in Asia-Pacific region
- 3. Prospects of Asia-Pacific gas development
  - I. Japan's effort
  - II. INPEX's effort
- 4. Conclusion

#### Global natural gas stream



#### Major trade movements 2009



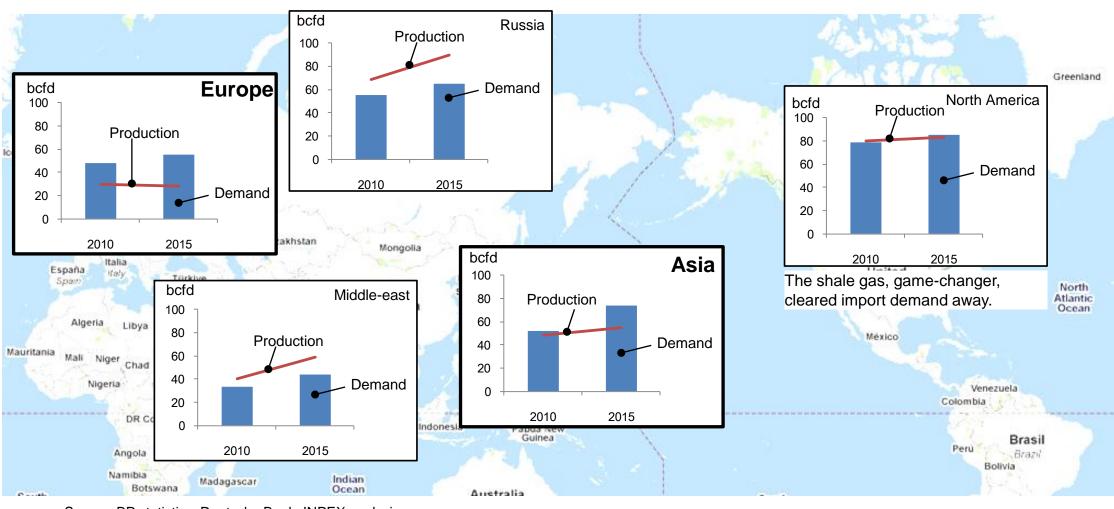


<sup>\*</sup> Korea is planning to import by pipeline from Russia

## Natural gas supply/demand outlook (pre-Fukushima)



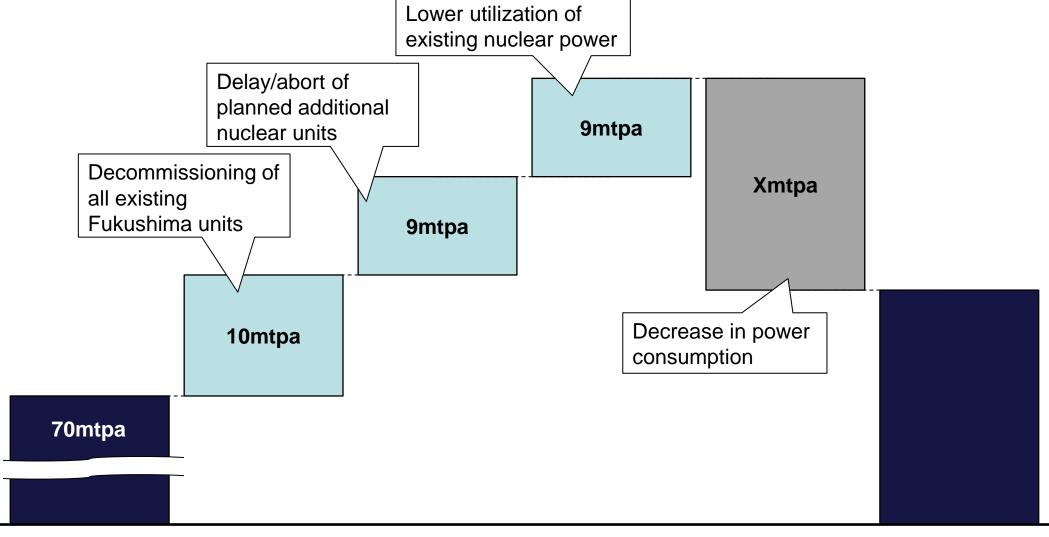
- There are two main regions natural gas to be imported;
  - ✓ Asia: to meet demand growth
  - ✓ Europe: to makeup decreasing indigenous production



## Japan: More gas to be needed (post-Fukushima)



Japan to increase LNG import up to tens of million ton



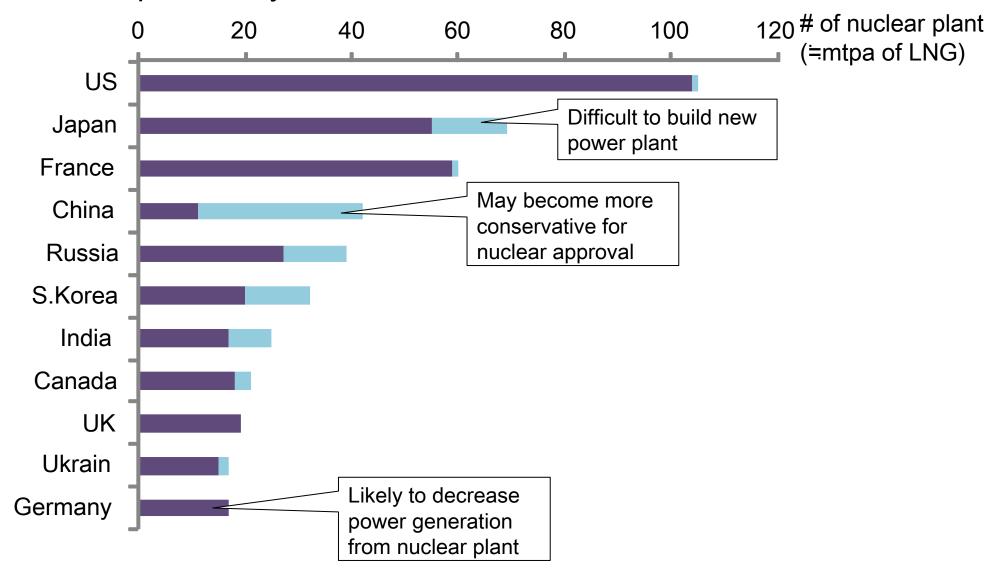
**Demand(2010)** 

Demand (post-Fukushima)

#### World: More gas may be consumed (post-Fukushima)



The more conservative nuclear policy the more natural gas consumption, maybe...



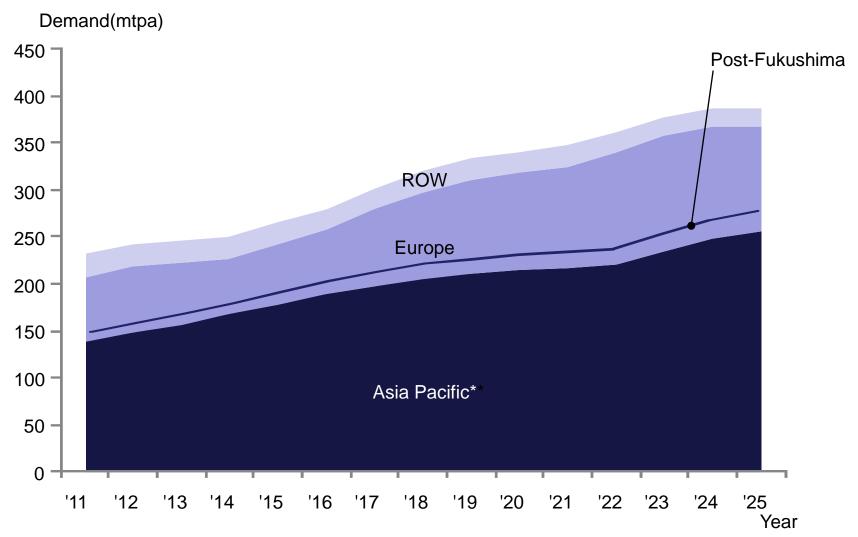


- 1. Global Natural Gas Market
- 2. LNG demand forecast in Asia-Pacific region
- 3. Prospects of Asia-Pacific gas development
  - I. Japan's effort
  - II. INPEX's effort
- 4. Conclusion

#### **Global LNG demand forecast**



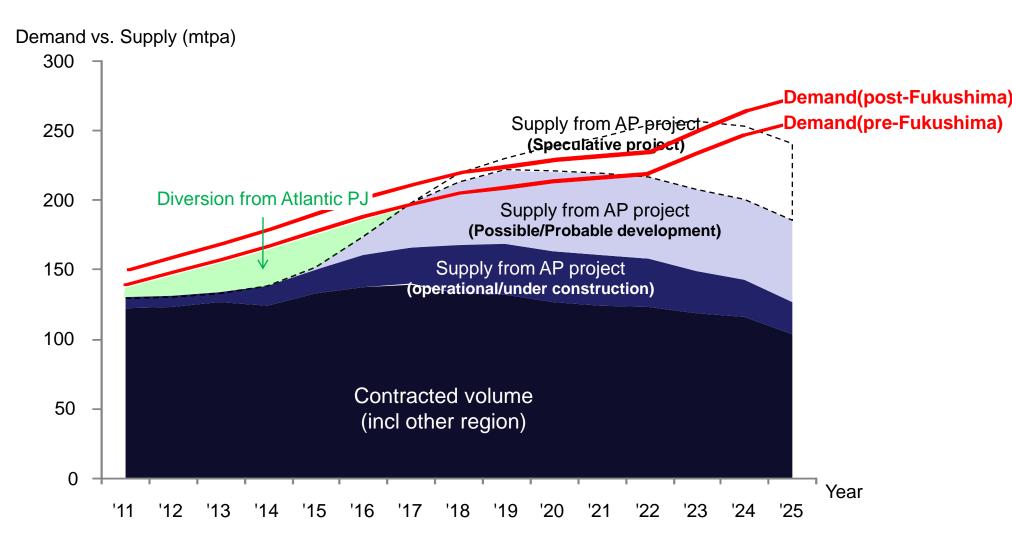
Asia-Pacific\* is/will continue to be a "LNG Demand Center"



<sup>\*</sup>Australia/Brunei/Indonesia/Malaysia/Papua New Guinea/Russia East/Bangladesh/China/Dubai/India/Indonesia (Java)/Japan/Kuwait/Malaysia (Peninsular)/New Zealand/Pakistan/Philippines/Singapore/South Korea/Taiwan/Thailand/Vietnam Source: Wood Mackenzie, INPEX analysis

# LNG supply and demand forecast in Asia-Pacific\* region NPEX

Ample supply if all the project start up on schedule, however...



<sup>\*</sup>Australia/Brunei/Indonesia/Malaysia/Papua New Guinea/Russia East/Bangladesh/China/Dubai/India/Indonesia (Java)/Japan/Kuwait/Malaysia (Peninsular)/New Zealand/Pakistan/Philippines/Singapore/South Korea/Taiwan/Thailand/Vietnam Source: Wood Mackenzie, INPEX analysis

## **Challenges in Asia-Pacific gas development (1)**



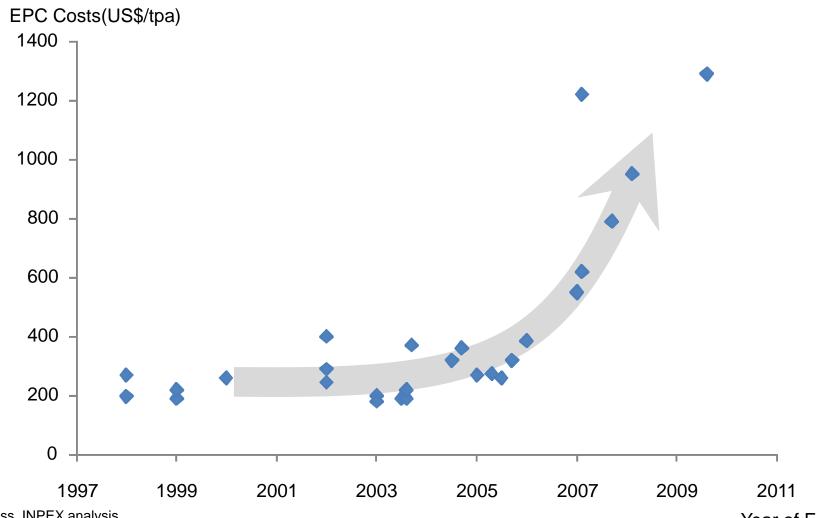
- Domestic demand growth in gas-exporting countries
  - ✓ Malaysia
  - ✓ Indonesia
- Possible decline from some existing LNG projects

## Challenges in Asia-Pacific gas development (2)



## Skyrocketing EPC cost

- ✓ Project owner's profit decrease massively
- ✓ Some new projects may be stalled.

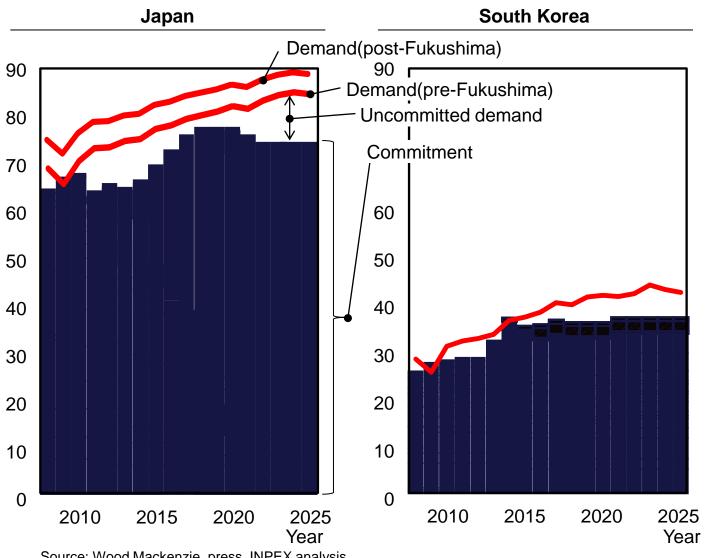


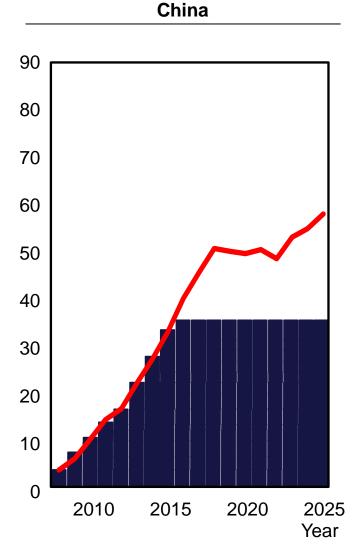
## LNG demand forecast in Asia-Pacific region



Japan/Korea/China need to import "more gas"

#### **Demand vs. Commitment (mtpa)**





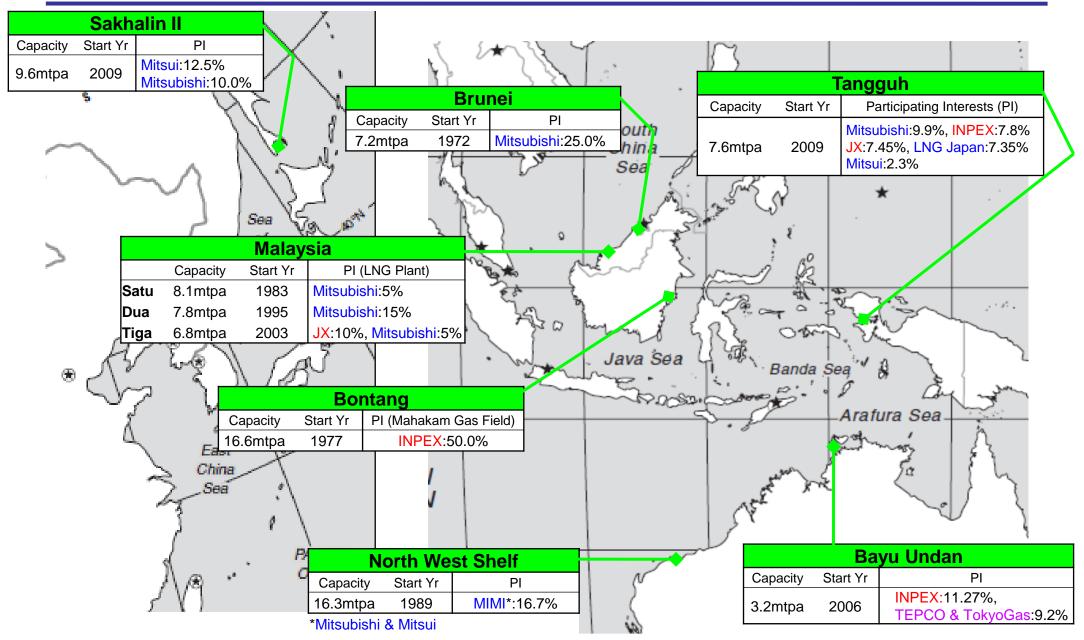
Source: Wood Mackenzie, press, INPEX analysis



- 1. Global Natural Gas Market
- 2. LNG demand forecast in Asia-Pacific region
- 3. Prospects of Asia-Pacific gas development
  - I. Japan's effort
  - II. INPEX's effort
- 4. Conclusion

### Japanese participation in "Existing" AP LNG project

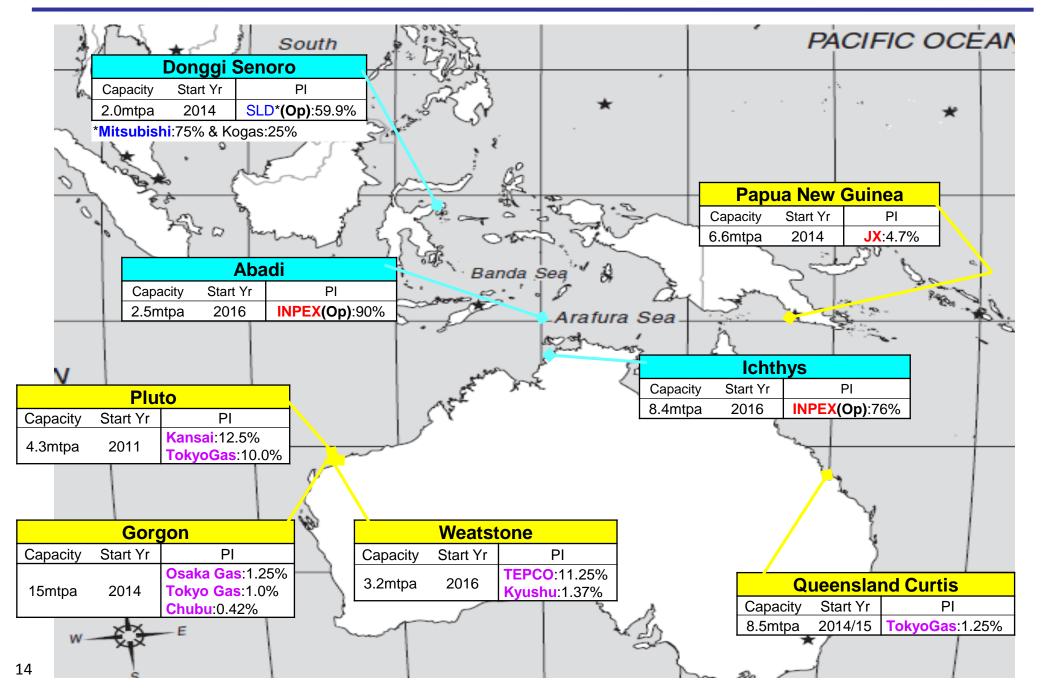




Remark: Blue: Trading company, Red: Oil Exploration company, Purple: Power/Gas company

## Japanese participation in "Planned" AP LNG project





#### Japanese participation in AP LNG project – Trend



#### Operatorship

- ✓ 3 New LNG Projects (Ichthys, Abadi and Donggi Senoro) operated by Japanese company
  - ☐ INPEX: Ichthys, Abadi
  - Mitsubishi: Donggi Senoro

#### LNG Buyers participation

- ✓ Japanese electric power/gas companies actively acquire LNG project interest as a package of purchasing its LNG
- ✓ The main purpose of its acquisition is to secure their own-used gas itself and get the volume flexibility



Expansion and enhancement of their business through the deeper involvements in the **Gas Supply Chain** (Exploration ~ Development ~ Production/Operation ~ Transportation ~ Market)



- 1. Global Natural Gas Market
- 2. LNG demand forecast in Asia-Pacific region
- 3. Prospects of Asia-Pacific gas development
  - I. Japan's effort

#### II. INPEX's effort

4. Conclusion

# Corporate Profile



Company Name	INPEX CORPORATION (1605 JP)
Head Office	5-3-1 Akasaka, Minato-ku, Tokyo
Overseas Offices	Jakarta (Indonesia) Perth/Darwin (Australia) London (UK) Abu Dhabi (UAE) Tehran (Iran) Tripoli (Libya) Cairo (Egypt) Houston (US) Caracas (Venezuela) Paramaribo (Suriname) Rio de Janeiro (Brazil)
Issued Shares	3,655,809 Common shares / 1 Special Class share (Golden share)
Capital Stock	JPY 290.8 billion
Total Asset	JPY 2,680.3 billion (as of March 31, 2011)
Consolidated Employees	1,854 (as of March 31, 2011)
Closing Date	March 31st
Major Shareholders (as of March 31, 2010)	Minister of Economy Trade and Industry Japex 7.31% Mitsui Oil Exploration 4.84% Mitsubishi Corporation 3.68% JX Holdings 3.68%

# Long-term Growth Target & Strategies for Corporate Growth



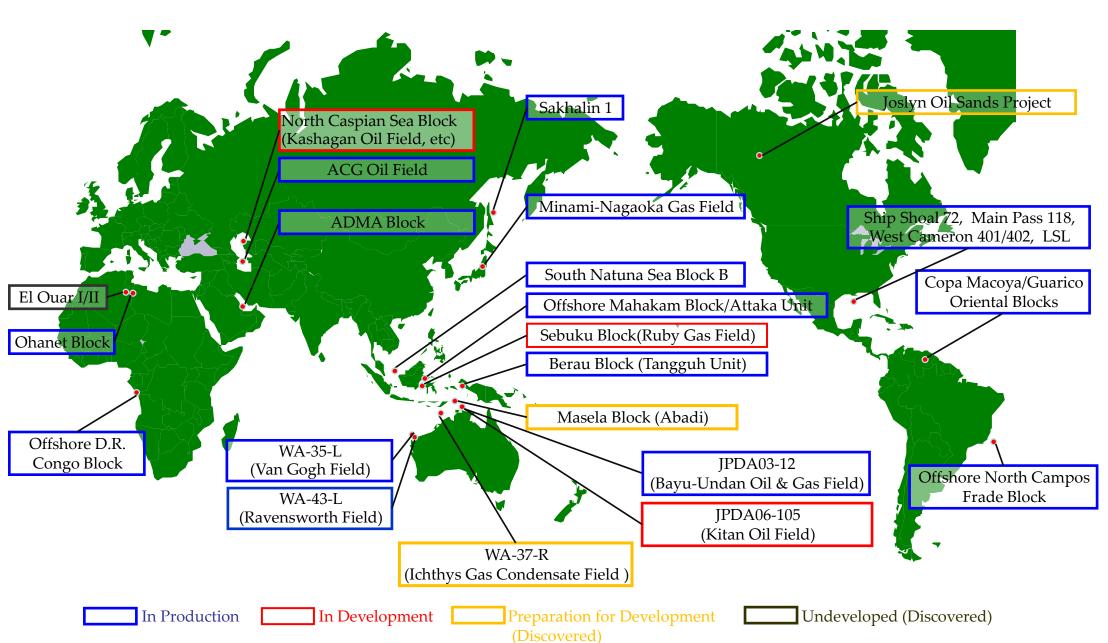
#### **Long-term Growth Target**

- The INPEX Group expands oil and natural gas exploration and development activities in a sustainable manner and aims to become a global energy company with the daily production of 800 thousand to one million barrels of oil equivalent in the late 2010s.
- While holding upstream oil and gas business as the core business, the INPEX Group aims to become a company which provides diversified energies through establishing a natural gas supply chain and working proactively towards the development of unconventional hydrocarbon resources and new energies.

#### **Three Strategies for Corporate Growth**

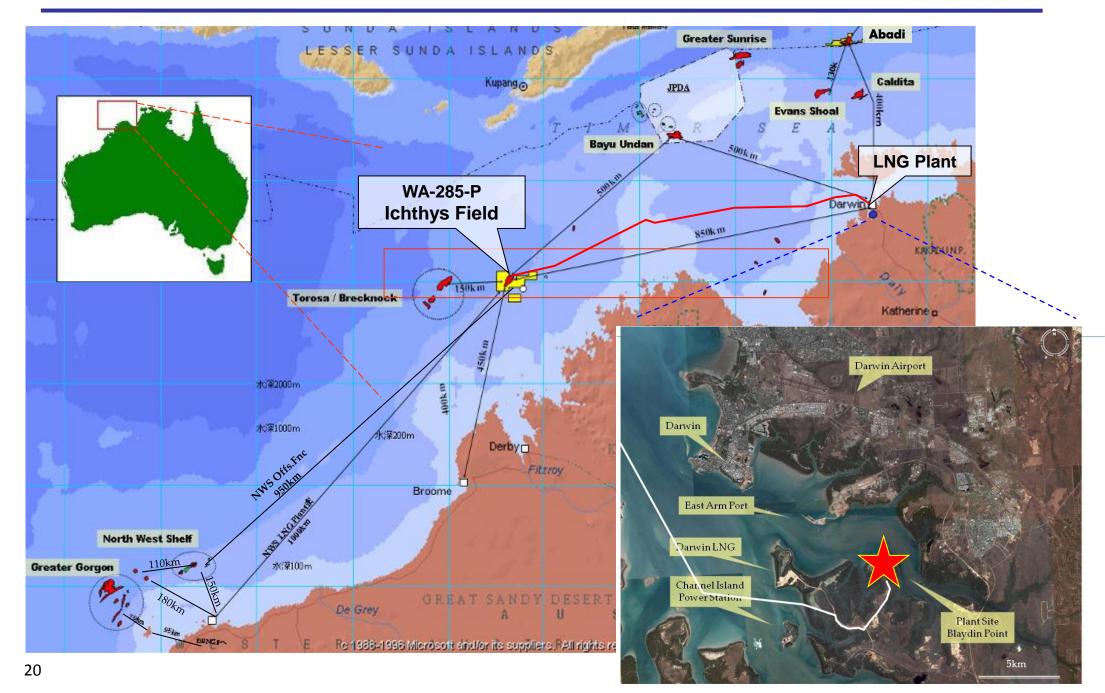
- Based on a well-balanced asset portfolio, further strengthened operational and technical capabilities and reinforced management, all of which have been formed as the result of business integration, the INPEX Group pursues the following three strategies:
  - Sustainable expansion of oil and gas exploration and production ventures
  - Establishment of a gas supply chain and enhancement of gas business
  - Growing into a company which provides diversified energies

# Major Assets in Production & Development MPEX



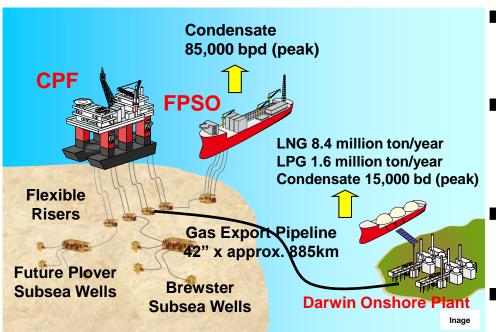
## **Ichthys LNG Project (1)**





#### Ichthys LNG Project (2)





Production volume (expected):

Approx. 8.4 MTPA of LNG

Approx. 1.6 MTPA of LPG

Approx. 100,000 bbl/d of condensate (Peak Rate)

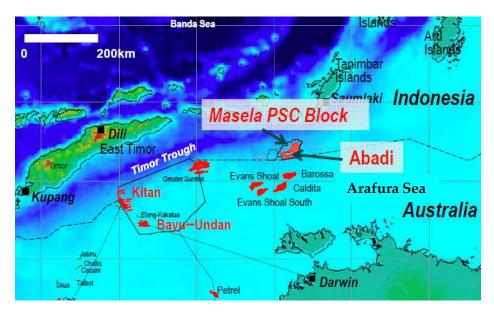
■ FID target: 4Q 2011

Production start target: 4Q 2016

- Onshore (natural gas liquefaction plant) FEED works
  - Major engineering work completed
  - Preparation work for procurement phase in progress
- Offshore (Offshore facilities & pipeline) FEED works
  - Major engineering work in progress
  - ITT (Invitation To Tender) for the CPF etc. issued in November 2010
- Application for production license
  - ✓ Submitted Preliminary Field Development Plan to the authority in March 2010
- Environmental Impact Assessment(EIA)
  - ✓ Conducted public review of draft EIS (July 15 September 10)
  - ✓ Plan to issue supplement EIS report taking into account of the public review, to obtain approval from the government
- Gas Marketing Activities
  - Negotiation is ongoing for securing LNG purchase commitment
- Organization at Perth office in Australia
  - Strengthened organizational structures in October 2010
  - Appointed a TOTAL expert as new project Managing Director

# Abadi LNG Project







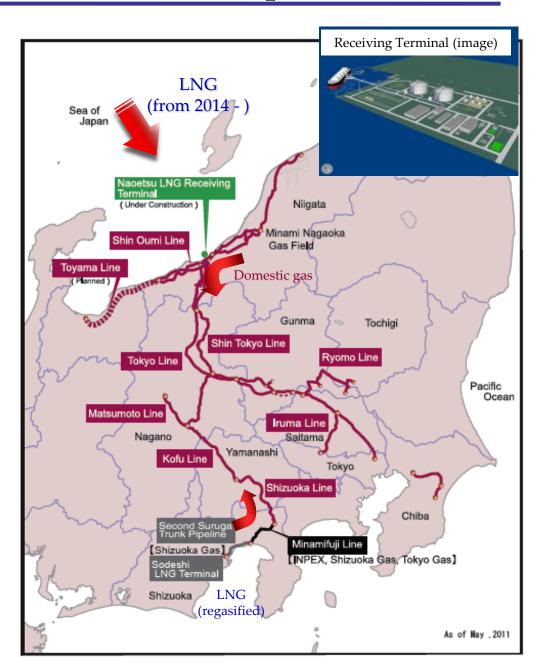
FLNG image

- INPEX Masela : 90% (Operator) PT EMP Energi Indonesia (EMPI) :10%
- Agreed to transfer a 30% participating interest to a subsidiary of Shell (subject to satisfaction of certain conditions such as the approval of the Indonesian Government )
- The Plan of Development (POD) was approved by Indonesian Government in December 2010
  - First Phase Development (POD-1)
  - Development Concept: Floating LNG
  - Production Volumes : 2.5 MM t/y of LNG 8,400 bbl/d of condensate
- Preparation of FEED works which are scheduled to start in 1<sup>st</sup> half of 2012 and AMDAL(Environmental & Social Impact Assessment Process) are ongoing
- Further Study for Future Subsequent Developments according to gas reserves
- Plan to transfer of a 10% participating interest to an Indonesian company designated by Indonesian Government, based on the PS Contract

# Leading to Gas Supply Chain and Domestic Natural Gas Business in Japan INPEX

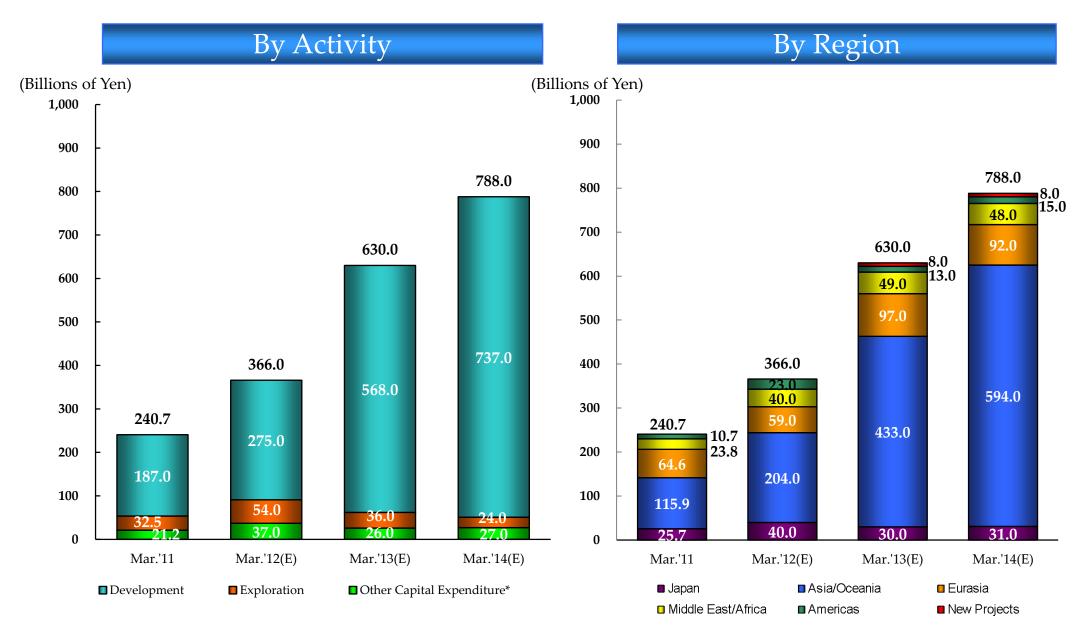


- Naoetsu LNG Receiving Terminal
  - Under Construction in the port of Naoetsu in Joetsu city, Niigata Prefecture
  - Total investment cost of approximately 100 billion yen (including the cost of construction and land acquisition etc.)
- Extension of pipeline network
  - Decided to construct the Toyama Line (natural gas pipeline)
- Domestic Natural Gas Saleses
  - FY 2011/03 : 1,720 MM m<sup>3</sup> increased by 0.9%
  - FY 2012/3 (E): 1,740 MM m<sup>3</sup>



#### Investment Plan



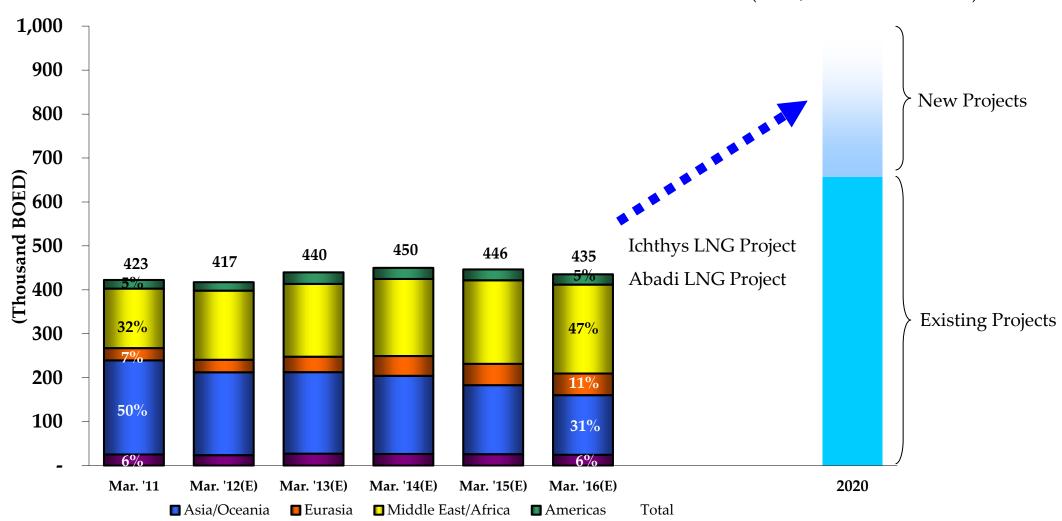


<sup>\*</sup> Mainly investments in Naoetsu LNG Receiving Terminal and domestic pipeline network, etc

# Net Production\* Volume Projection



Long term production target (800-1,000 thousand BOED)



Note: Assumptions used for our net production in the year ending March 31, 2012 and later are the same as in the financial forecasts for the year ending March 31, 2012.

<sup>\*</sup> The production volume of crude oil and natural gas under the production sharing contracts entered into by INPEX Group corresponds to the net economic take of our group.



- 1. Global Natural Gas Market
- 2. LNG demand forecast in Asia-Pacific region
- 3. Prospects of Asia-Pacific gas development
  - I. Japan's effort
  - II. INPEX's effort

#### 4. Conclusion

#### Conclusion



- Spectacular economic growth in Asia and its impact on Asia-Pacific LNG demand, plus post-Fukushima LNG demand increase
- Challenges in Asia-Pacific gas development
  - Gas exports conditional on domestic demand
  - Spiraling EPC Cost vs Project Economics
- Japan's effort on Asia-Pacific Gas Development
  - Expansion and deepening of its involvement as a Project Operator
  - LNG Buyers participation to secure the safe and flexible gas import
- INPEX's effort on Asia-Pacific Gas Development
  - Enhancement of our business in the Gas Supply Chain as a Project Operator of Ichthys LNG and Abadi LNG, and Domestic Gas Distributor in Japan



# 감사합니다