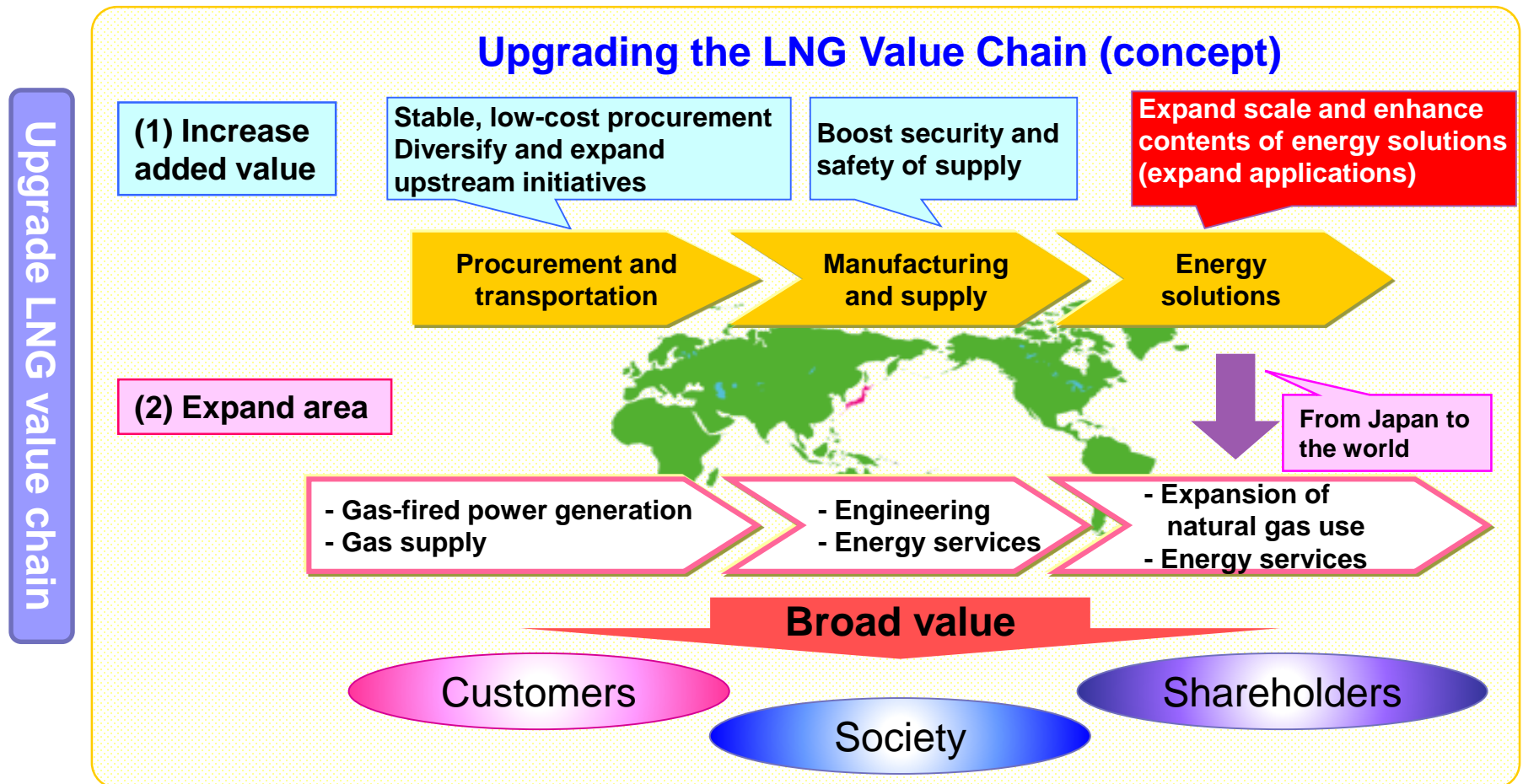


Initiatives for Developing Demand toward LNG Market Growth

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Nov. 6, 2014

Upgrading the Tokyo Gas LNG Value Chain

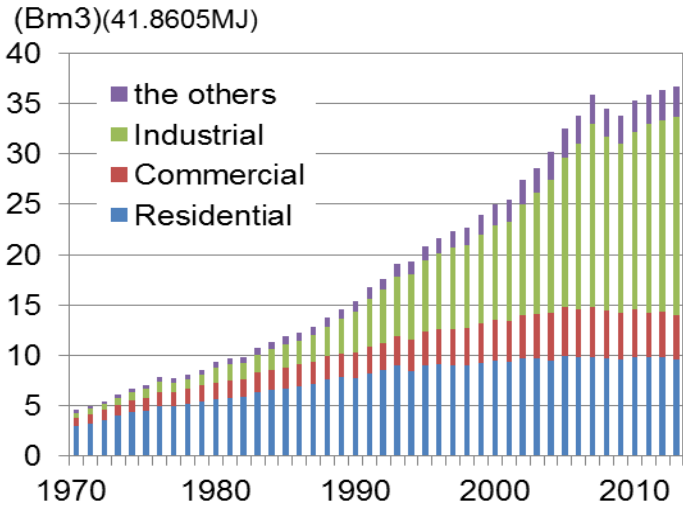
- Upgrade the LNG value chain and provide broad value to customers, society, and shareholders
 - 1) **Increase added value** provided through LNG value chain
 - 2) **Expand area** where LNG value chain is deployed, thereby creating new value



History of LNG Application Development (city gas industry)

- City gas companies, in cooperation with manufacturers, have been working to expand applications of natural gas from cooking, heating, and hot water supply to thermal equipment for industrial use, air conditioning equipment, and CHPs.

Trend in sales volume of natural gas



Technology Development



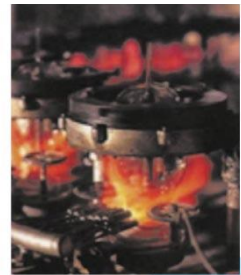
CHP
CHP
 (Gas engines, turbines, fuel cells)

Absorption heat pump



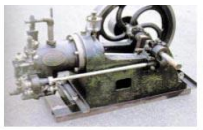
Gas air conditioners
 (Absorption heat pumps/gas heat pumps)

Glass working



Industrial use
 (boilers, industrial furnaces)

Gas generator



Gas cooking furnace



Gas range



Gas stove

Residential and commercial use
 (cooking, heating, hot water)

Gaslight



Meiji Era

Taisho Era

Showa Era

Heisei Era

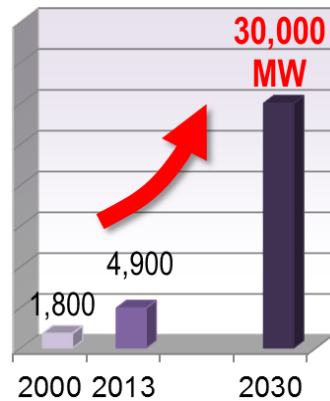
Promoting Natural Gas Use by Developing New Demand

- In fields such as distributed generation systems and transportation, promising targets for LNG use, **Japan Gas Association has set high goals for introduction by 2030** and are carrying out strong initiatives including technology development aimed at expanding LNG demand.

Distributed generation systems

CHP

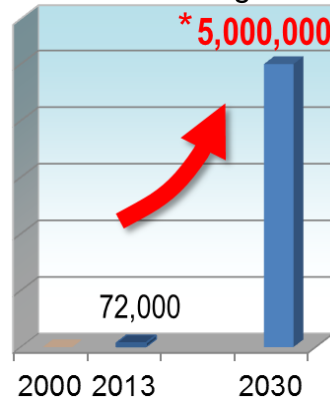
- Commercialization of CHP with higher efficiency than thermal power plants



* Including LPG

Home-use fuel cells

- Development of fuel cells

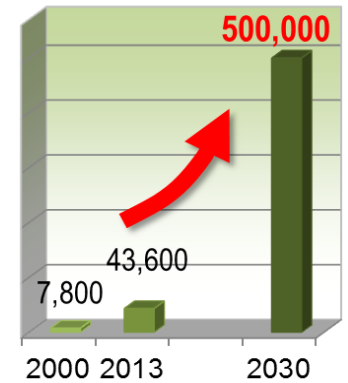


Natural gas potential: Approx. 17Bm³

Transportation field

Expanding use of natural gas vehicles

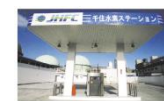
- Development of next-generation hybrid truck
- Provisioning of natural gas stations



Natural gas potential: Approx. 2.6 Bm³

Market introduction of fuel cell vehicles and buses

- Promoting FCV development
- Provisioning of hydrogen stations



Early practical realization of LNG-Fueled vessels

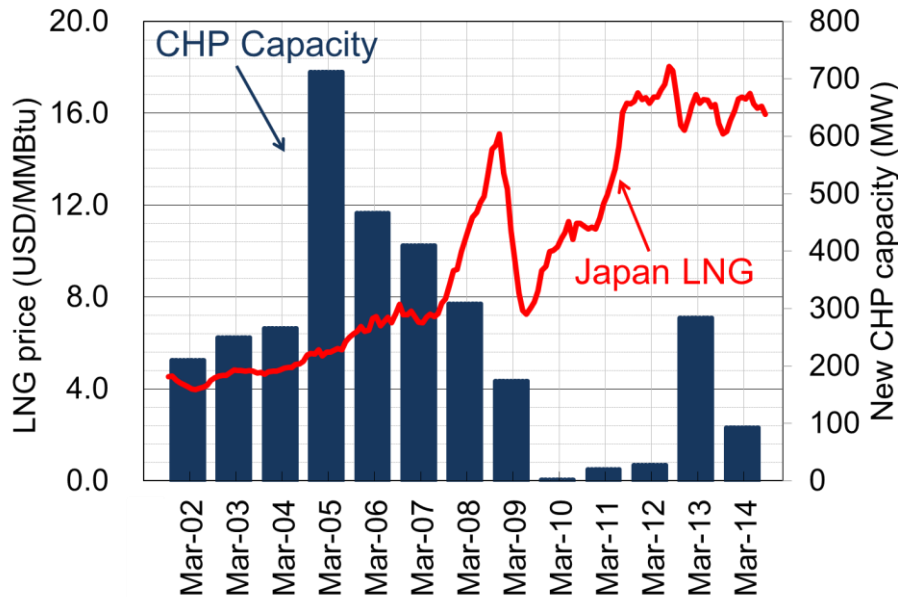
- Drafting safety standards
- Start of initiatives toward practical realization of LNG-Fueled vessels



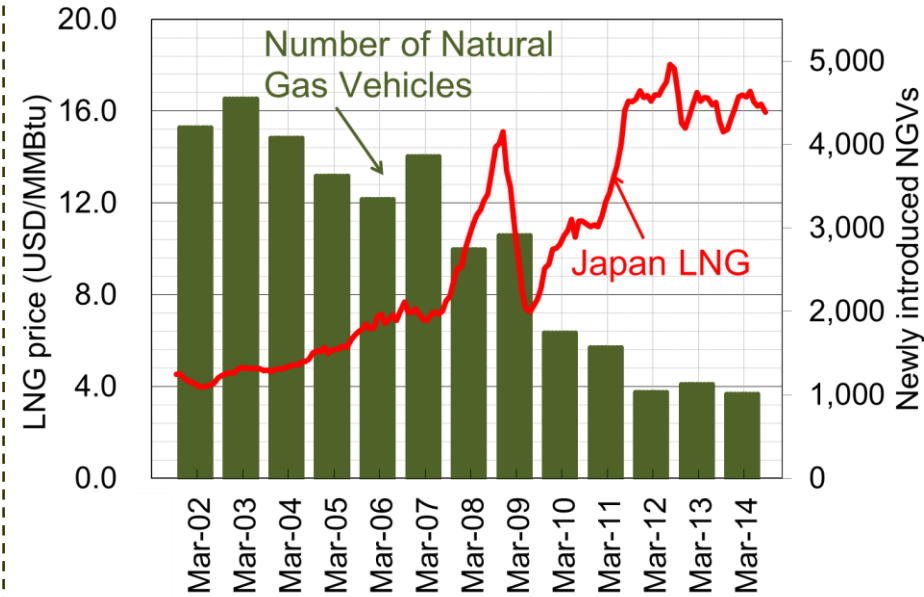
Importance of LNG Price in Developing Demand

- The cost advantages to customers were hit by the rise in LNG prices in the latter half of the 2000s, stalling the growth of CHP and natural gas vehicles.

CHP growth and LNG price



NGV growth and LNG price



Great East Japan Earthquake

- Migration to coal
- Nuclear plant restart

*Introduction increased with awareness of security value from distributed generation sources.

Cooperation between Buyer and Seller

- The following efforts are necessary from a long-term perspective in order for LNG to continually be selected by end users as fuel, for the sustained growth of the LNG industry.

Efforts by Tokyo Gas as buyer

Efforts to promote development of gas demand (including technology development and capital investment) & Deployment of usage technologies to gas producer countries

Seller cooperation

Efforts to achieve Asian LNG price levels that are reasonably fair in comparison with the global LNG market

3) Deployment of usage technologies to gas producer countries

- Area-wide use of electricity and heat in industrial park development
- Energy network provision in urban development

4) Further encouragement of LNG development

- Increasing incentives for gas field development with growth in LNG demand

2) Expansion of LNG demand by developing applications

- Distributed generation systems (CHP, FC, etc.)
- NGV/FCV
- Gas air conditioning, etc.

1) Reasonable LNG prices

- Diverse price formulas
- Expansion of liquidity



Sound growth of LNG market