

A Study on LNG Supply and Demand Estimate in Asia Pacific Region

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Fragility of energy demand and supply structure of our county

**Quantitative
stable supply**

**Divesification and
decentralization of
resources**

**Decrease of
price**

Attention at natural gas

Stable supply of natural gas

- Quantitive demand and supply prediction
- Construction of energy cooperative sysytem

Spread enlargement of natural gas

- Service of supply infrastructure
- Development of utilization technology, CO₂ reduction

Table 1 The LNG supply and demand prospect in the Asia Pacific region announced by the government

(unit: 10 thousand ton/year)

		2002year	2010year	2015year
demand	high demand case	7,787	12,400	16,300
	low demand case	7,787	10,000	12,000
supply	existing projects	8,370	8,370	7,450
	projects under construction	※	3,544	3,544
	planned projects	※	10,765	10,765
	total	8,370	22,679	21,759

(source: the 5th supply and demand sectional meeting data, March 2004)

Table 2 LNG importing enterprises and number of LNG projects

country	enterprises	numbers of existing LNG projects	numbers of new entry LNG projects
Japan	electric co.(6)	32	6
	gas co.(8)	25	5
	others(2)	2	0
sub total		59	11
Korea	KOGAS	9	3
Taiwan	CPC	3	1
India	Petronet etc.	1	3
China	CNOOC etc.	2	2
US West Coast	Sempra etc.	0	3
Phillipine	—	0	1
total		74	24

**Table 3 LNG demand estimate method in Asia Pacific region
by the calculation of individual project**

(1)estimate year		2010, 2015
(2)import country	existing country	Japan, Korea, Taiwan,India
	new entry county	China,US West Coast, Philiphne
(3)LNG demand estimate measurment		previous contract amount+contract extended amount+new contract amount
(4)new project	inclusion matters	・sales and purchase contracted confirmed
		・resources,exporting partoner,year to start confirmed
	actual project	India (Dahle,Coach)
		China (NWS extenrd,Tangguh,Iran,Gorgon)
US West Coast (Sakhalin II ,Tangguh)		
		Phillipine (NWS)

Table 4 LNG supply and demand prospect in Asia Pacific region
(unit : 10 thousand ton/year)

year		2004	2005	2010	2015
existing contracts	Japan	5,801	5,821	5,528	3,159
	Korear	1,936	1,936	1,456	1,186
	Taiwan	566	566	566	184
	India	500	500	500	500
	China	0	0	0	0
	US West Coast	0	0	0	0
	Philippine	0	0	0	0
	sub total	8,803	8,823	8,050	5,029
extened contracts	Japan	0	0	856	3,226
	Korear	0	0	480	550
	Taiwan	0	0	0	225
	India	0	0	0	0
	China	0	0	0	0
	US West Coast	0	0	0	0
	Philippine	0	0	0	0
	sub total	0	0	1,336	4,001
new contracts	Japan	0	0	63	63
	Korear	0	0	285	285
	Taiwan	0	0	300	300
	India	0	0	1,500	1,500
	China	0	0	1,380	1,630
	US West Coast	0	0	960	960
	Philippine	0	0	100	150
	sub total	0	0	4,588	4,888
total		8,803	8,823	13,974	13,918

The government vs Individual Prospect

(unit : ten thousand ton)

		government	individual
2010year	high demand case	12,400	13,974
	low demand case	10,000	
2015year	high demand case	16,300	13,918
	low demand case	12,000	

The LNG supply and demand forecast can be viewed relatively optimistic in 2010 and 2015

Current Chinese Gas Problems

- First two LNG contracts were signed on very favorable terms: low base prices plus ceiling prices not linked to oil, plus upstream equity shares
- Rise in oil prices plus tight Asia –Pacific market means that:
 - LNG suppliers will no longer offer these terms to Chinese importers
 - Without these price terms, gas cannot compete in Chinese power sector
 - China is already being outbid by Japanese suppliers for new LNG

Might China be forced towards pipeline gas because of LNG market competition?

Russian Gas Export to Korea

- ❏ Most attractive pipeline suppliers are from Sakhalin and could contribute to a North Korean energy solution;
- ❏ Kovykta pipeline suppliers are possible but expensive and will depend on Chinese willingness and timing;
- ❏ LNG from Sakhalin (and other sources) will be competitive with -and lower cost than- pipeline gas

Uncertainties about privatization, restructuring/deregulation and Korean Peninsula politics are obstacles to rapid decision-making

Russian Gas Export to Japan

- Sakhalin II partners have sold LNG to gas and electricity utilities
- Gazprom has joined the project as shareholder

BUT:

- No resolution of Russo-Japanese political problems (Peace Treaty, territories)
- Uncertainty about utility liberalization
- Electric utilities prefer nuclear/coal to gas

No immediate change of pipeline gas to Japan despite proximity to Sakhalin

Serious political and Security Problems in North East Asia in the mid 2000s

- ❏ China-Japan friction: partly over a disputed gas field and oil pipeline from Russia
- ❏ China-Korea friction: partly over Korean Peninsula problem
- ❏ Korean-Peninsula problem: likely to be resolved without natural gas pipeline solution

Russian pipeline gas and LNG has a huge future in East Asia but not for the next decade at least. Development needs cooperation, not competition and conflict