

Global Liquefied Natural Gas Outlook

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Port&Shipping Tech
GREEN SHIPPING SUMMIT

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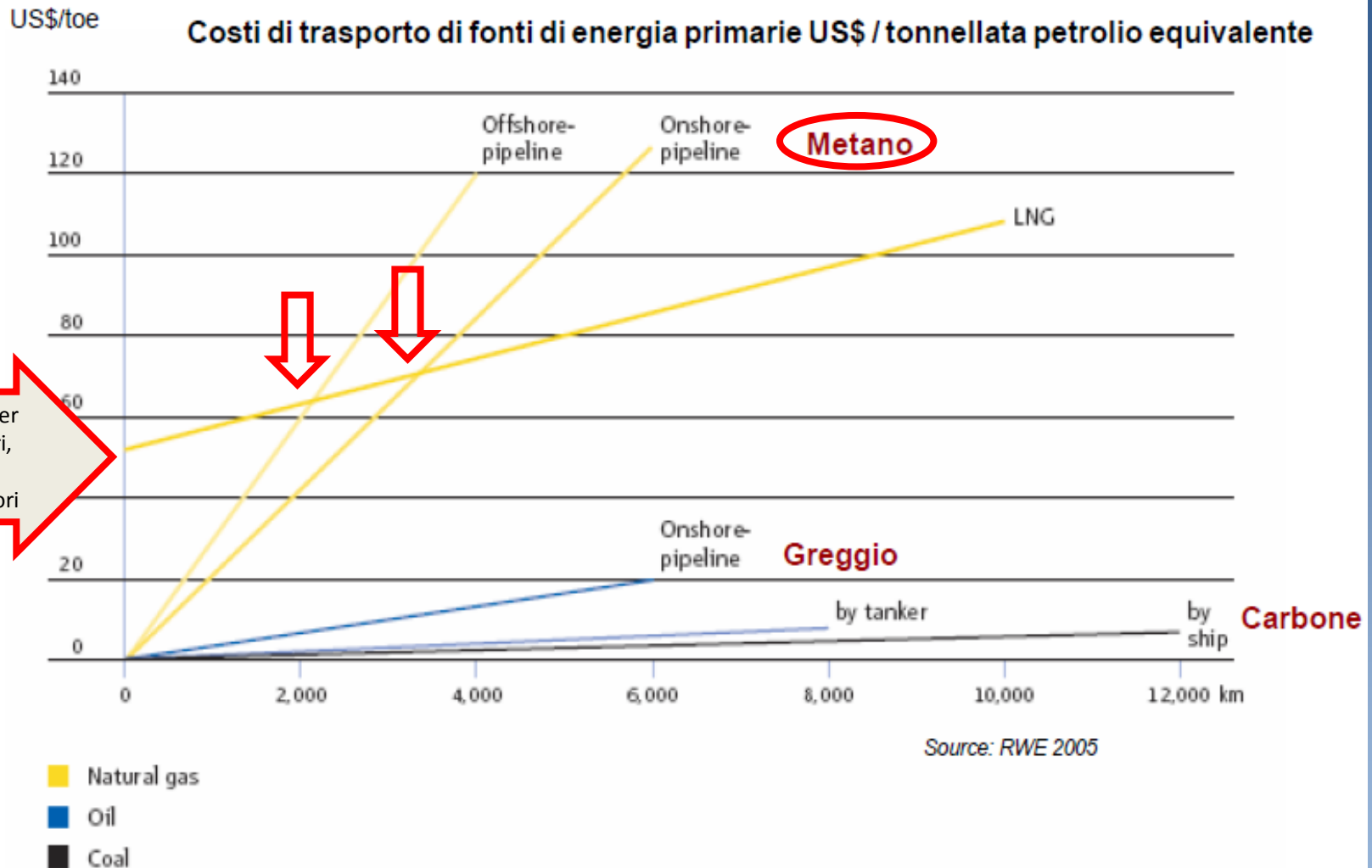
What is LNG?

- The **LNG** (Liquefied Natural Gas) is a fluid in the liquid state, colorless, odorless, composed primarily of methane, contains small amounts of ethane, propane, nitrogen and other components normally present in natural gas. It does not contain carbon dioxide and water.
- At atmospheric pressure, it becomes liquid at about -160°C .
- **LNG** takes up about $1/600^{\text{th}}$ the volume of natural gas in the gaseous state:
 - It can be thus easily transported by ship in large quantities;
 - The amount of energy stored for the same volume is almost 3 times larger than with Compressed Natural Gas (CNG at 200bar).

LNG vs pipelines

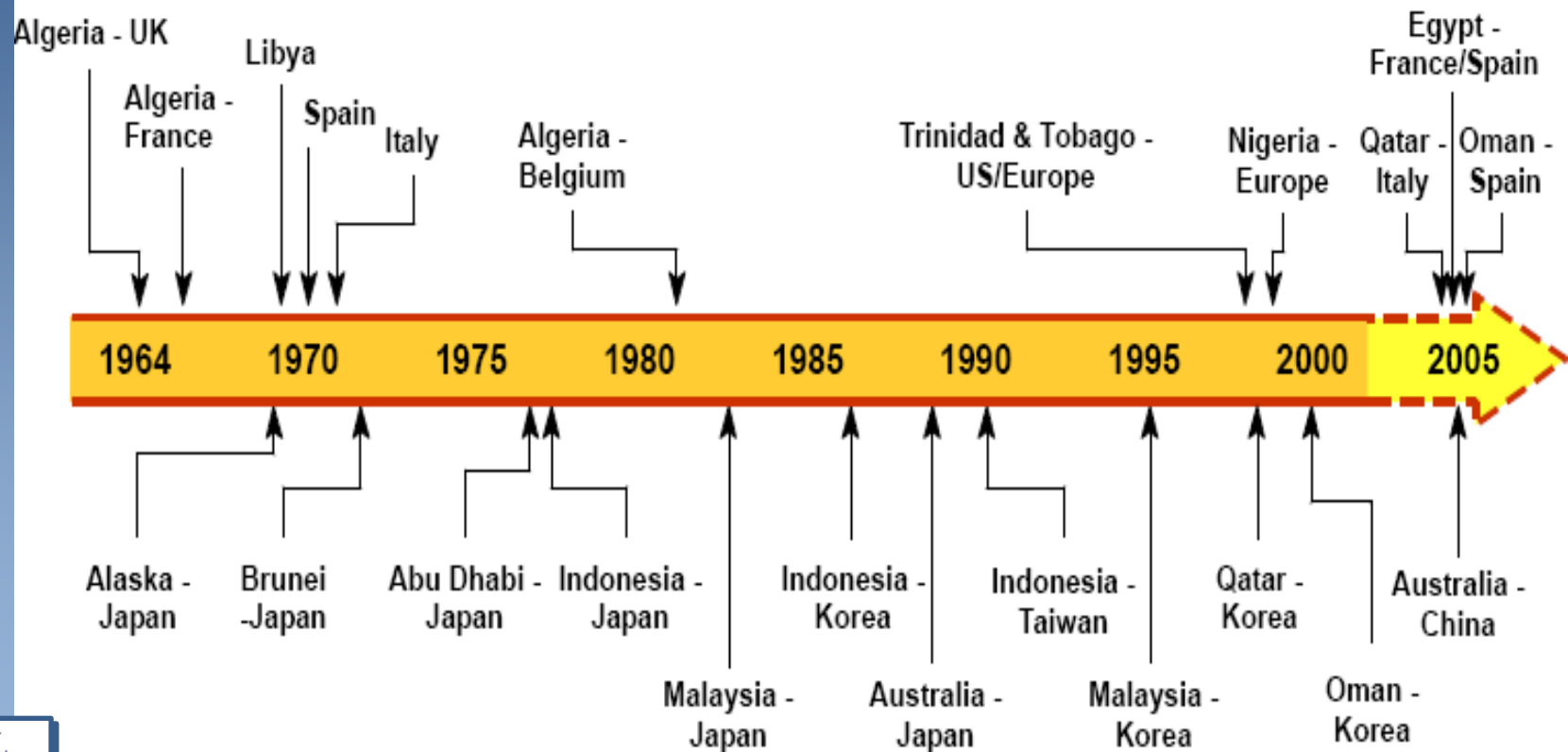
- The **LNG** represents an alternative way to the transport by pipeline of the natural gas, allowing a direct connection between the regions of production and of consumption where connection by pipeline is not possible.
- The use of LNG responds to the strategic need to diversify geographically the sources of supply and make the natural gas market truly **global** and not limited geographically.

For transport over long distances, the LNG is more profitable than the pipeline transport.



The History of LNG

The LNG industry is a young industry with a background of only 40 years. The first experimental transport was made by Methane Pioneer Ship in the 1959 (Lake Charles-USA/Canvey Island-UK).



The LNG chain (1/2)

COMMERCIAL AND PHYSICAL FLUX

Upstream
Commercial
Arrangements

Gas
Processing and
Liquefaction

LNG
Shipping
Agreements

LNG
Import and
Re-Gasification

Gas
Transmission
and Storage



Upstream



Processing &
Liquefaction



Shipping



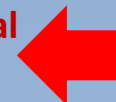
Import Terminal



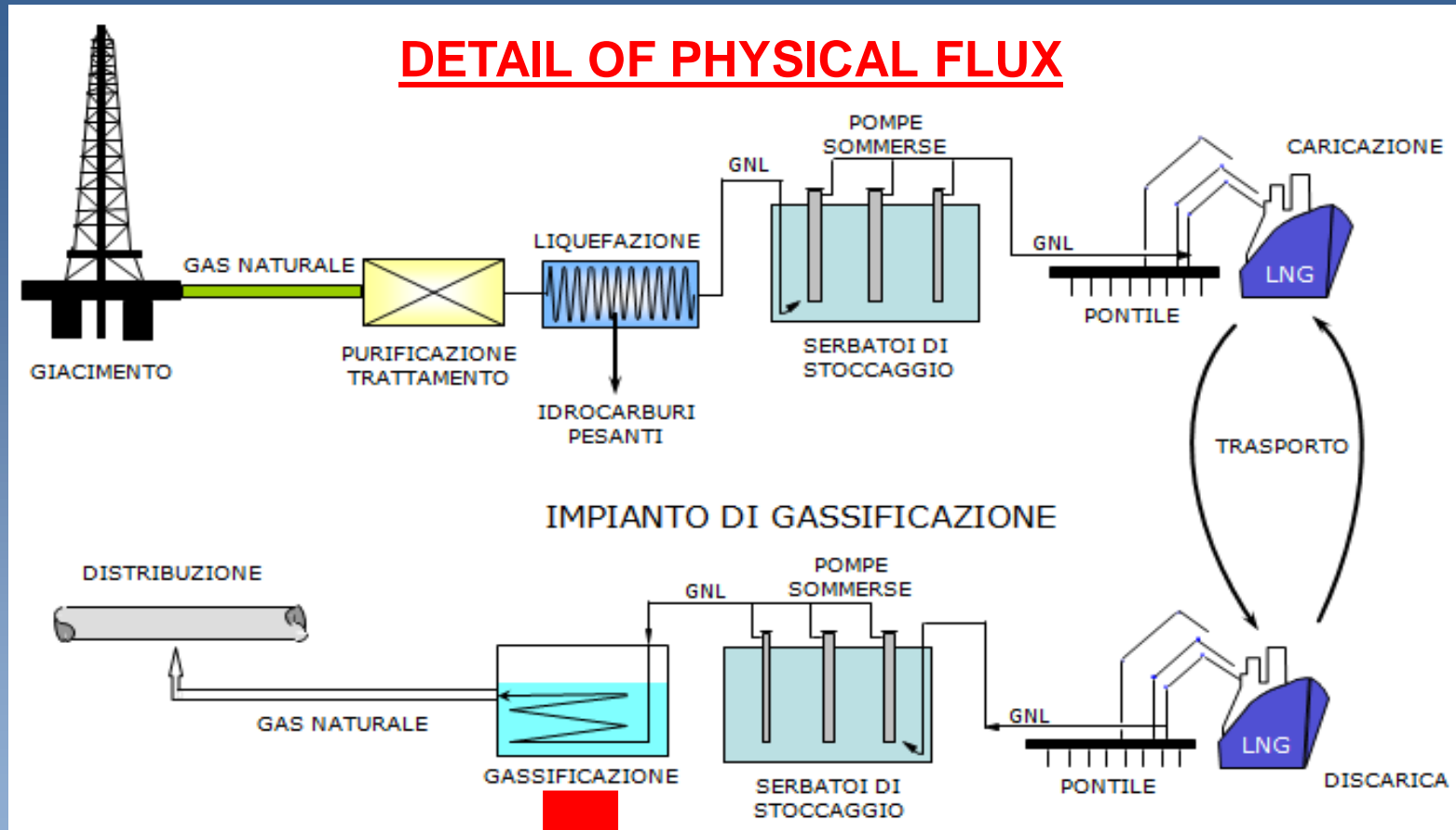
Gas Markets

At 2012 end:

- 89 liquefaction trains in operation
- 282 Mtons/year total capacity
- 378 tankers
- 93 LNG regasification terminal (end 2012)
- 668 Mtons/year total capacity
- Regas .capacity almost 2,4 times bigger than liquefaction



The LNG chain (2/2)

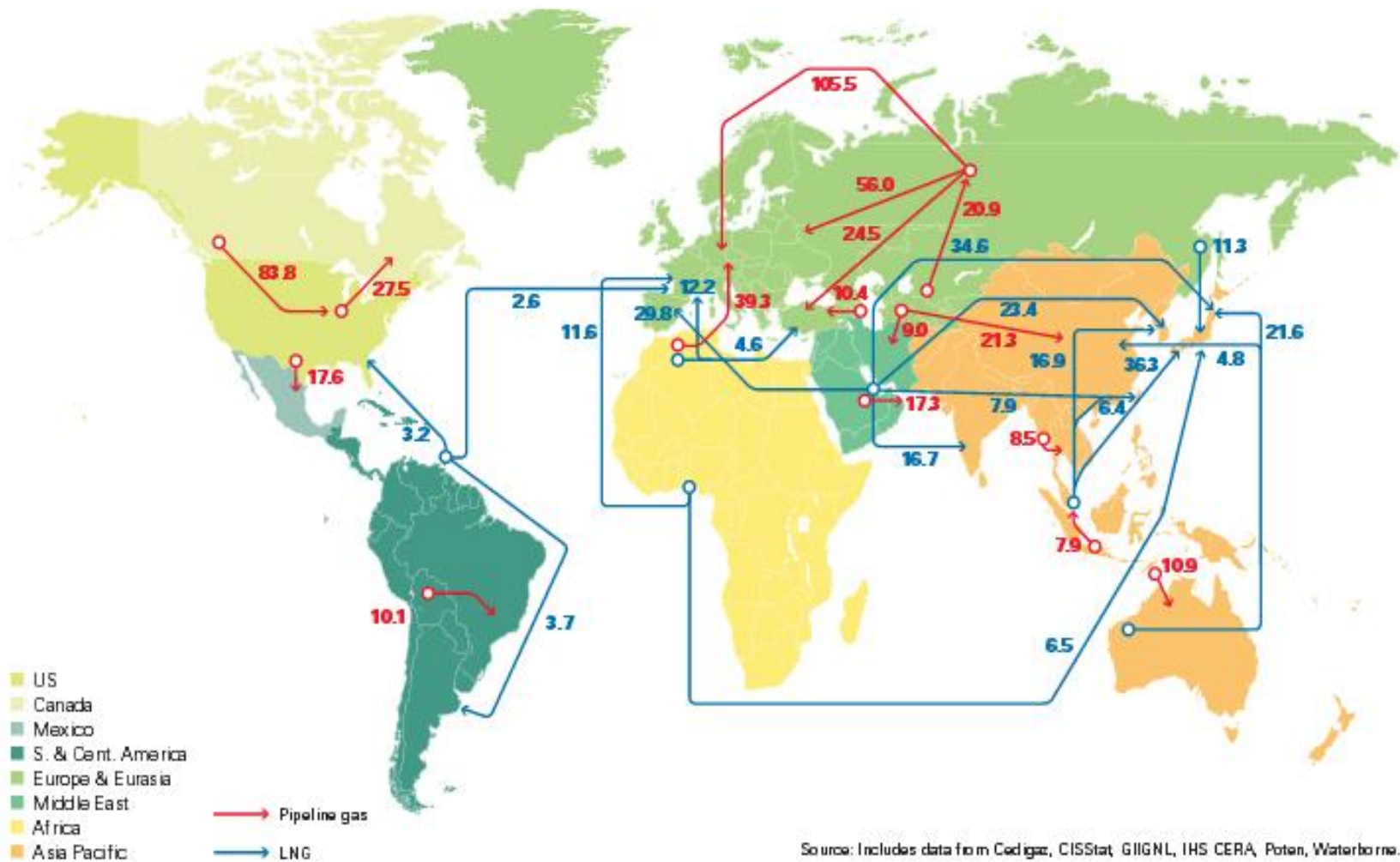


In Japan cold is used to produce frozed fish.

International trade flow of natural gas (1/2)

Major trade movements 2012

Trade flows worldwide (billion cubic metres)



International trade flow of natural gas (2/2)

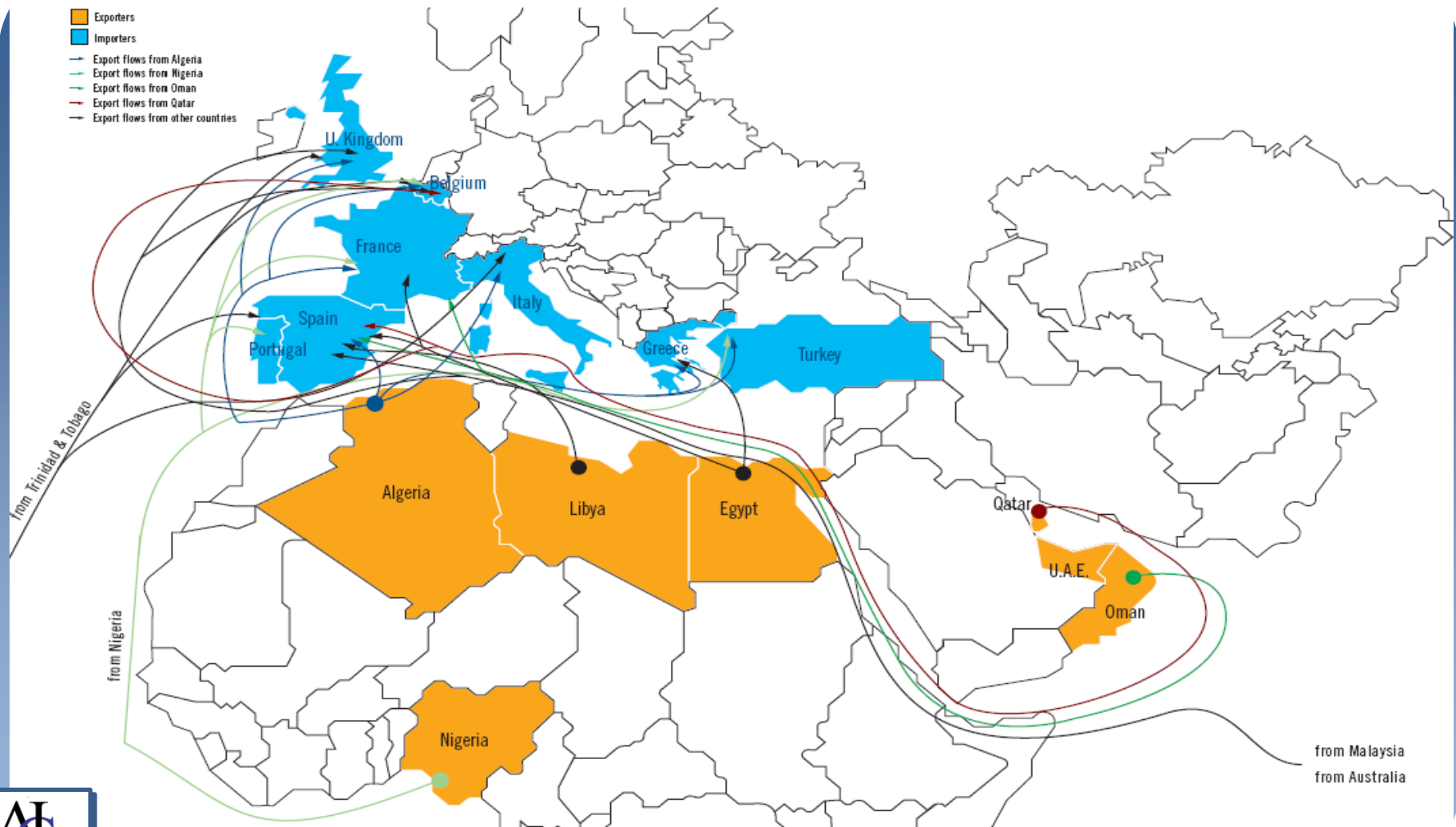
Gas trade in 2011 and 2012

Billion cubic metres	2011				2012			
	Pipeline imports	LNG imports	Pipeline exports	LNG exports	Pipeline imports	LNG imports	Pipeline exports	LNG exports
US	88.3	10.0	40.7	1.7	83.8	4.9	45.1	0.8
Canada	26.6	3.3	88.2	-	27.5	1.8	83.8	-
Mexico	14.1	4.0	0.1	-	17.6	4.8	†	-
Trinidad & Tobago	-	-	-	18.5	-	-	-	19.1
Other S. & Cent. America	14.8	10.6	14.8	5.2	16.9	15.2	16.9	5.8
France	32.3	15.5	2.2	-	35.0	10.3	1.2	0.2
Germany	84.0	-	11.7	-	86.8	-	12.5	-
Italy	60.8	8.7	0.1	-	59.7	7.1	0.1	-
Netherlands	15.6	0.8	50.4	-	14.5	0.8	54.5	-
Norway	-	-	95.0	4.5	-	-	106.6	4.7
Spain	12.5	24.2	0.5	0.8	13.3	21.4	0.7	1.2
Turkey	35.6	6.2	0.7	-	34.9	7.7	0.6	-
United Kingdom	28.0	24.8	16.0	0.1	35.4	13.7	12.0	-
Other Europe	100.8	10.9	10.1	0.6	97.6	8.2	9.3	1.7
Russian Federation	30.1	-	207.0	14.2	29.8	-	185.9	14.8
Ukraine	40.5	-	-	-	29.8	-	-	-
Other Former Soviet Union	35.3	-	63.0	-	32.3	-	68.8	-
Qatar	-	-	19.2	100.4	-	-	19.2	105.4
Other Middle East	32.1	4.6	9.1	28.2	29.2	4.6	8.4	25.9
Algeria	-	-	34.4	17.8	-	-	34.8	15.3
Other Africa	5.7	-	8.3	40.0	6.0	-	11.0	38.8
China	14.3	16.6	3.1	-	21.4	20.0	2.8	-
Japan	-	107.0	-	-	-	118.8	-	-
Indonesia	-	-	9.3	29.3	-	-	10.2	25.0
South Korea	-	50.6	-	-	-	49.7	-	-
Other Asia Pacific	28.6	32.1	16.3	68.7	34.1	38.8	21.0	69.0
Total World	700.0	329.8	700.0	329.8	705.5	327.9	705.5	327.9

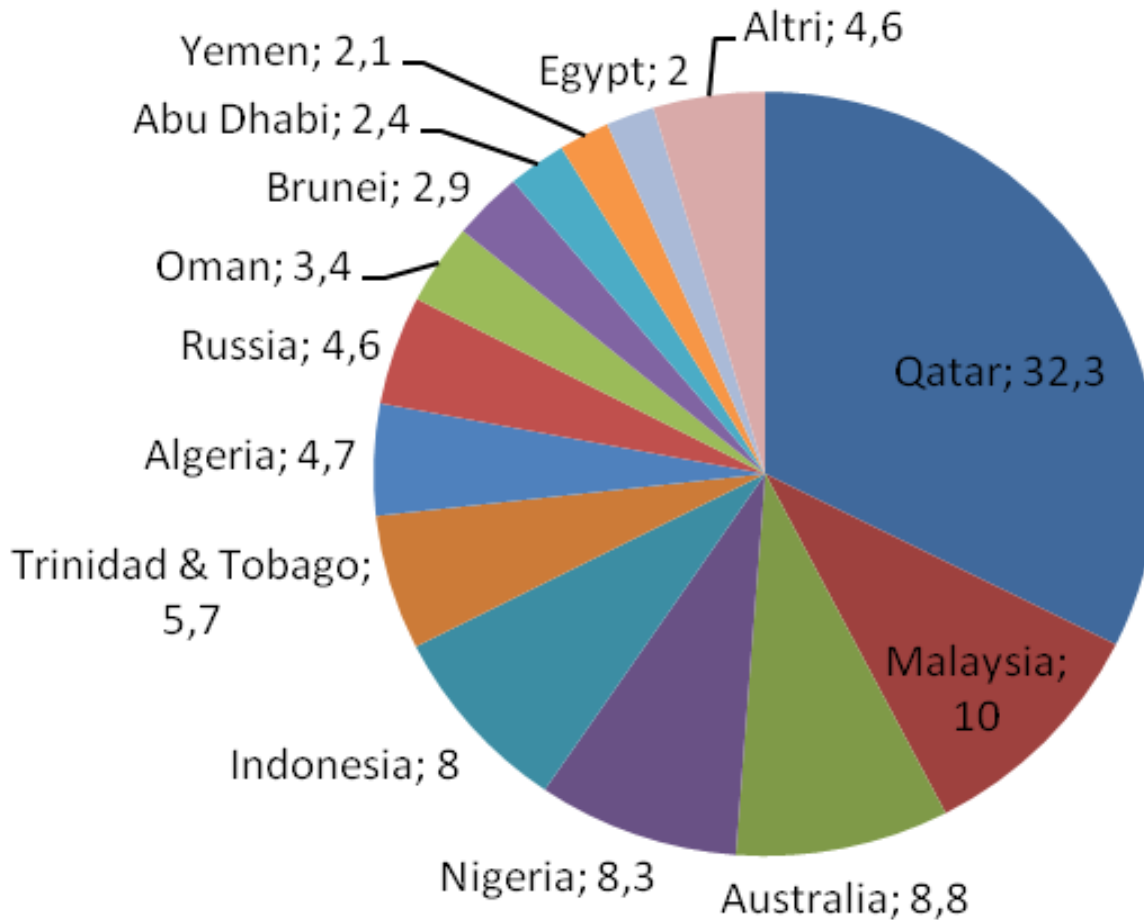
Source: Includes data from Comtrade, CISStat, IANIGLA, IHS CERA, Poten, Waterborne.

~32% of methane trade is LNG

LNG movement in Europe



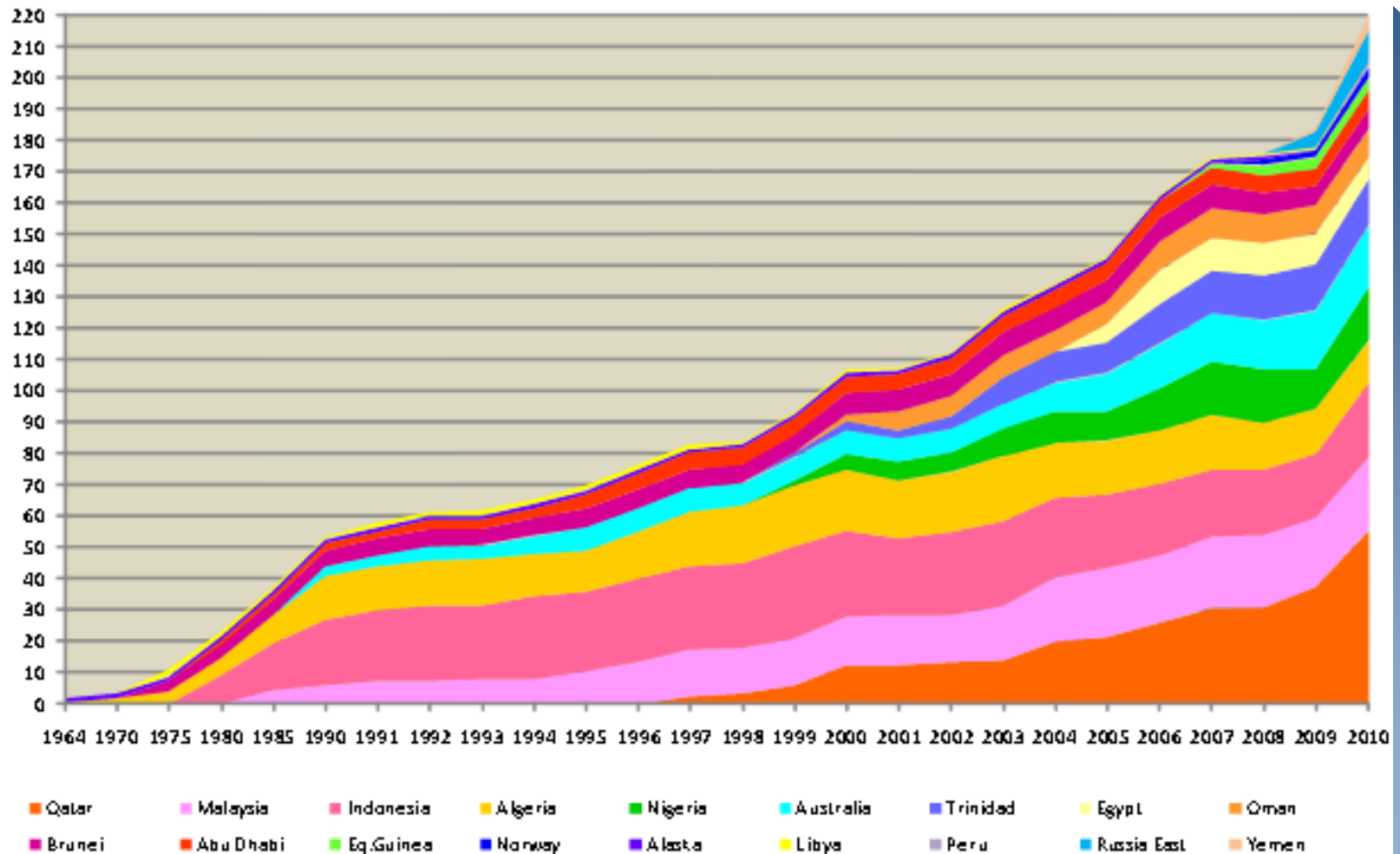
LNG exporter suppliers in 2011



Others: Peru,
Equatorial
Guinea, Norway,
USA (Alaska)

Source GIIGNL

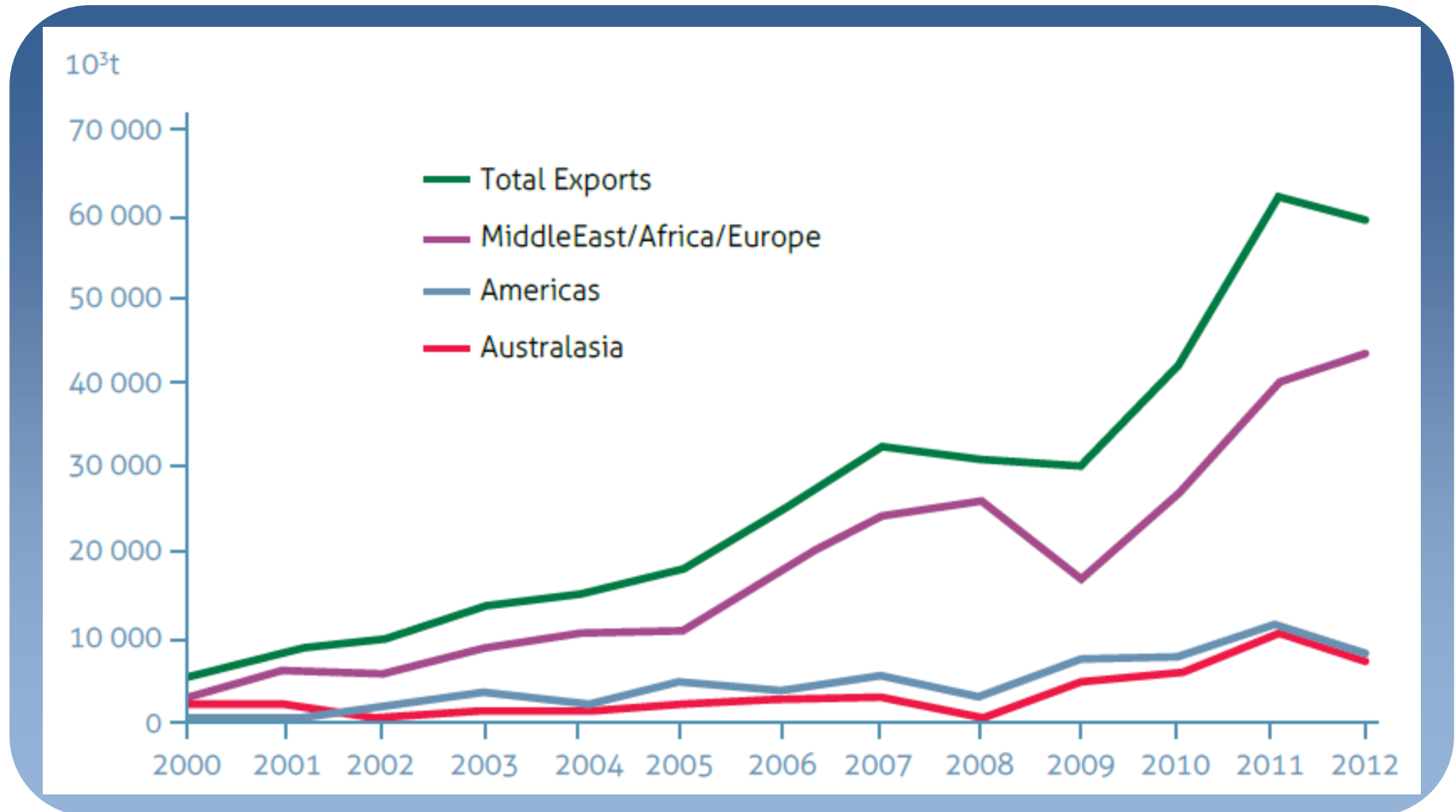
LNG exports by country



Source: REPSOL THE HISTORY OF LNG

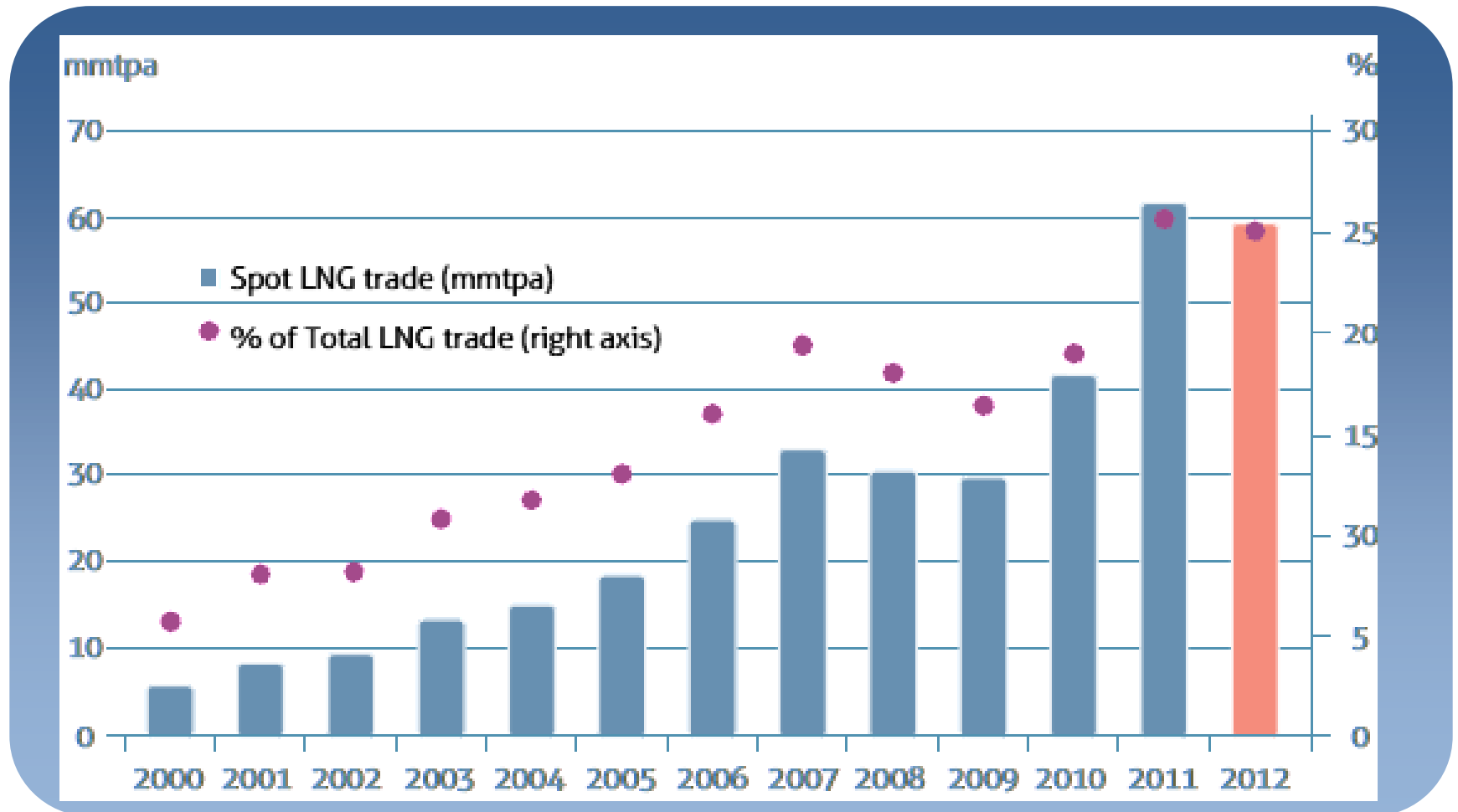
<http://www.streamlng.com/servlet/ficheros/1297114316513/430%5C348%5CTheHistoryofLNG20120327.pdf>

Spot and short-term LNG trade development since 2000



Note: Short-term trade denotes trades under contracts of a duration of 4 years or less.
Source: GIIGNL

Spot and Short-Term LNG Trade & Share of Total LNG Trade since 2000



Note: Short-term trade denotes trades under contracts of a duration of 4 years or less.
Source: GIIGNL

LNG trade has increased by 141% in the last decade

Gas trade in 2000 and 2011

Billion cubic metres

	2000				2011			
	Pipeline imports	LNG imports	Pipeline exports	LNG exports	Pipeline imports	LNG imports	Pipeline exports	LNG exports
US	101,8	6,2	4,9	1,7	88,1	10,0	40,7	2,0
Canada	1,8	-	101,7	-	26,6	3,3	88,0	-
Mexico	3,1	-	0,2	-	14,1	4,0	0,1	-
Trinidad & Tobago	-	-	-	3,5	-	-	-	18,9
Other S. & Cent. America	6,1	-	6,1	-	15,6	10,9	15,6	5,1
France	32,4	11,2	0,8	-	32,3	14,6	2,2	-
Germany	76,8	-	3,6	-	84,0	-	11,7	-
Italy	52,8	4,8	-	-	60,8	8,7	0,1	-
Netherlands	12,0	-	36,6	-	13,6	0,8	50,4	-
Norway	-	-	49,0	-	-	-	92,8	4,0
Spain	8,5	8,5	-	-	12,5	24,2	0,5	0,7
Turkey	10,3	3,7	-	-	35,6	6,2	0,7	-
United Kingdom	2,0	-	13,1	-	28,1	25,3	16,3	-
Other Europe	76,6	4,5	3,6	-	101,8	10,9	6,2	0,6
Russian Federation	-	-	130,3	-	30,1	-	207,0	14,4
Ukraine	-	-	-	-	40,5	-	-	-
Other Former Soviet Union	-	-	2,7	-	30,4	-	62,5	-
Qatar	-	-	-	14,0	-	-	19,2	102,6
Other Middle East	2,7	-	-	9,4	31,6	4,6	9,1	27,8
Algeria	-	-	35,3	26,3	-	-	34,4	17,1
Other Africa	1,0	-	-	6,4	5,7	-	8,3	39,8
Japan	-	72,5	-	-	-	107,0	-	-
Indonesia	-	-	X1,8	35,7	-	-	8,7	29,2
South Korea	-	19,7	-	-	-	49,3	-	-
Other Asia Pacific	1,5	5,9	1,5	39,9	43,2	51,0	20,3	68,6
Total World	389,3	137,0	389,3	137,0	694,6	330,8	694,6	330,8

Source: Includes data from Cedigaz, CISStat, GII/NL, Poten, Wats

X2,4

Some recent highlights of LNG export (1/2)

- At the end of 2012, **8 Countries out of a total of 18 made up 82,4% of global LNG exports.**
- In the same period, the LNG supply of the Pacific Basin has declined by 3% and the supply of the Atlantic Basin by 2.2%. Although the production of Nigeria, Norway, Trinidad & Tobago increased its level it could not fill the gap of the lower exports from Algeria, Egypt and Equatorial Guinea. Algeria suffered a major disaster in Skikda plant in 2004, but a new liquefaction plant is operational since march 2013 (output of 4,5 Million tons LNG/year).
- In the **Middle East**, in 2012, production shutdowns in Yemen reduced total exports despite the increased production of Qatar.
- 63%, of Qatar volumes were exported to Asian countries, with Japan retaining the largest share.
- Between 2010-2012, Qatar doubled its LNG exports to Japan. (all the about 50 Japanese nuclear power plants have been shut off, the last in this September 2013 due to Fukushima disaster).

Some recent highlights of LNG export (2/2)

- **According to GIIGNL** in 2012 there was a 1.9% **decrease** of the imported LNG due to the global economic crisis.
- However, **the weight of LNG trade is likely to grow in the coming years** thanks to the increased use of natural gas in all end uses due to its higher efficiency and to its lower environmental impact.
- About **25%** of the quantities traded in the LNG market goes to the **spot market**.

Highlights on demand side

- On the demand side, 7 importing countries out of a total of 26 (Japan, South Korea, China, India, Taiwan, Spain, UK) attracted 81% of the total LNG volumes.
- Japan and South Korea's combined share was around 53%.
- Demand side is almost entirely directed toward production of compressed natural gas; very little quantity is used directly for transportation (ship, truck or rail) as LNG – data is not available.
- A huge potential is thus available if transportation sector switches to LNG from oil. However receiving and storage facilities are needed; actual facilities and terminals are mainly directed and dimensioned to regassification activity.

Liquefaction and regasification plants

Europe

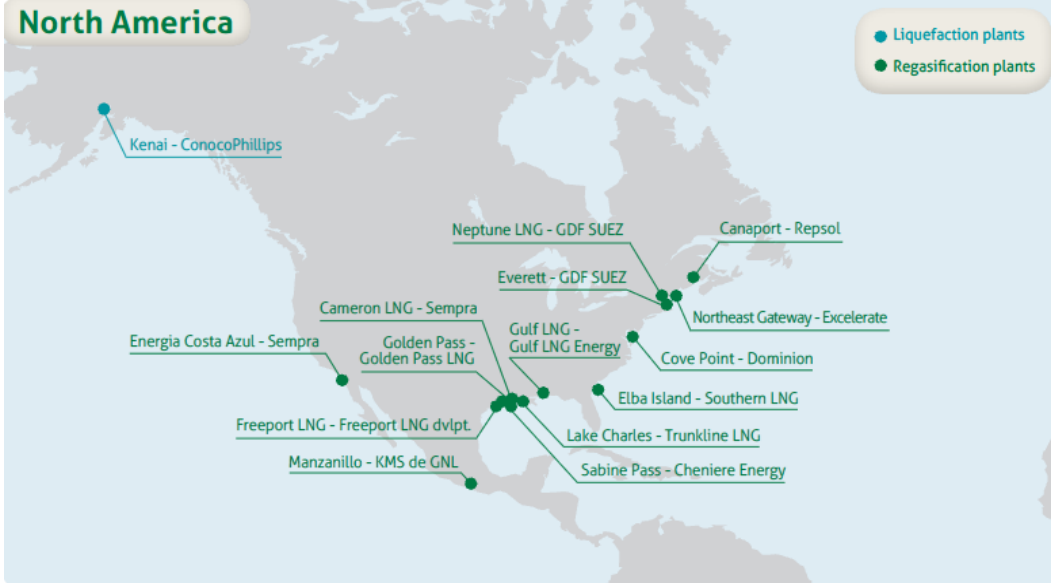


Liquefaction and regasification plants

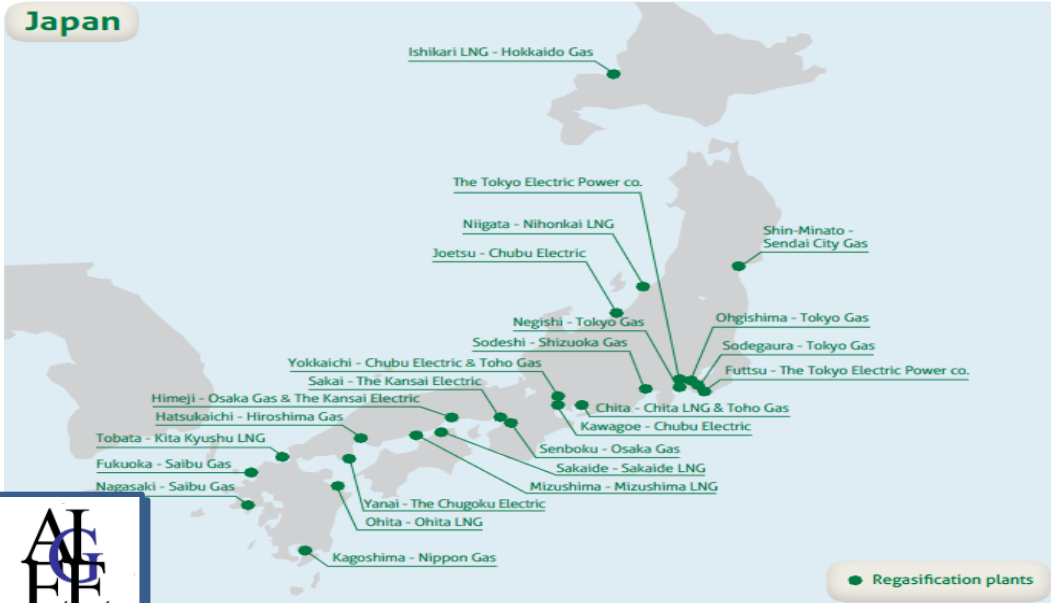


Liquefaction and regasification plants

North America



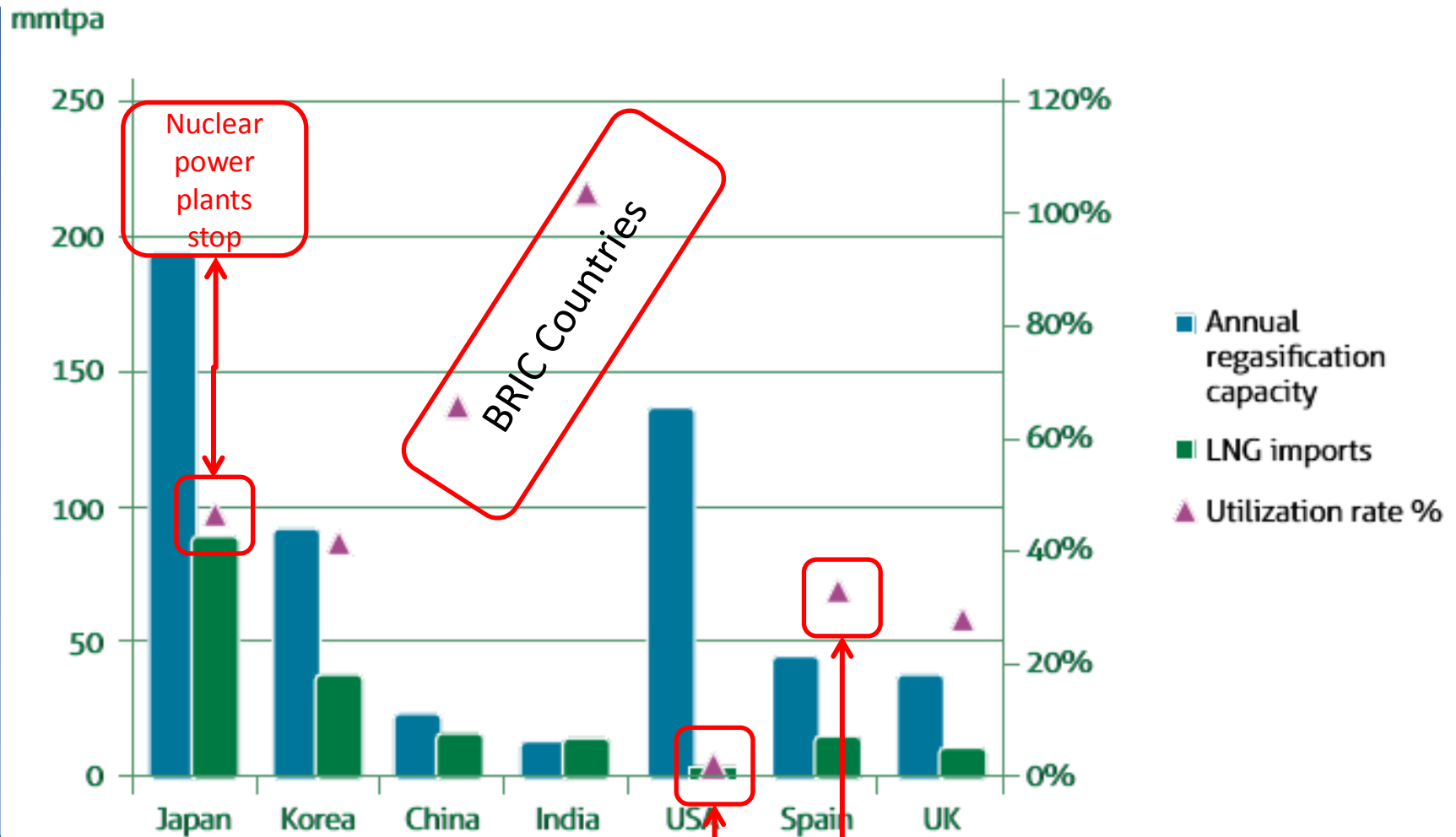
Japan



South America



Regasification capacity vs LNG imports in 2012



Shale gas

Economic crisis and
renewables

Ing. Alberto G. Pincherle

The challenge US of unconventional gas (1/3)

The gas revolution in the US, aiming to exploit the large reserves of unconventional gas (coalbed methane, shale methane, etc.), has changed again the natural gas market:

- on one hand, the higher volumes of gas produced in the U.S. have lowered the prices of the U.S. domestic market,
- on the other hand the possibility to transport it, thanks to LNG in more profitable markets,

have allowed the market to assume a global connotation dropping the geographical logic of the market, existing so far.

The challenge US of unconventional gas (2/3)

- + High prices of natural gas especially in international markets provide access to more expensive to produce unconventional methane and make available fund to develop exploration and extraction,
 - + an improvement of related technologies,
 - + a new U.S. energy policy, aiming to energy independence and enhancement of national sources,
- => have produced a great boost to the development of unconventional gas, such as coal bed methane (CBM) and shale gas.

The challenge US of unconventional gas (3/3)

The International Energy Agency (IEA) estimates that the North American exports of LNG will reach 35 billion cubic metres by 2020 and more than 40 bcm by 2035, two-thirds of which is expected to go to the Asian market.

The prospect of LNG exports has set off a debate in the USA about the extent to which they will drive up domestic prices, by taking gas off the local market, and the US Department of Energy is waiting to review the results of a price impact study before dealing with the pending export applications.

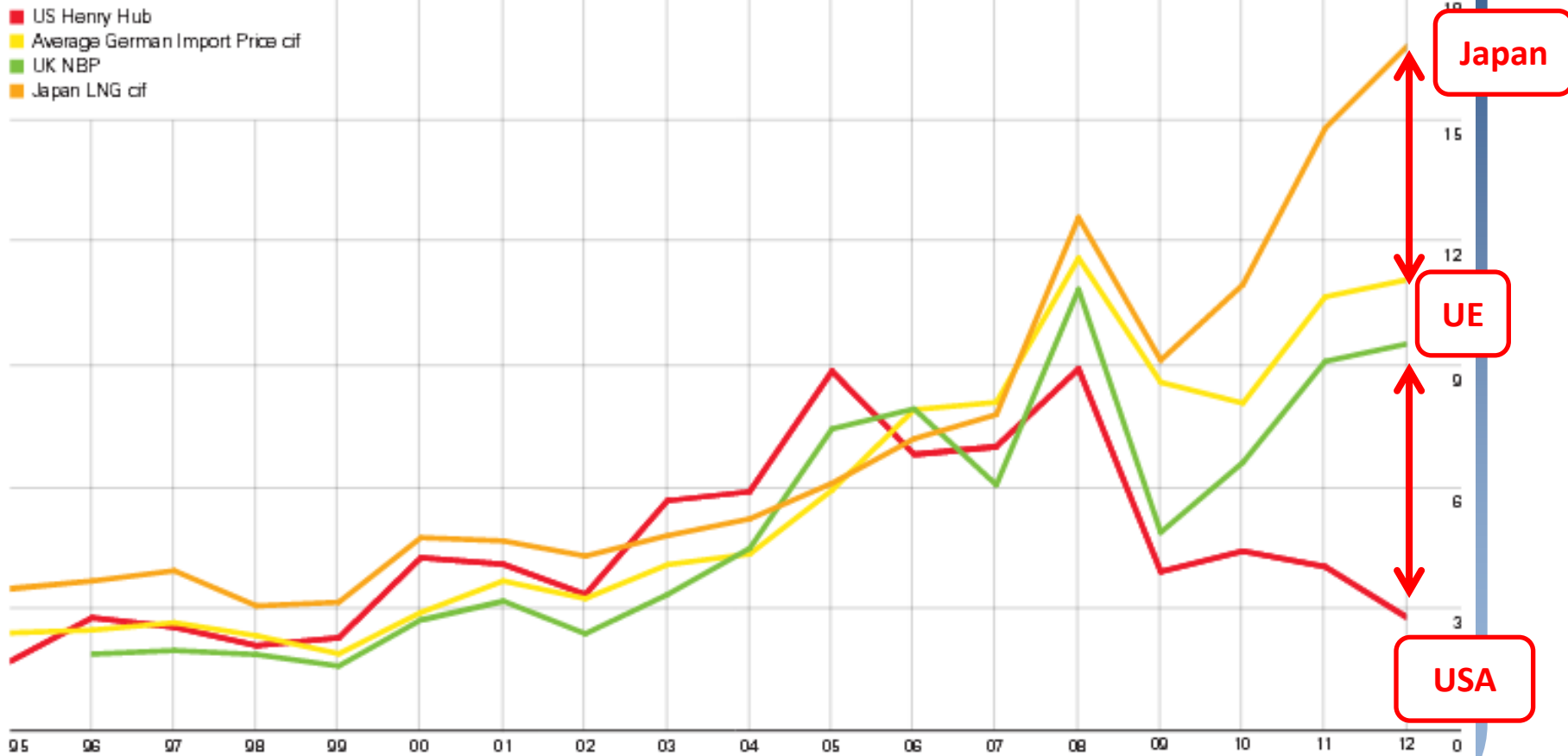
Due to this debate, some esteem that 93% of the natural gas produced in the USA will remain available to meet domestic demand.

In addition the WEO projections assume that the gas prices in the U.S. will increase from their current level 2 \$/Mbtu in 2012 to 5.5 \$/Mbtu in 2020, largely driven by the domestic dynamics of supply and demand.

Prices (1/2)

Prices

\$/Mmbtu



Prices (2/2)

Prices

US dollars per million Btu	LNG	Natural gas			Canada (Alberta)†	Crude oil OECD countries cif
	Japan cif	Average German Import Price*	UK (Heron NBP Index)†	US Henry Hub‡		
1985	5.23	4.25	—	—	—	4.75
1986	4.10	3.93	—	—	—	2.57
1987	3.35	2.55	—	—	—	3.09
1988	3.34	2.22	—	—	—	2.56
1989	3.28	2.00	—	1.70	—	3.01
1990	3.64	2.78	—	1.64	1.05	3.82
1991	3.99	3.19	—	1.49	0.89	3.33
1992	3.62	2.69	—	1.77	0.98	3.19
1993	3.52	2.50	—	2.12	1.69	2.82
1994	3.18	2.35	—	1.92	1.45	2.70
1995	3.46	2.39	—	1.69	0.89	2.96
1996	3.66	2.46	1.87	2.76	1.12	3.54
1997	3.91	2.64	1.96	2.53	1.36	3.29
1998	3.05	2.32	1.86	2.08	1.42	2.16
1999	3.14	1.88	1.58	2.27	2.00	2.98
2000	4.72	2.89	2.71	4.23	3.75	4.83
2001	4.64	3.66	3.17	4.07	—	4.08
2002	4.27	3.23	2.37	3.33	—	4.17
2003	4.77	4.06	3.33	5.63	—	4.89
2004	5.18	4.32	4.46	5.85	—	6.27
2005	6.05	5.88	7.38	8.79	—	8.74
2006	7.14	7.85	7.87	6.76	—	10.66
2007	7.73	8.03	6.01	6.95	—	11.95
2008	12.55	11.56	10.79	8.85	—	16.76
2009	9.06	8.52	4.85	3.89	3.38	10.41
2010	10.91	8.01	6.56	4.39	3.69	13.47
2011	14.73	10.48	9.04	4.01	3.47	18.55
2012	16.75	11.03	9.46	2.76	2.27	18.82

Japan
March, 11
2011:
Earthquake
and Tsunami
(Fukushima)

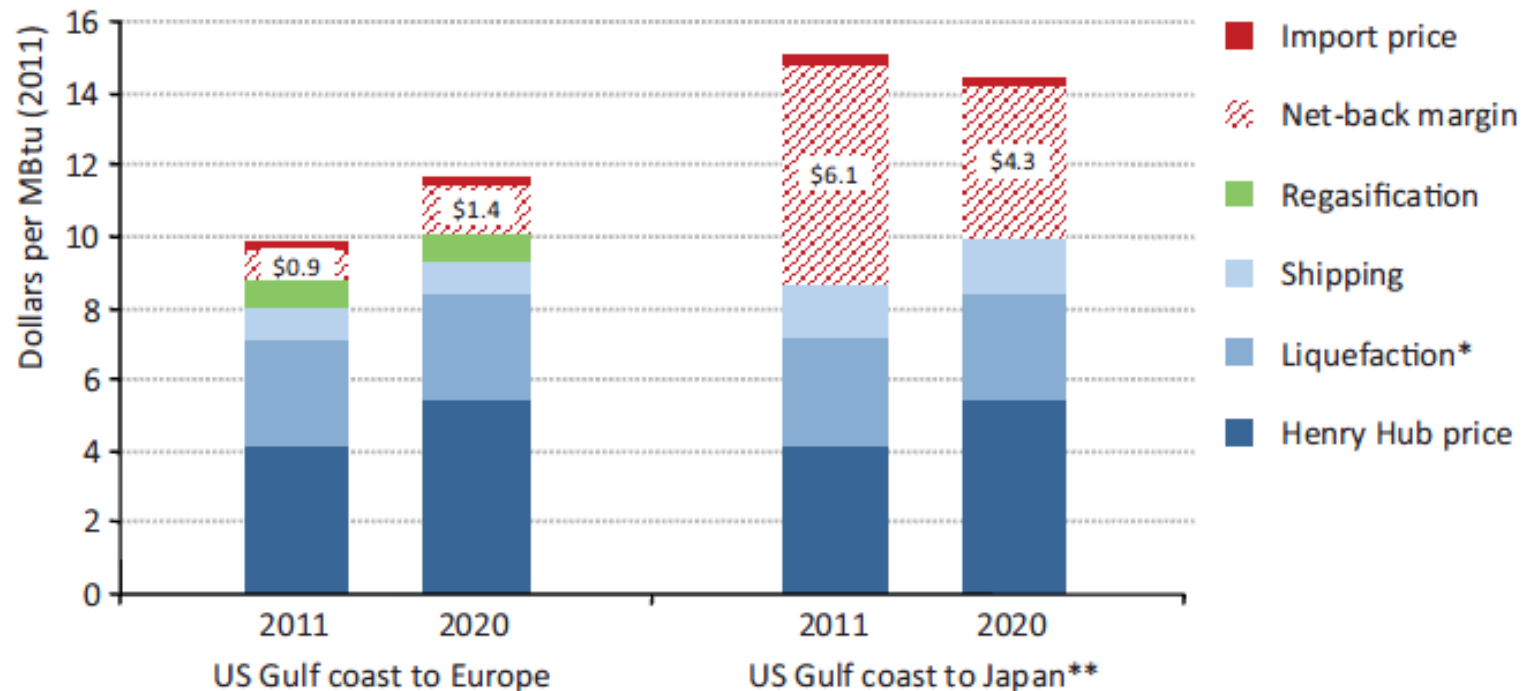
US
Development
of Shale Gas

Oil indexed contracts become less
and less attractive?

Higher price for
same energy
content

The challenge of US unconventional gas

Indicative economics of LNG exports from the United States



* Includes cost of pipeline transport to export terminal. ** Widening of the Panama Canal, due to be completed in 2014, will allow for more LNG tanker traffic.

Notes: LNG costs are levelised assuming asset life of 30 years and a 10% discount rate. The Japanese import price is for liquefied gas, so it does not include regasification.

US: from regassification to liquefaction plants

The exploitation of these two types of unconventional gas, **not only led to the cancellation of most of U.S. regasification plant projects**, which planned the arrival of LNG from different sources, both from the Middle East and North Africa, **but it is changing the U.S. strategy that aims to build new LNG liquefaction plant projects to export in Europe.**

This policy is based on the higher LNG available volumes in USA and on the spread of 4-5 \$/MBtu between the U.S. gas price and the European gas price, which allows transport and sale the U.S. LNG in Europe

US Export of Domestically Produced LNG

The first import contract was signed recently by the UK's Centrica with the U.S. Company Cheniere for the purchase of US LNG for about 2,5 bcm/year by the Sabine Pass plant.

The agreement is for the supply of approximately 1.75 Mtons/year of LNG by 2018, for 20 years extendable to 30 years.

The price will be equal to 115% of that on the Henry Hub, plus a fixed fee of 3 \$/Mbtu.

This agreement will make a valuable contribution to the diversification of suppliers in the UK, when it became the first LNG European importer in period **2010-2012** in which UK has seen **very slow flows of LNG increasingly attracted by Asian markets.**

Applications Received by DOE/FE to Export Domestically Produced LNG (1/2)

All Changes Since August 7, 2013 Update Are in Red

Company	Quantity ^(a)	FTA Applications ^(b) (Docket Number)	Non-FTA Applications ^(c) (Docket Number)
Sabine Pass Liquefaction, LLC	2.2 billion cubic feet per day (Bcf/d) ^(d)	Approved (10-85-LNG)	Approved (10-111-LNG)
Freeport LNG Expansion, L.P. and FLNG Liquefaction, LLC	1.4 Bcf/d ^(d)	Approved (10-160-LNG)	Approved (10-161-LNG)
Lake Charles Exports, LLC	2.0 Bcf/d ^{(d)*}	Approved (11-59-LNG)	Approved (11-59-LNG)
Camb Energy (USA) LLC	0.03 Bcf/d : FTA 0.01 Bcf/d : non-FTA ^(e)	Approved (11-71-LNG)	Under DOE Review (11-141-LNG)
Dominion Cove Point LNG, LP	1.0 Bcf/d ^(d)	Approved (11-115-LNG)	Under DOE Review (11-128-LNG)
Jordan Cove Energy Project, L.P.	1.2 Bcf/d : FTA 0.8 Bcf/d : non-FTA ^(e)	Approved (11-127-LNG)	Under DOE Review (12-32-LNG)
Cameron LNG, LLC	1.7 Bcf/d ^(d)	Approved (11-145-LNG)	Under DOE Review (11-162-LNG)
Freeport LNG Expansion, L.P. and FLNG Liquefaction, LLC ^(b)	1.4 Bcf/d ^(d)	Approved (12-06-LNG)	Under DOE Review (11-161-LNG)
Gulf Coast LNG Export, LLC ^(b)	2.8 Bcf/d ^(d)	Approved (12-05-LNG)	Under DOE Review (12-05-LNG)
Gulf LNG Liquefaction Company, LLC	1.5 Bcf/d ^(d)	Approved (12-47-LNG)	Under DOE Review (12-101-LNG)
LNG Development Company, LLC (d/b/a Oregon LNG)	1.25 Bcf/d ^(d)	Approved (12-48-LNG)	Under DOE Review (12-77-LNG)
SB Power Solutions Inc.	0.07 Bcf/d	Approved (12-50-LNG)	n/a
Southern LNG Company, L.L.C.	0.5 Bcf/d ^(d)	Approved (12-54-LNG)	Under DOE Review (12-100-LNG)
Excelerate Liquefaction Solutions I, LLC	1.38 Bcf/d ^(d)	Approved (12-61-LNG)	Under DOE Review (12-146-LNG)
Golden Pass Products LLC	2.6 Bcf/d ^(d)	Approved (12-88-LNG)	Under DOE Review (12-156-LNG)
Cheniere Marketing, LLC	2.1 Bcf/d ^(d)	Approved (12-99-LNG)	Under DOE Review (12-97-LNG)
Main Pass Energy Hub, LLC	3.22 Bcf/d ^{(d)**}	Approved (12-114-LNG)	n/a
CE FLNG, LLC	1.07 Bcf/d ^(d)	Approved (12-123-LNG)	Under DOE Review (12-123-LNG)
Waller LNG Services, LLC	0.16 Bcf/d	Approved (12-152-LNG)	n/a
Pangea LNG (North America) Holdings, LLC	1.09 Bcf/d ^(d)	Approved (12-174-LNG)	Under DOE Review (12-184-LNG)
Magnolia LNG, LLC	0.54 Bcf/d	Approved (12-183-LNG)	n/a

Ok May 2011

Ok May 2013

OK 07.08.2013

OK approved
0,77 Bcf/day
On
16.09.2013:
almost 8
Billion
m³/year

Applications Received by DOE/FE to Export Domestically Produced LNG (2/2)

All Changes Since August 7, 2013 Update Are in Red

Company	Quantity ^(a)	FTA Applications ^(b) (Docket Number)	Non-FTA Applications ^(c) (Docket Number)
Trunkline LNG Export, LLC	20 Bcf/d*	Approved (13-04-LNG)	Under DOE Review (13-04-LNG)
Gasfin Development USA, LLC	0.2 Bcf/d	Approved (13-06-LNG)	n/a
Freeport-McMoRan Energy LLC	3.22 Bcf/d**	Approved (13-26-LNG)	Under DOE Review (13-26-LNG)
Sabine Pass Liquefaction, LLC	0.28 Bcf/d ^(d)	Approved (13-30-LNG)	Under DOE Review (13-30-LNG)
Sabine Pass Liquefaction, LLC	0.24 Bcf/d ^(d)	Approved (13-42-LNG)	Under DOE Review (13-42-LNG)
Venture Global LNG, LLC	0.67 Bcf/d ^(d)	Pending Approval (13-69-LNG)	Under DOE Review (13-69-LNG)
Advanced Energy Solutions, L.L.C.	0.02 Bcf/d	Pending Approval (13-104-LNG)	n/a
Argent Marine Management, Inc.	0.003 Bcf/d	Pending Approval (13-105-LNG)	n/a
Eos LNG LLC	1.6 Bcf/d ^(d)	Pending Approval (13-115-LNG)	Under DOE Review (13-116-LNG)
Barka LNG LLC	1.6 Bcf/d ^(d)	Pending Approval (13-117-LNG)	Under DOE Review (13-118-LNG)
Total of all Applications Received		33.82 Bcf/d(*)(**)	32.41 Bcf/d (*)(**)

1 BTU = 0,00004 liter=0,04m³
1cf= 0,02831685 m³

US Export of LNG (1/4)

Not all the liquefaction plants will be developed: the investment is huge (7,8 Billion US\$ for Sabine Pass, 12 Billion US\$ for Freeport plant, others are seeking financing).

According to a Study from Deloitte, the exports from US of 6 Bcfd (ca. 83 Billion m³/year) of LNG could produce these impacts:

- U.S. LNG exports could hasten the **transition away from oil price indexation** of gas supply contracts since supplies for U.S. LNG exports are expected to be pegged to U.S. gas prices (e.g. Henry Hub), rather than oil prices, the incremental volumes could result in global gas markets transitioning more rapidly to prices set by “**gas-on-gas**” market competition.
 - Decoupling is already happening in some European contracts;
 - Australian LNG sold in Asia could decouple market price also in Asia.
- Prices are projected to decrease fairly significantly in regions importing U.S. LNG, but only marginally increase in the U.S.

Source: Exporting the American Renaissance Global impacts of LNG exports from the United States.,
Deloitte Center for Energy Solutions and Deloitte MarketPoint LLC

US Export of LNG (2/4)

From Deloitte Report (6 Bcfd of LNG exports from US).

- Prices are projected to decrease fairly significantly in regions importing U.S. LNG, but only marginally increase in the U.S.
 - The projected **increase of average U.S.** prices from 2016 to 2030 is about **\$0.15/MMBtu**, while the **corresponding price decrease in importing countries could be several times higher**. Furthermore, the interconnectivity of gas markets causes price impacts to be felt globally, not just in the countries importing U.S. LNG.
- U.S. LNG exports are projected to narrow the price difference between the U.S. and export markets and hence, the market will likely limit the volume of economically viable U.S. LNG exports even without government intervention.
 - For example, the spread is projected to be reduced by \$0.84/MMBtu if 6 Bcfd of exports are sent to Europe under the Business-as-usual scenario (\$0.15/MMBtu average increase in U.S. price and \$0.69/MMBtu decrease in Europe).

US Export of LNG (3/4)

From Deloitte Report (6 Bcfd of LNG exports from US).

- **U.S. LNG exports are projected to provide an economic benefit to gas importing countries.**
- **Gas exporting countries could suffer a decline in trade revenue due to price erosion and/or supply displacement.**
 - Entry of new supply clearly benefits consumers, but negatively impacts suppliers through price reductions and/or direct displacement of their export volumes. Even if gas supply in a region is not directly displaced by U.S. LNG exports, its producers might suffer decline in revenues due to lower prices affecting the region. Furthermore, **gas exporting countries could face increased pressure to adopt market-based gas prices in lieu of oil-indexed prices.** As the world's largest gas exporter by both volume and revenue and a high cost gas provider into Europe, **Russia appears to be particularly vulnerable, especially if U.S. LNG exports are sent to Europe.**

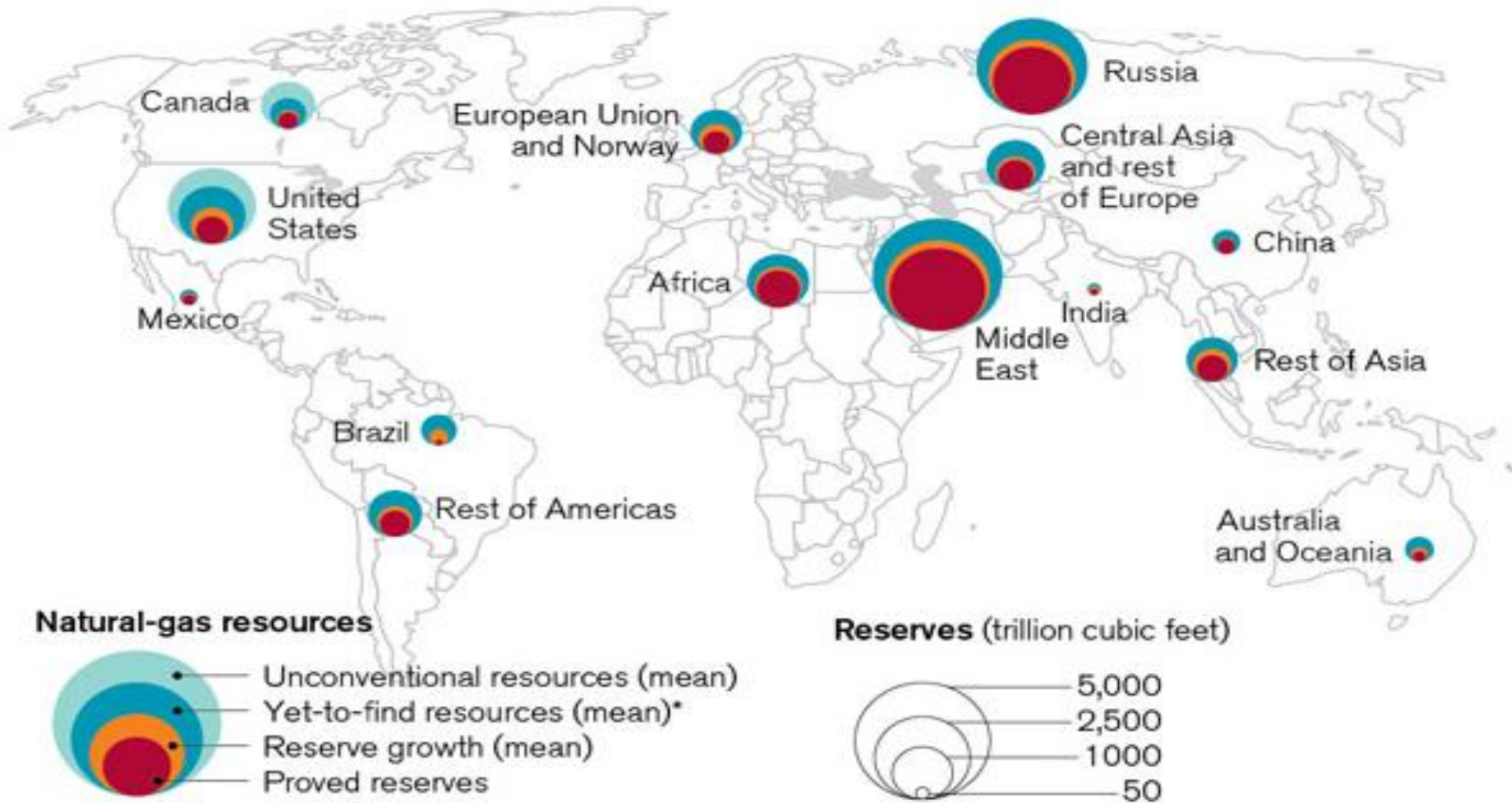
US Export of LNG (4/4)

From Deloitte Report (6 Bcfd of LNG exports from US).

- **U.S. LNG exports could also displace some oil consumption through increased gas-fired electric power generation.**
 - The ultimate **potential for oil displacement in electric generation may be as high as 5 million barrels per day globally**. The availability of competitively priced gas could incentivize displacement of oil-fired power generation, **which would also provide environmental benefits through lower carbon emissions.**

World natural gas stocks

Estimated remaining recoverable gas resources



*Based on geological assessments and statistical analysis.

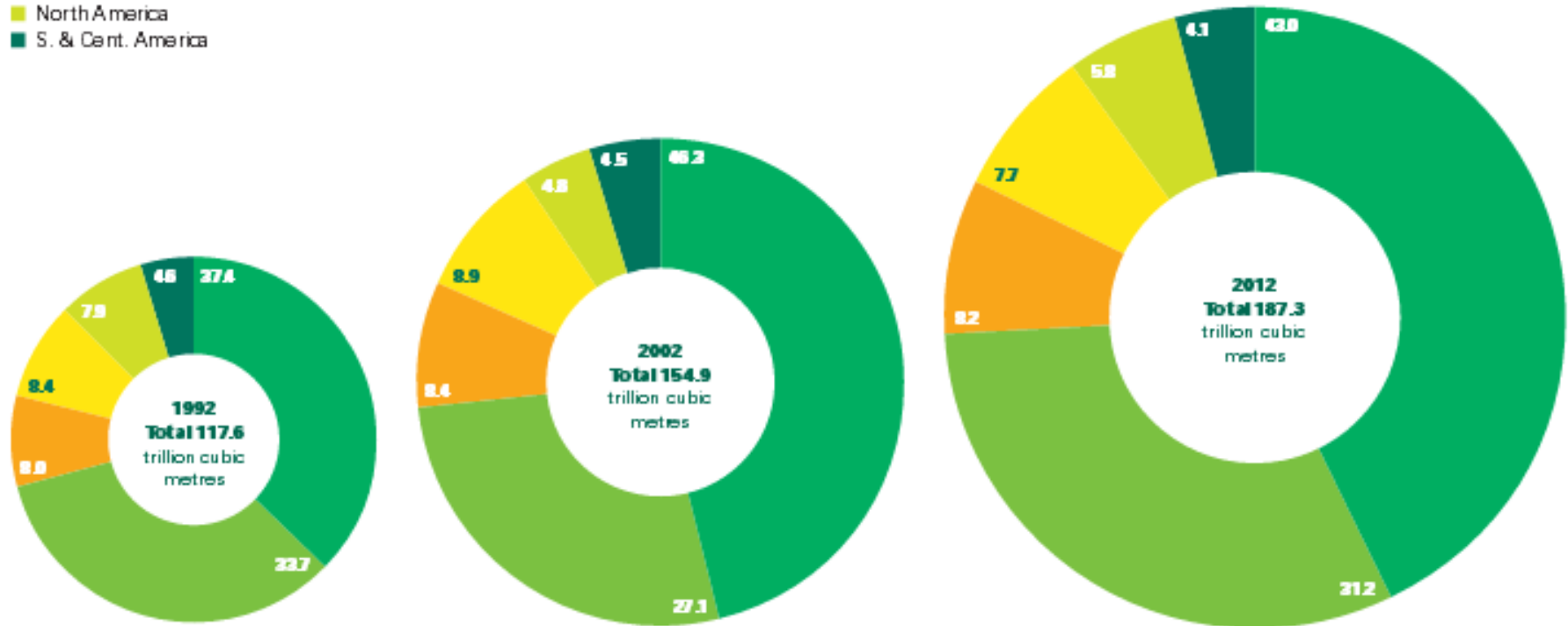
Source: *The Future of Natural Gas: An Interdisciplinary MIT Study*

The evolution of natural gas reserves

Distribution of proved reserves in 1992, 2002 and 2012

Percentage

- Middle East
- Europe & Eurasia
- Asia Pacific
- Africa
- North America
- S. & Cent. America



Source: 2012 BP Statistical Review

According to the last IEA report, there will be more new LNG plants in the next years especially in Asia, and the LNG would represent almost 50% of the gas sold in the world in 2020.

LNG export projects under construction worldwide (July 2012)

	Project	Operator	Capacity		Start-up date
			Mt/year	bcm/year	
Algeria	Skikda new train	Sonatrach	4.5	6.1	end-2012
	Gassi Touil LNG	Sonatrach	4.7	6.4	2013
Angola	Angola LNG	Chevron	5.2	7.1	Q3 2012
Australia	Gorgon LNG	Chevron	15.0	20.4	2014-15
	Queensland Curtis*	BG	8.5	11.6	2014-15
	Gladstone*	Santos	7.8	10.6	2015-16
	Australia Pacific*	ConocoPhillips	4.5	6.1	2015
	Wheatstone	Chevron	8.9	12.1	2016-17
	Prelude**	Shell	3.6	4.9	2017
	Ichthys	Inpex	8.4	11.4	2017-18
Indonesia	Donggi Senoro	Mitsubishi	2.0	2.7	2014
Papua New Guinea	PNG LNG	ExxonMobil	6.6	9.0	2014-15
Total			79.7	108.4	

* Coalbed methane based. ** Floating LNG project.

NOTICE-AVERTENZA

This presentation has only the aim to present some aspects of LNG trade and must not be considered as an indication of future LNG trends especially in price or in volume.

Questa presentazione ha il puro scopo di presentare alcuni aspetti del commercio del Gas naturale liquefatto (GNL o LNG) e non deve essere considerata come indicazione di tendenze future del settore o del mercato in particolare in relazione a prezzo e volume del GNL.

Thank-you for your kind attention



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