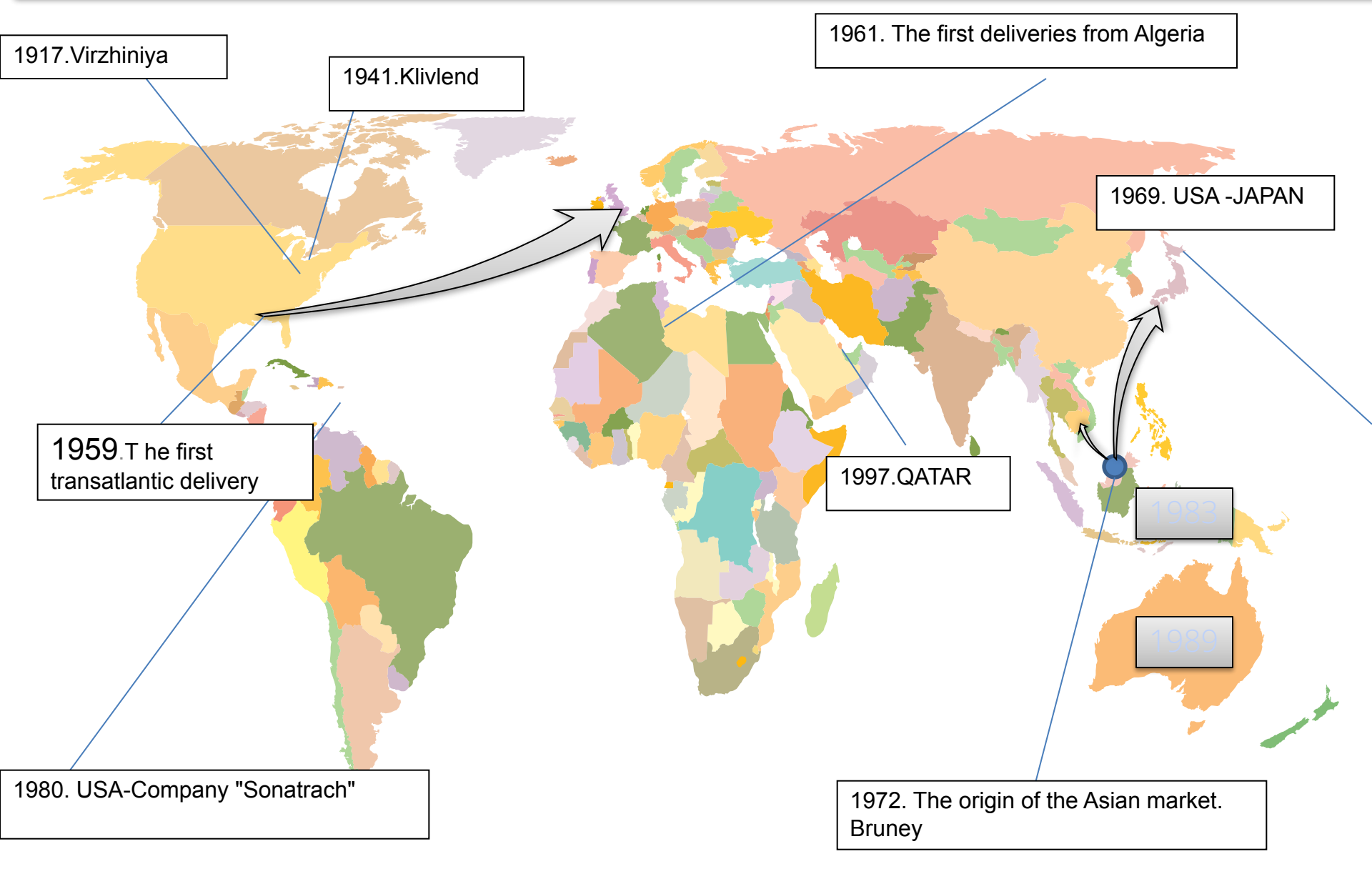
liquefied natural gas market

1.HISTORY OF DEVELOPMENT
2.TECHNOLOGY
3.KOMMERCIAL ACPECTS

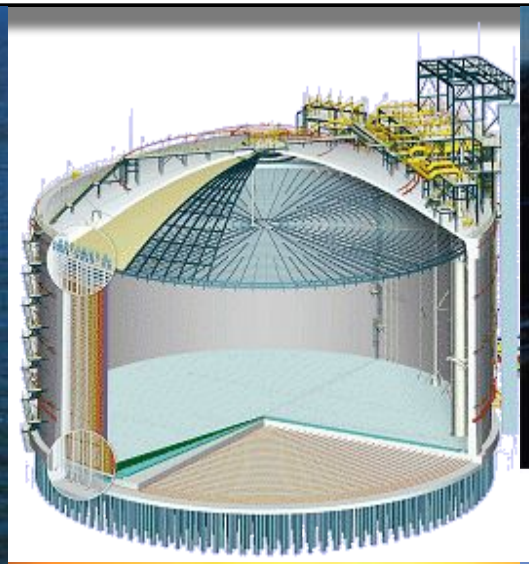
4.major markets
5.volumes
6.exports
7.imports
8.trade flows
9.Price

1 THE HISTORY



2

TECHNOLOGY



Cove Point Terminal, Maryland
Photo courtesy of Cameron Davidson © 2002

TECHNOLOGY

liquefaction at t°→ -163°

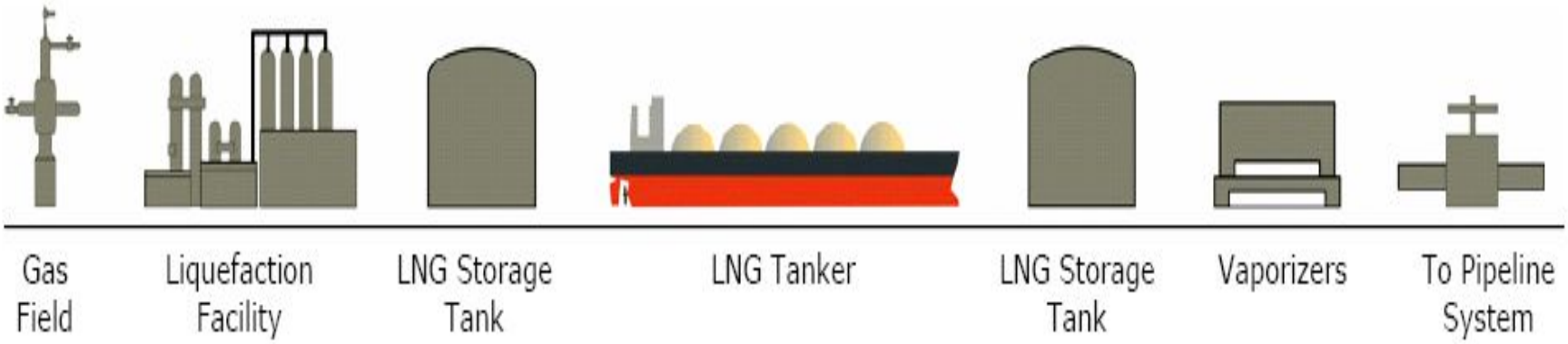
Security

ignition temperature +540 °

lammation at a concentration of fumes

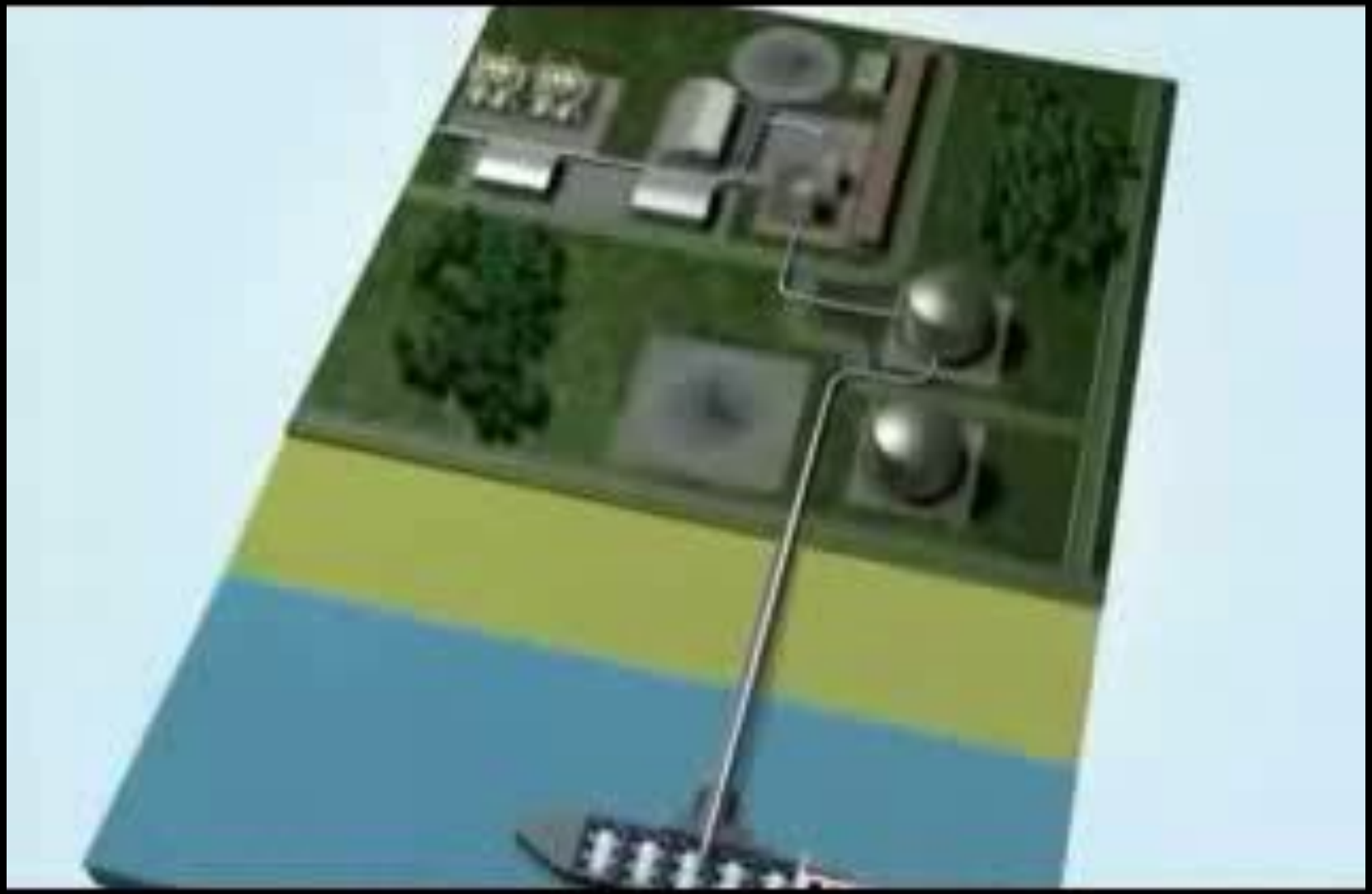
5% - 15% p = 0,41; 0,5 *kg /l*

Energy value is equal to the energy value of diesel fuel



2 (

liquefaction



2 - TERMINALS

Cost of LNG

Transportation in 1000 m3 of liquefied state (US$)	14,4 – 36
The process of liquefaction of 1000 m3 (U.S.$)	28,8 - 43,2
The process of liquefaction of 1000 m3 (U.S.$)	10,8 - 18
Production (U.S. $)	3,9
In total, the cost of 1,000 m3 (0.73 tones of LNG) (U.S.$)	57,9-101,1

Commercial aspects

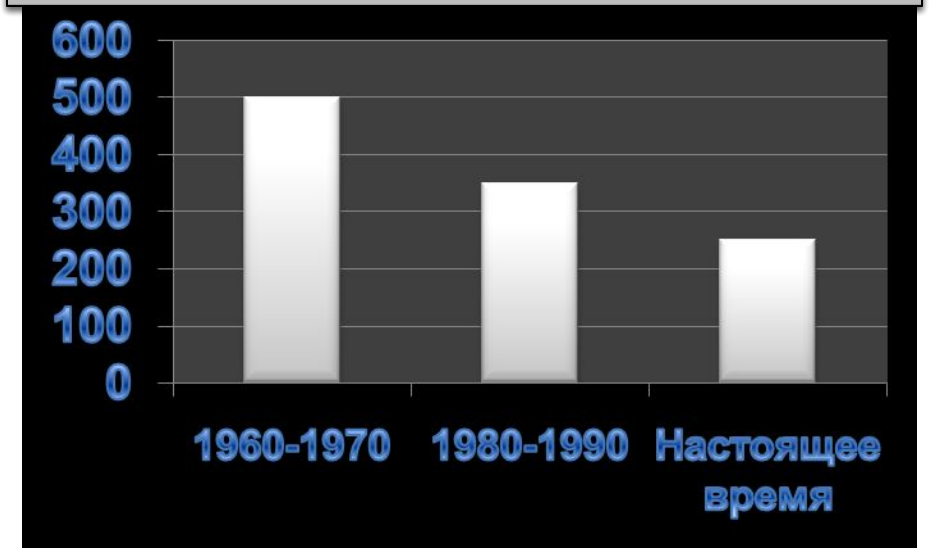
Стоимость

завода по сжижению – не менее $1,5 млрд.

приемного терминала – не менее $1 млрд.

танкера – $200 – 300 млн.

Удельная себестоимость производства СПГ долл./тонна



Контракты заключаются на 20-25 лет.

Наблюдается эффект замещения нефти

DES → FOB

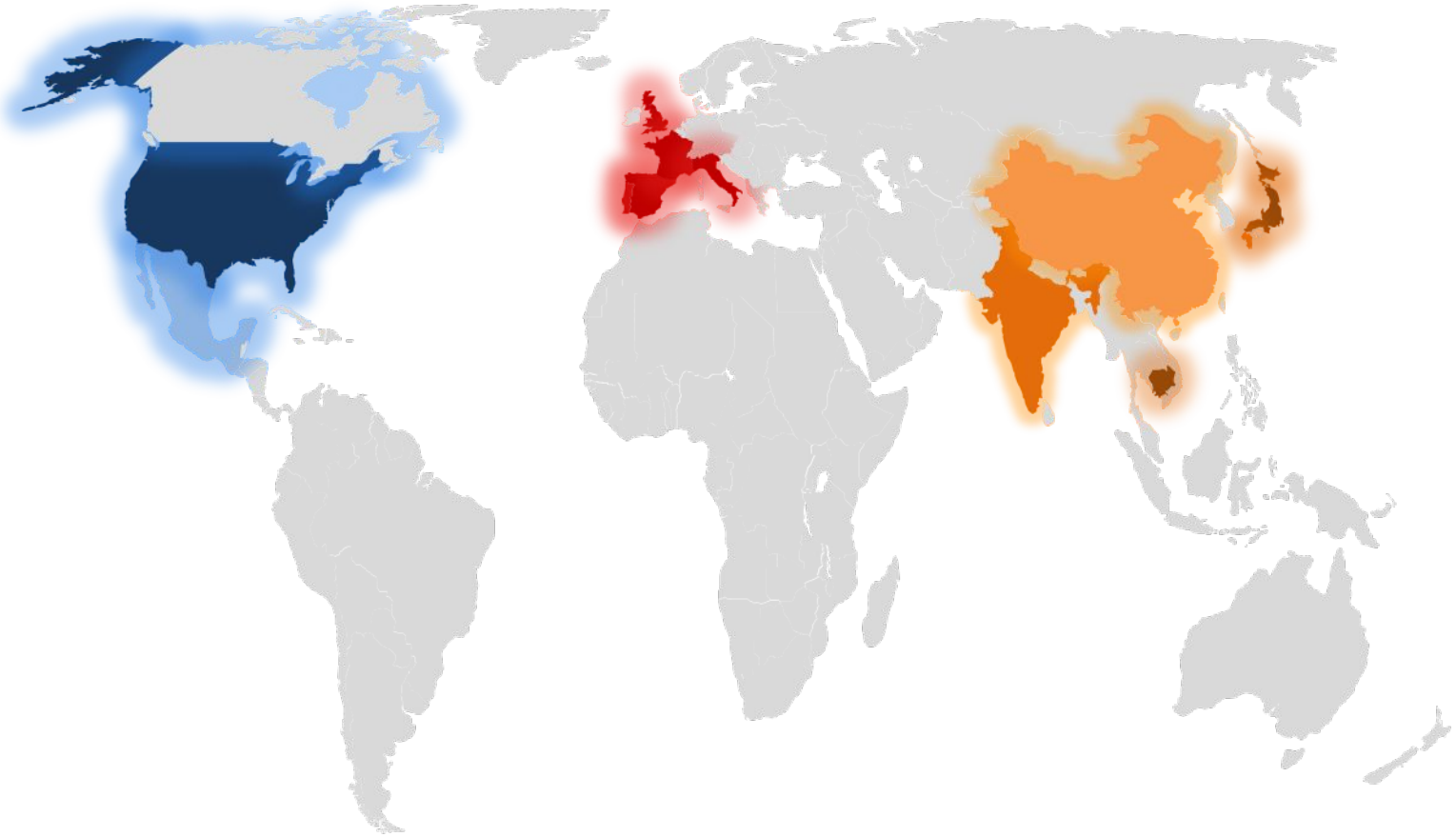
1990 – рынок покупателей. 2000 – рынок продавцов (альтернативы поставок, арбитраж).

Basic characteristics of markets

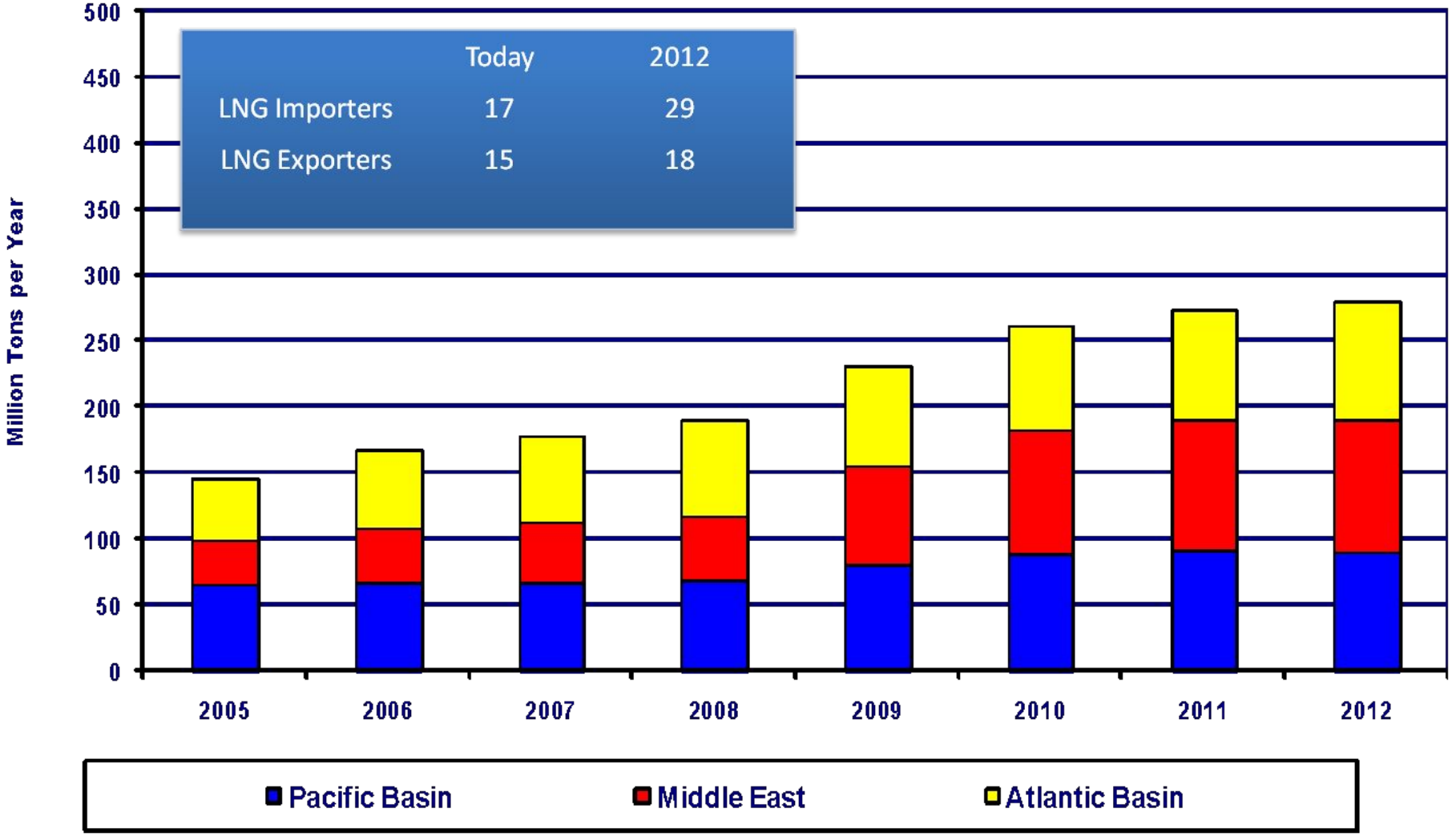
major markets
volumes
exports
imports
trade flows
Price

THE MAJOR MARKETS OF LNG

The North American market
The European market
Asian Market



Volumes of supplies, and participants 2005-2012



GLOBAL REGASIFICATION PLANT

FIG. 3

Fig. 3a

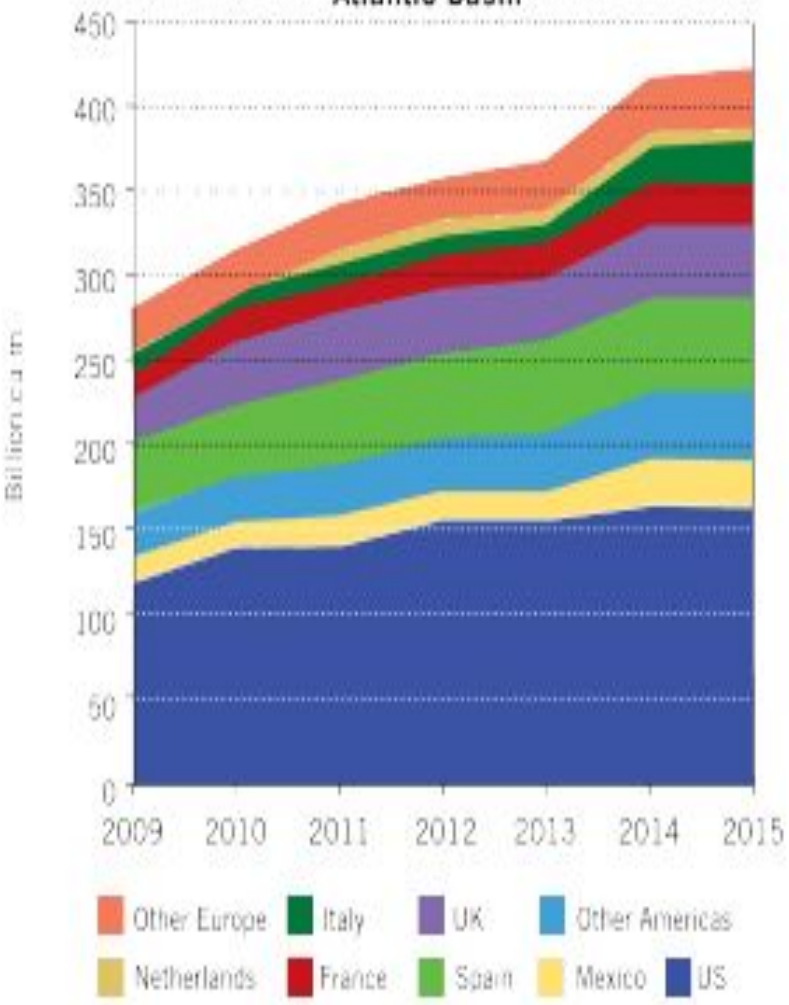
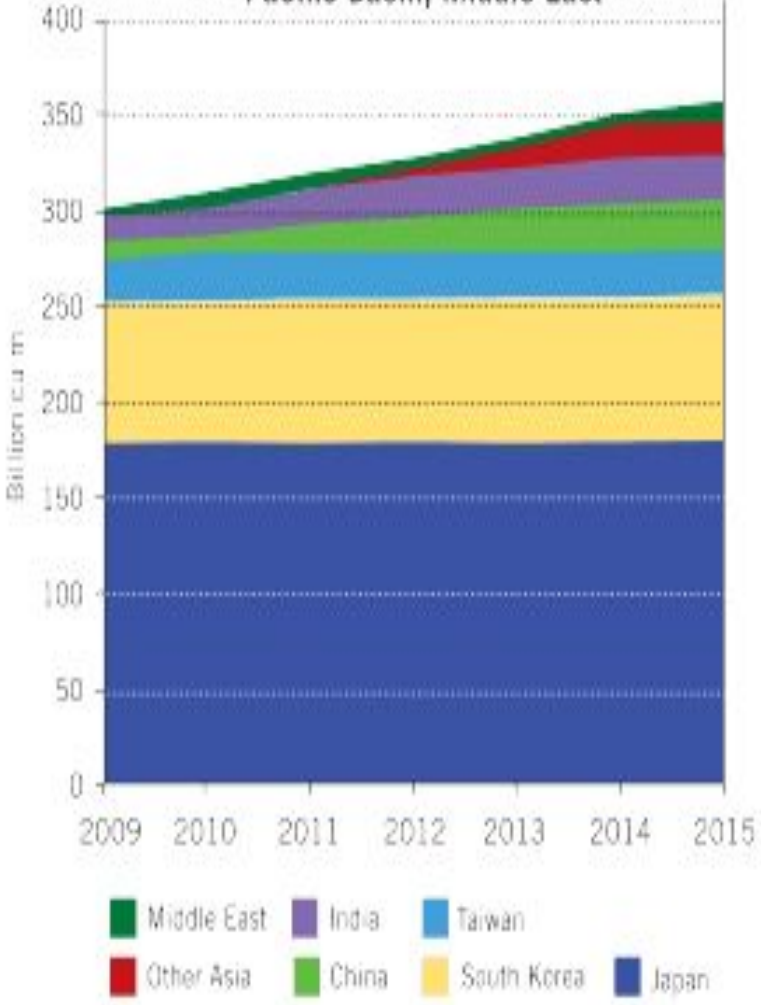


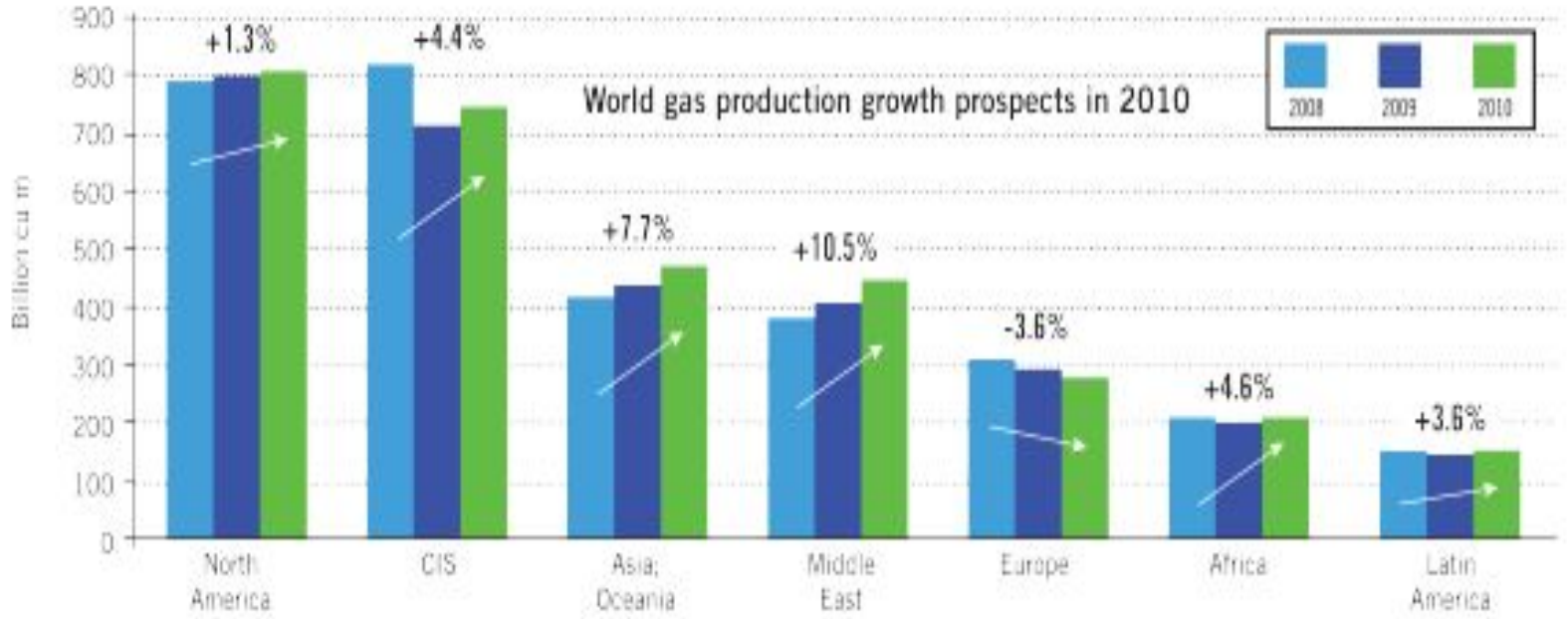
Fig. 3b



Source: Cedigaz, Paris

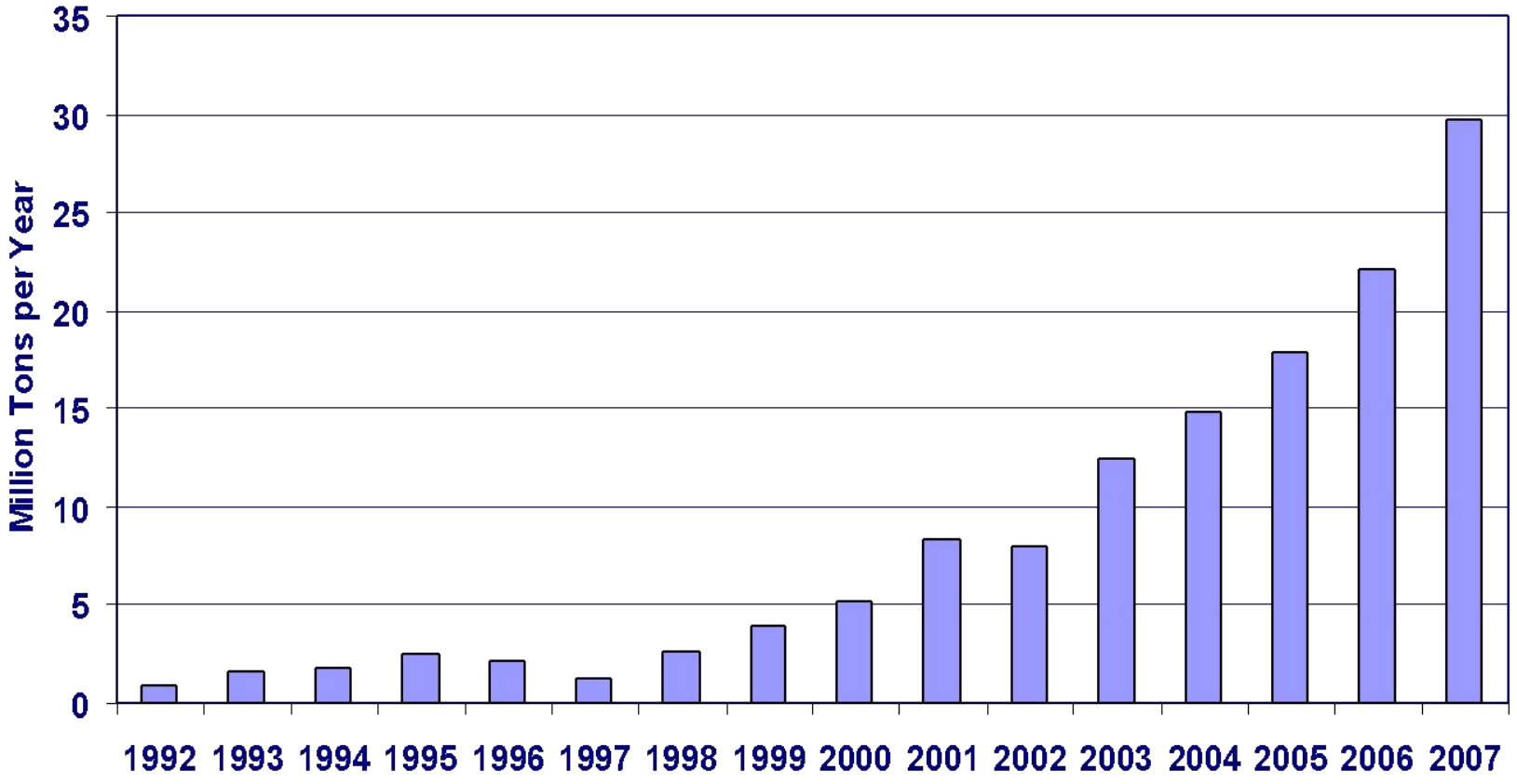
WORLD GAS SUPPLY SURGE IN 2010*

FIG. 1

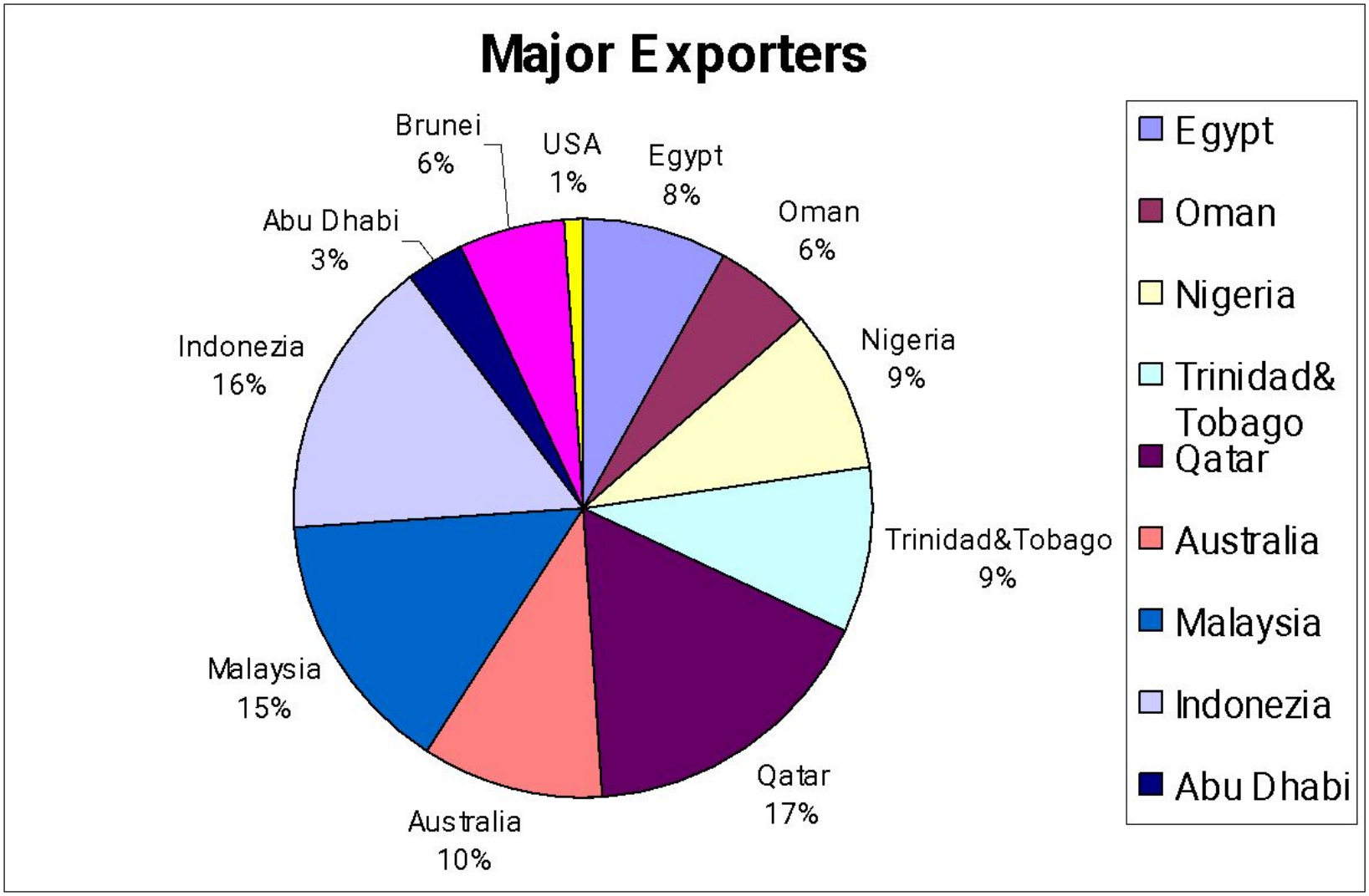


*Estimates; Cedigaz Reference Scenario: demand growth of 4% in 2010
Source: Cedigaz, Paris

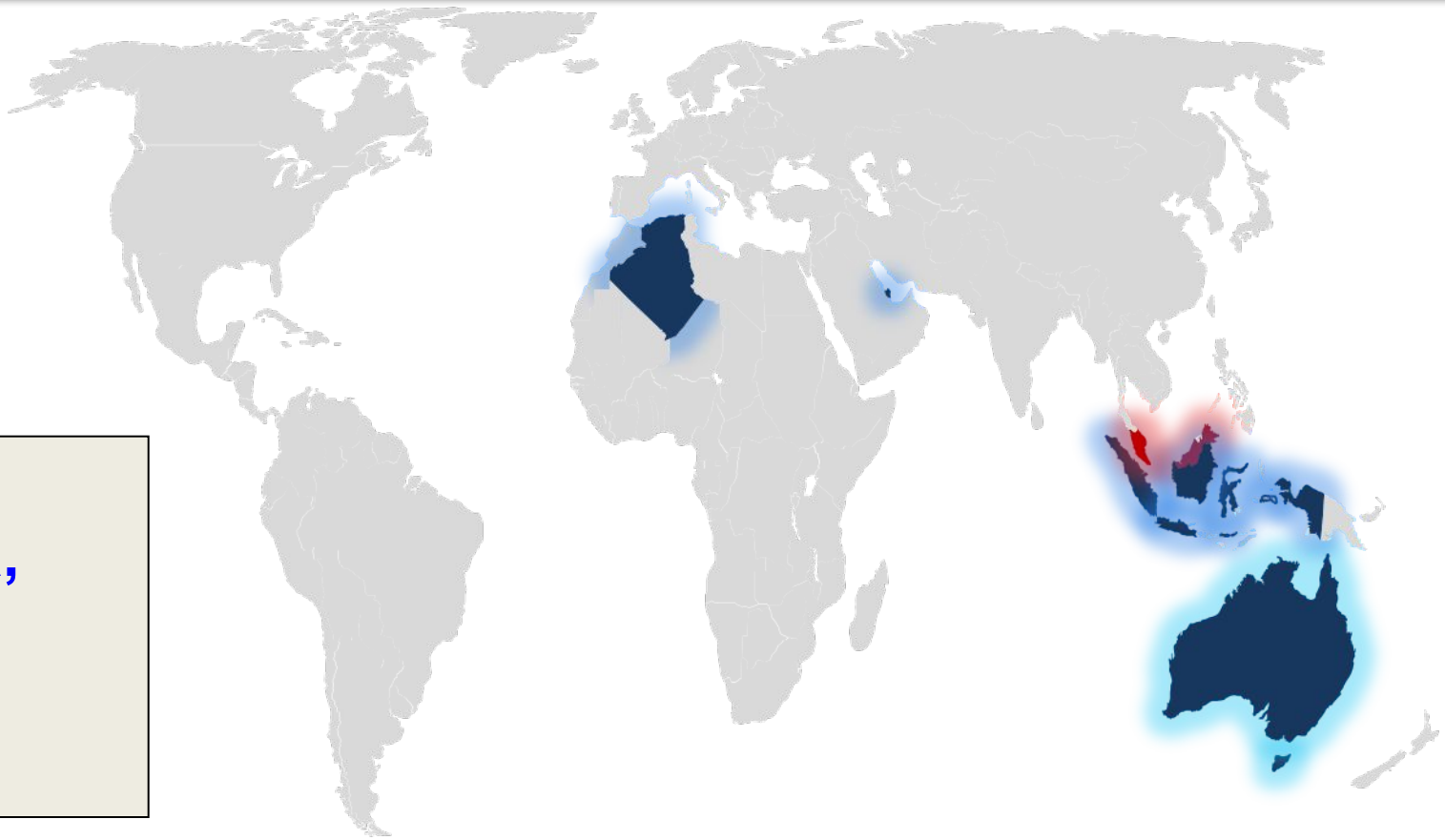
Short-term trading 1992-2007



MAJOR EXPORTERS

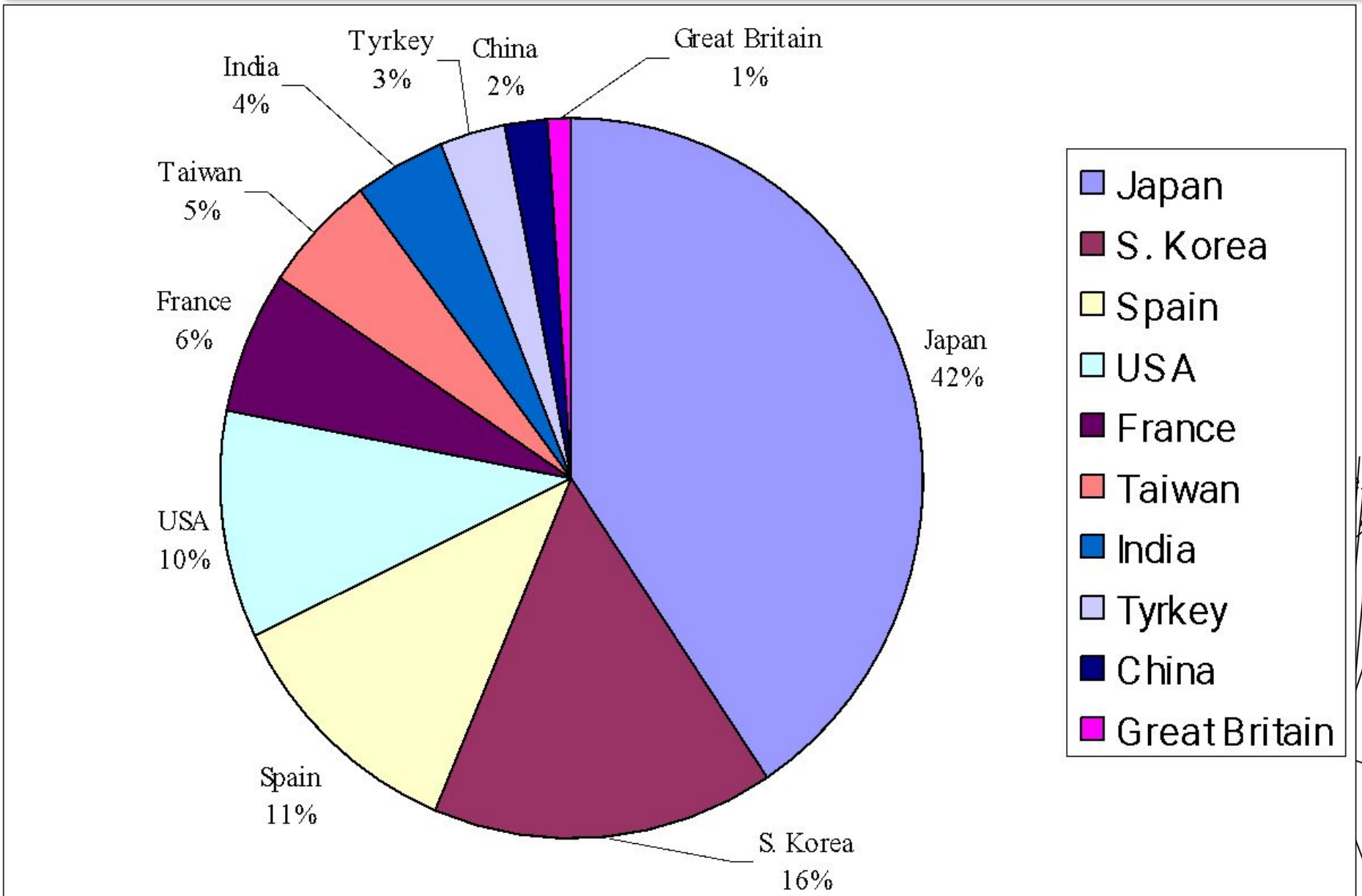


Major exporters



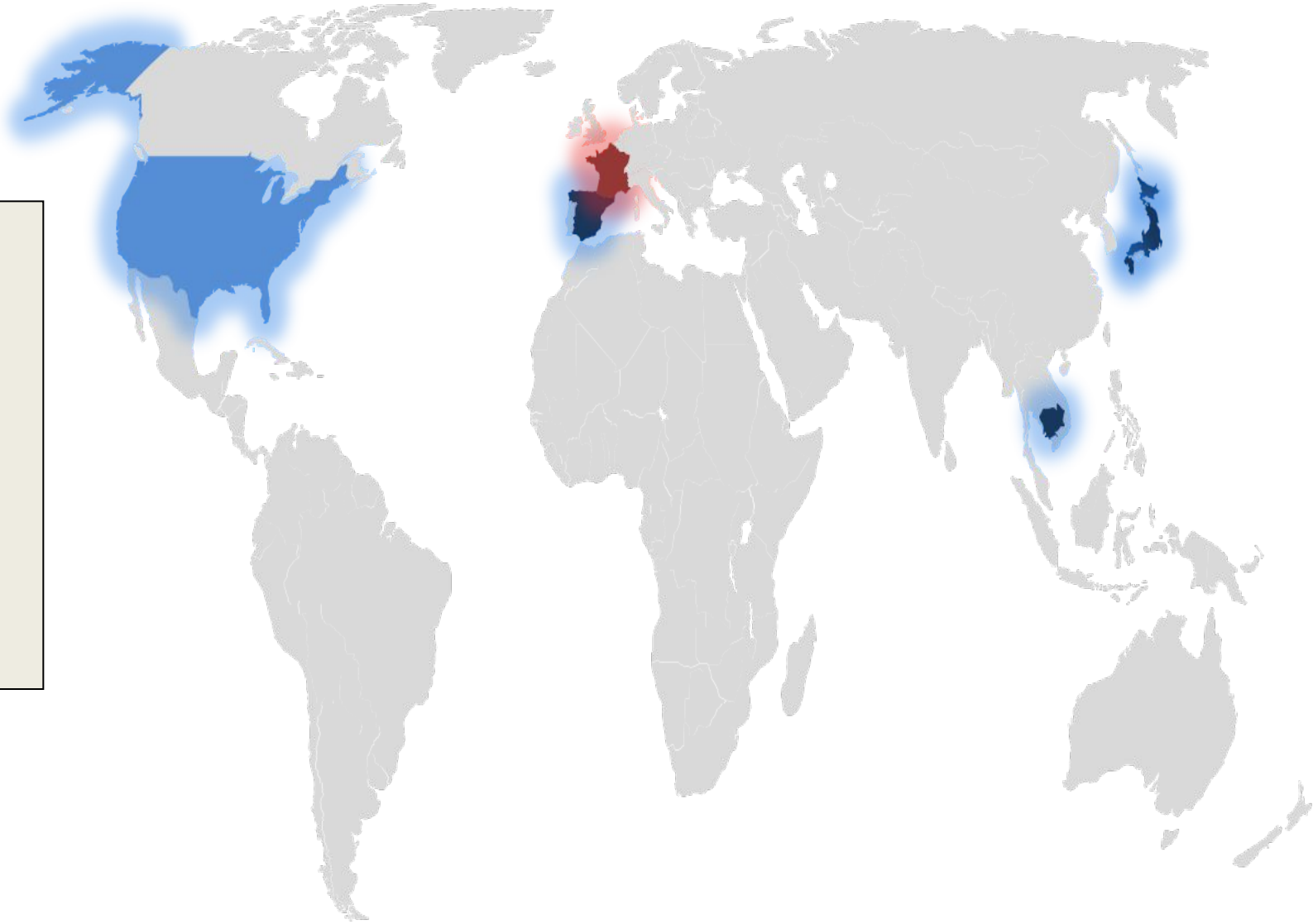
Qatar,
Indonesia,
Malaysia,
Algeria,
Australia

MAJOR IMPORTERS



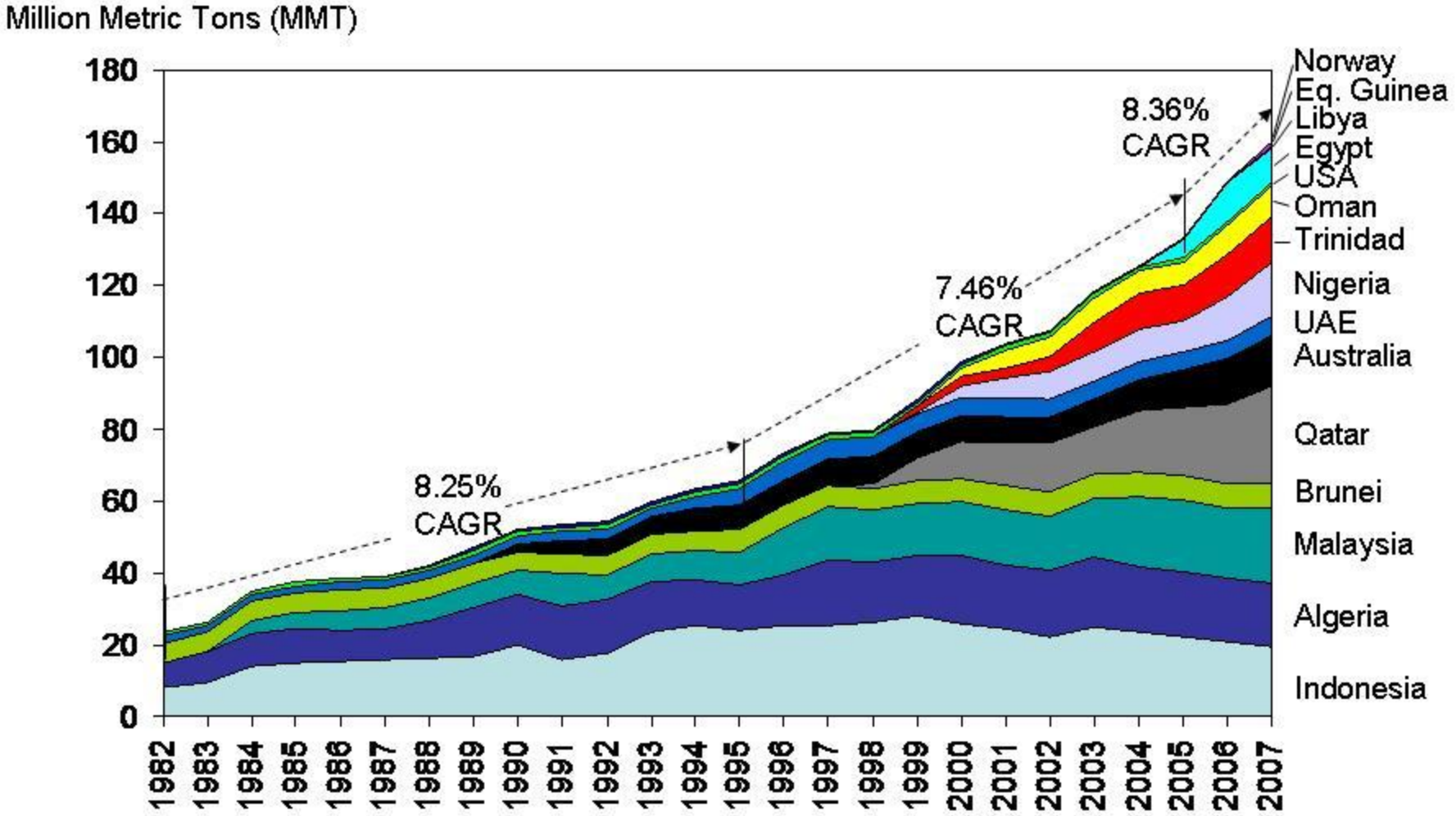
MAJOR IMPORTERS

Japan,
South
KOREA,
SPAIN,
USA,
FRANCE



World LNG Export Growth by Country

(1982-2007)

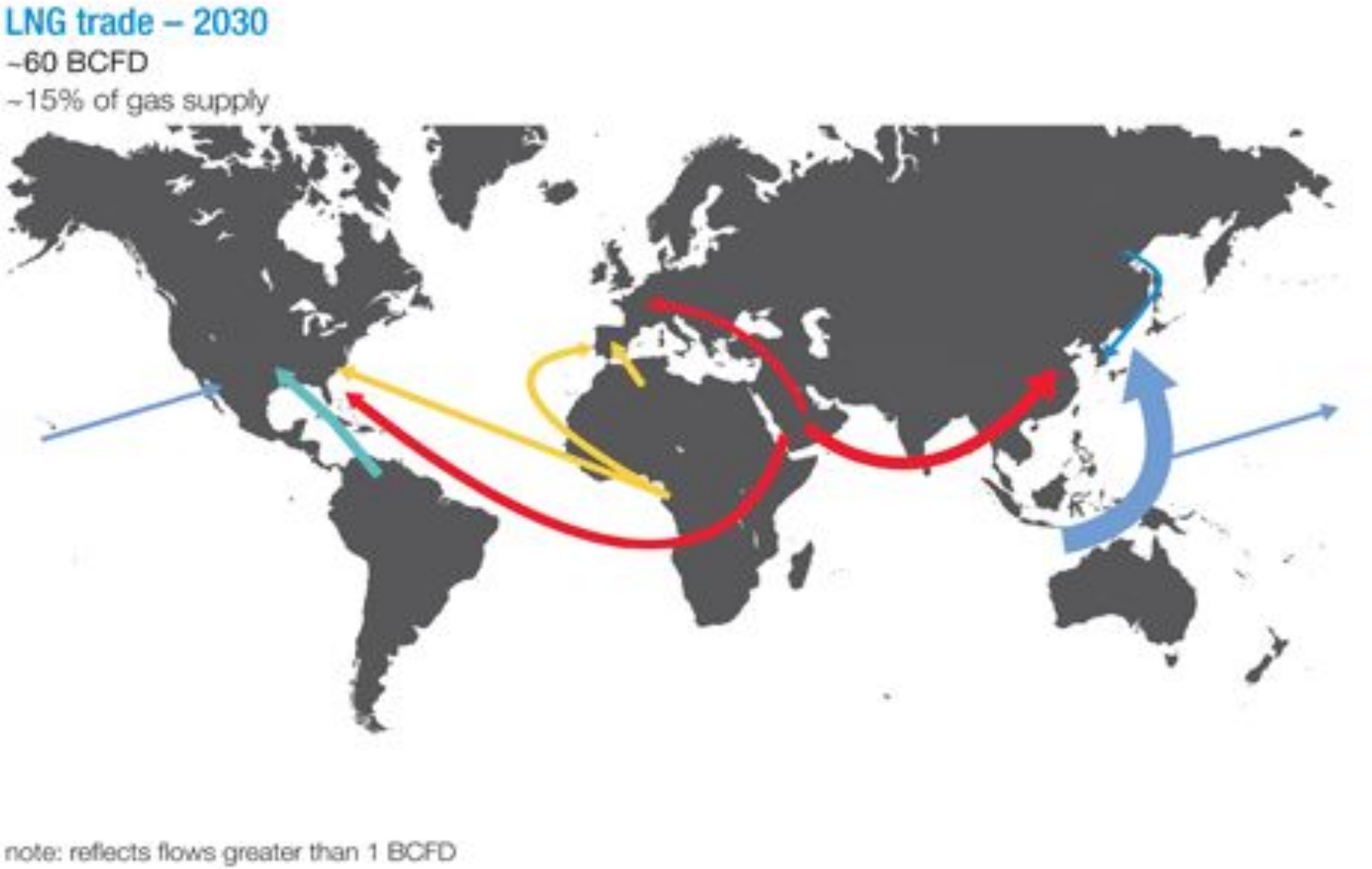


Abbreviations: LNG (liquefied natural gas), CAGR (compound annual growth rate).

Source: Zeus Virtual Energy Library (www.ZeusLibrary.com)

TRADE FLOWS 2005

TRADE FLOWS 2030



Enabling factors

- The tendency to reduce the cost of production, because improved liquefaction technology
  Rising consumption of GHG (up to 145 trillion by 2015). The share of LNG ~ 5% (2001), 19% (to 2011)
  Market development of spot transactions (1997 - 3% of all contracts awarded in 2009 - 20%)

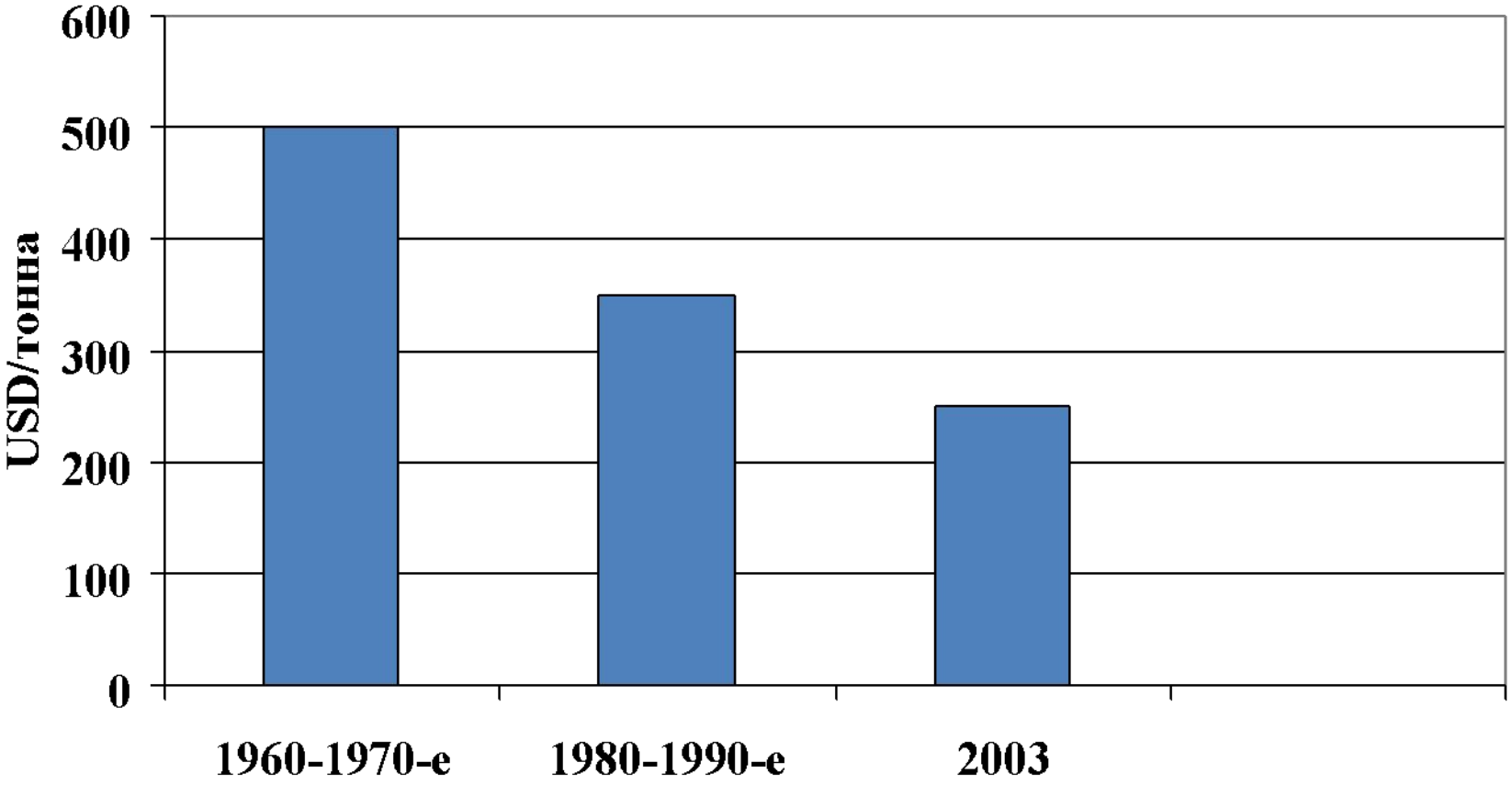
constraints

- The high cost of LNG compared to coal and oil
- Attractiveness of the traditional gas (cheaper), (under construction onshore and subsea pipelines)
- Alternative fuels (GTL)

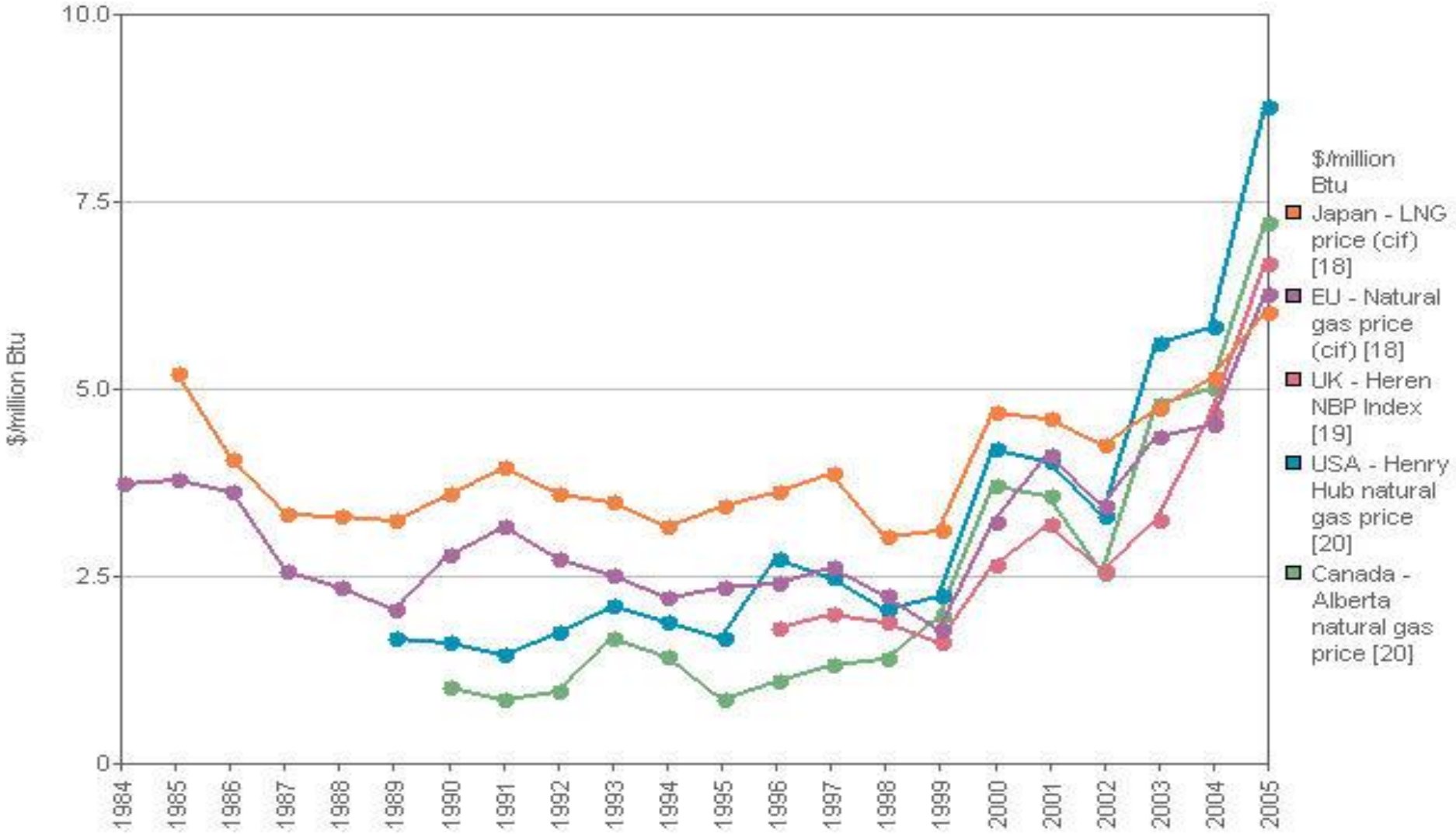
JAPAN

- The share of LNG - 97%
  The main supplier - Indonesia, as well: Australia, Brunei, Malaysia, UAE and USA.
  1996 - contract with Qatargas for 25 years (6 million tons of LNG per year)
  There are 23 LNG receiving terminals with total capacity of 188.3 million tons (260 billion m3)

Dynamic of LNG COST of PRODUCTION



PRICES



Source:

Million. Btu - British thermal unit 0.252 kcal

PRICES

Dollars Btu

Год	LNG Japan CIF
2003	4,77
2004	5,18
2005	6,05
2006	7,14
2007	7,73

Btu - **British thermal unit 0.252 kcal**

1kcal=3.97Btu

49257899069014 Btu = 1Gt LNG

1 Gm³ = 0.7244999997491Gt LNG

1 tn LNG=51.6ммBtu

Thank you for your attention