



# “Turkish Natural Gas Market in Light of Global Energy Trends”

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Member of the Board – PETFORM

Member of the Board – Turcas Petrol

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Mare Forum Istanbul 2010

# About PETFORM



**Established in 2000, PETFORM has played a crucial role in the transfer of private sector views to the public authorities regarding to Turkish energy legislation amendments (Natural Gas Market Law, Petroleum Market Law, Turkish Petroleum Law...)**

**Member companies mainly have activities in 2 sectors:**

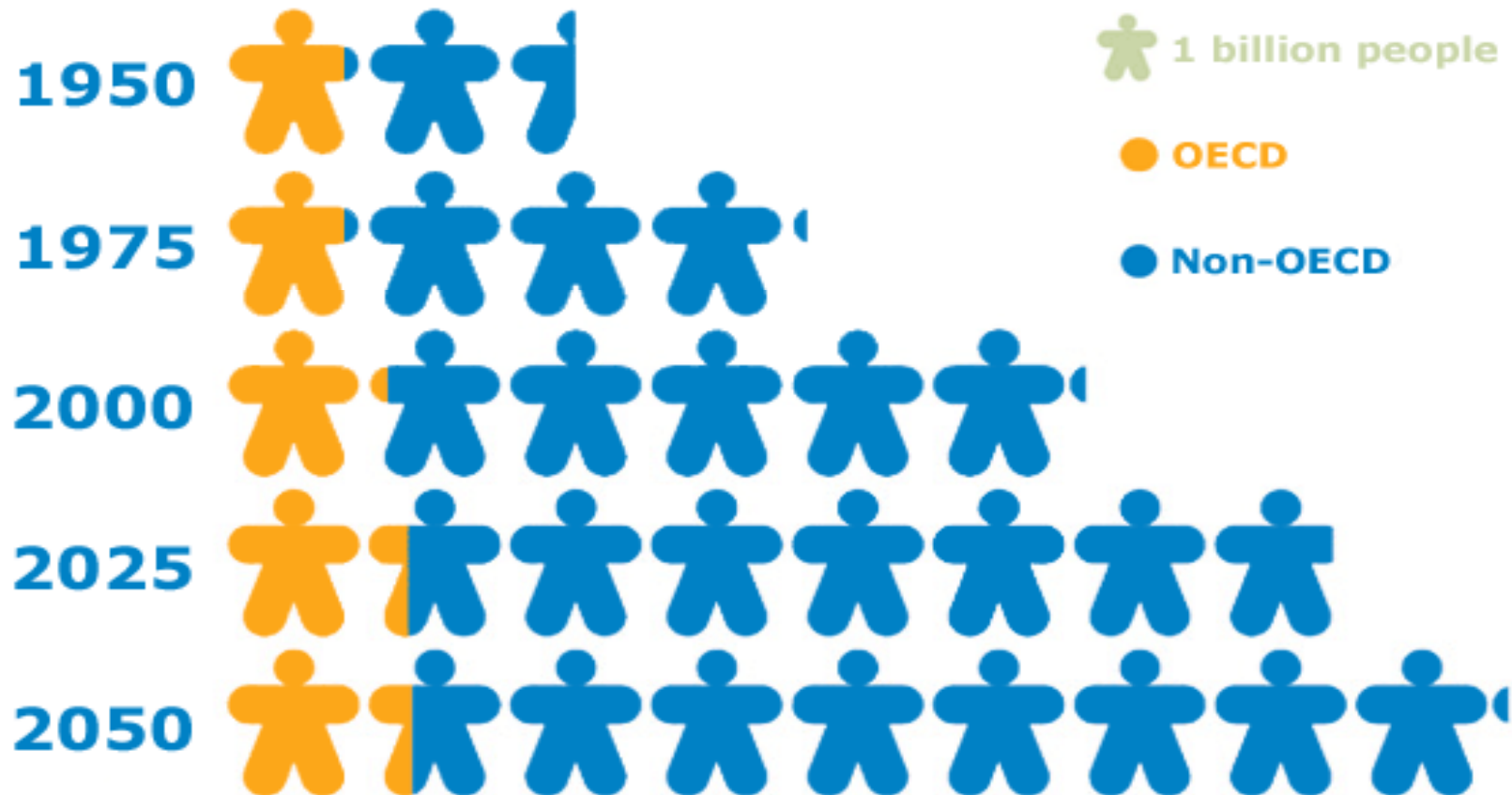
- **Exploration & Production Sector**
- **Natural Gas Market**

# PETFORM Member 41 Energy Companies

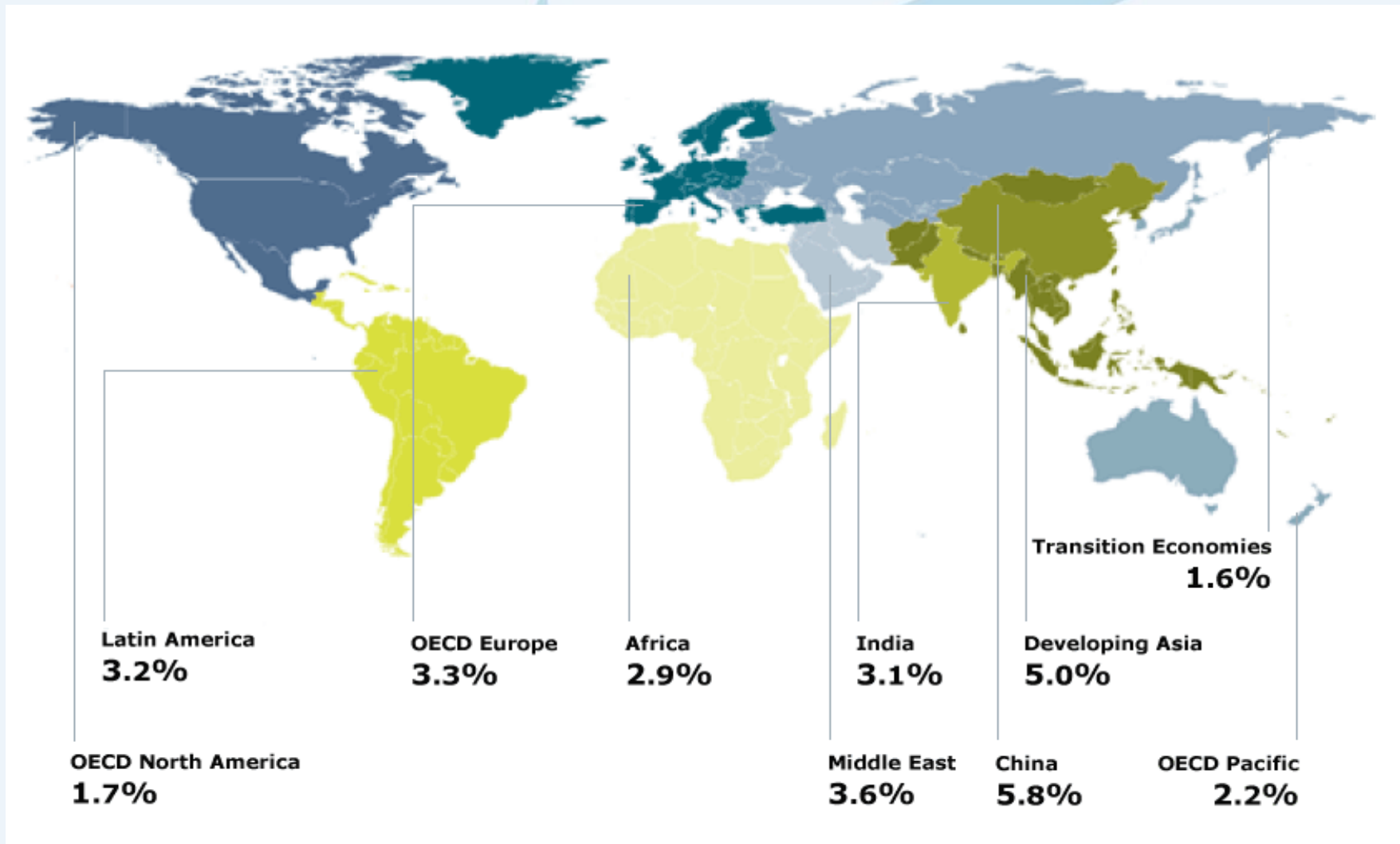


- AKENERJİ
- AKSA
- ALADDIN MIDDLE EAST
- ARGM
- ATTİLA DOĞAN İNŞAAT
- AVRASYA GAZ
- AYGAZ DOĞALGAZ
- BOSPHORUSGAZ
- BP
- ÇALIK ENERJİ
- DOĞAL ENERJİ
- EDISON
- EGE GAZ
- ENEL
- ENERCO ENERJİ
- ENERJİSA
- ENI
- E.ON RUHRGAS
- EWE ENERJİ
- GENEL ENERJİ
- GÜNEY YILDIZI PETROL
- IBS RESEARCH
- NATURGAZ
- N.V.TURKSE PERENCO
- OMV
- OPALİT
- PALMET
- PEMI
- PETOIL
- PETROL OFİSİ
- POZİTİF DOĞALGAZ
- SHELL ENERJİ
- SOYAK ENERJİ
- STATOIL
- TEKFEN İNŞAAT
- THRACE BASIN
- TOTAL
- TRANSATLANTIC TURKEY
- TURCAS
- TURUSGAZ
- ZORLU ENERJİ

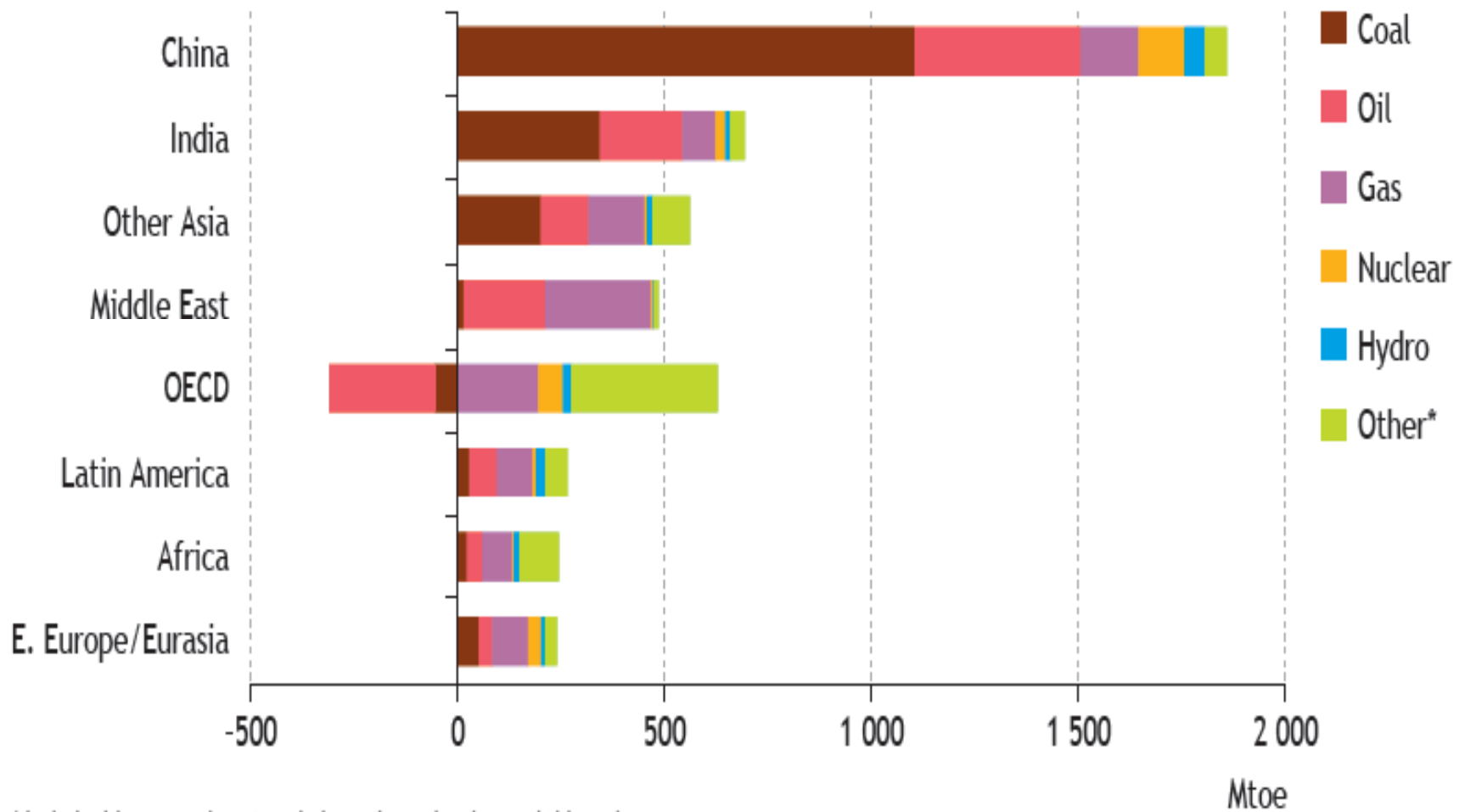
# World Population Growth (1950 – 2050)



# World GDP Growth (2005 – 2050)

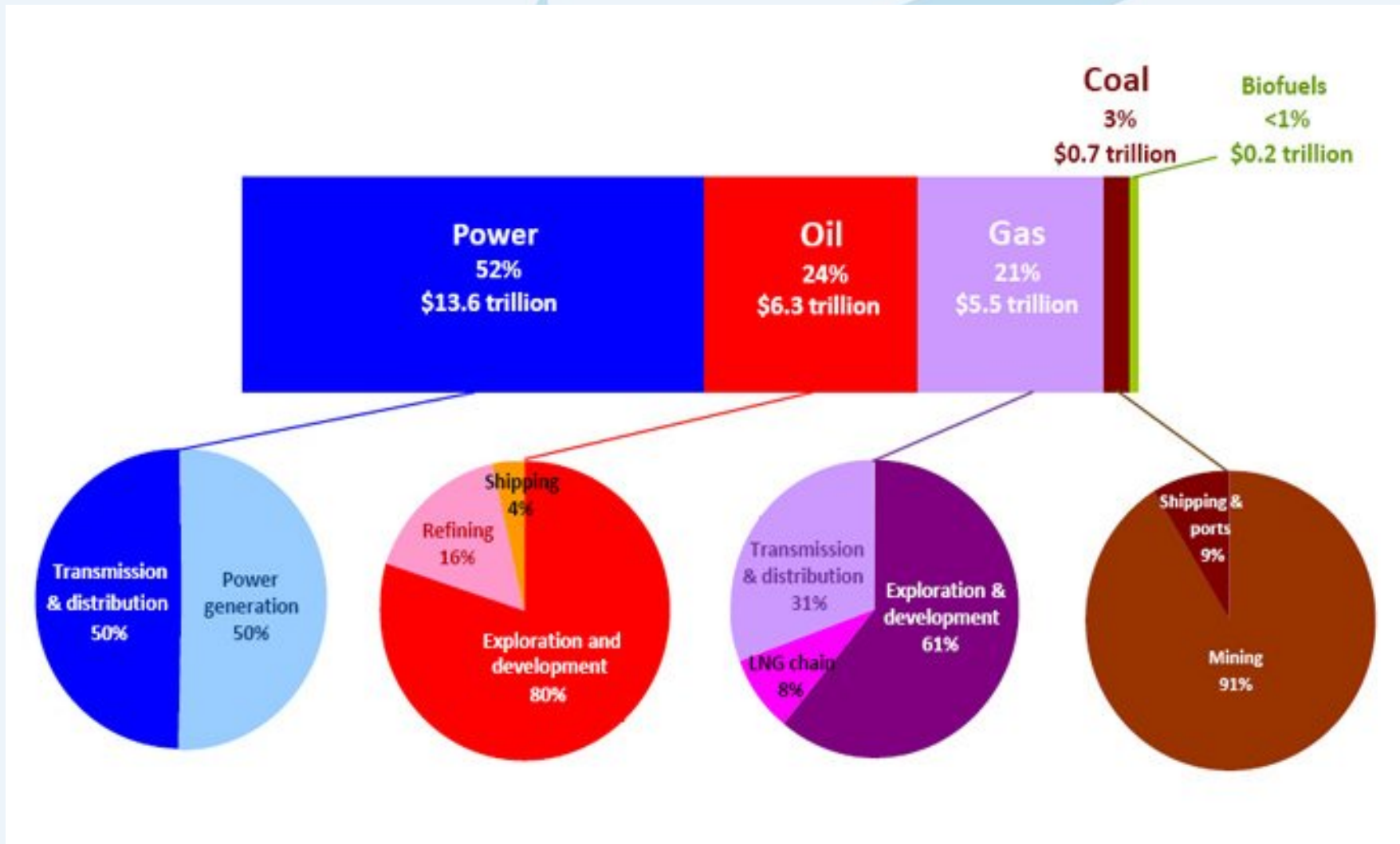


# World Primary Energy Demand (2007 – 2030)



\* Includes biomass and waste, wind, geothermal, solar, and tide and wave.

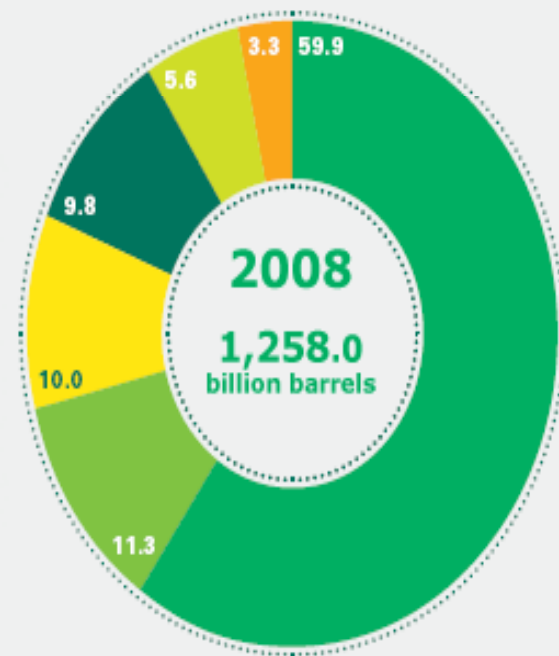
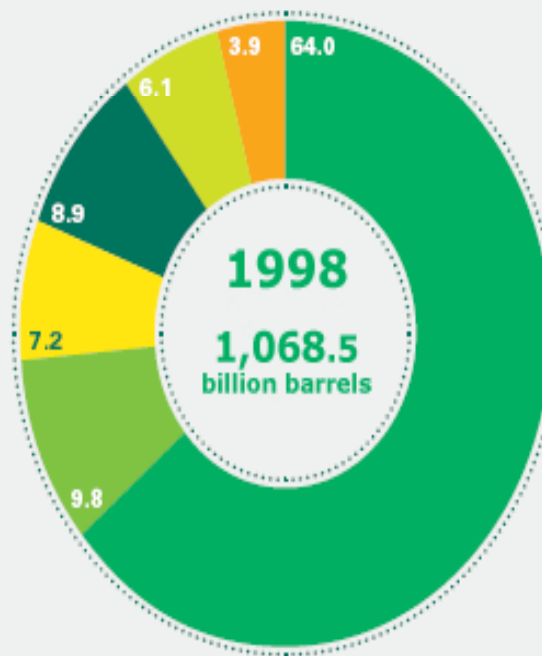
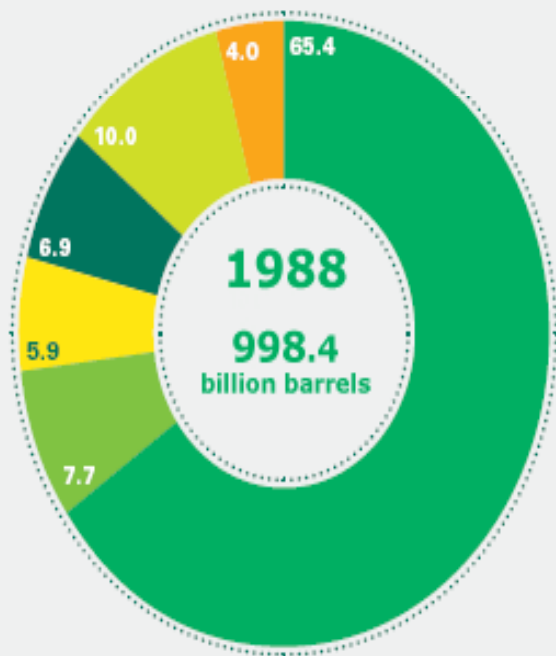
# Primary Energy Investment Requirement (2007 – 2030)



# Distribution of World Oil Reserves (1988 – 2008)

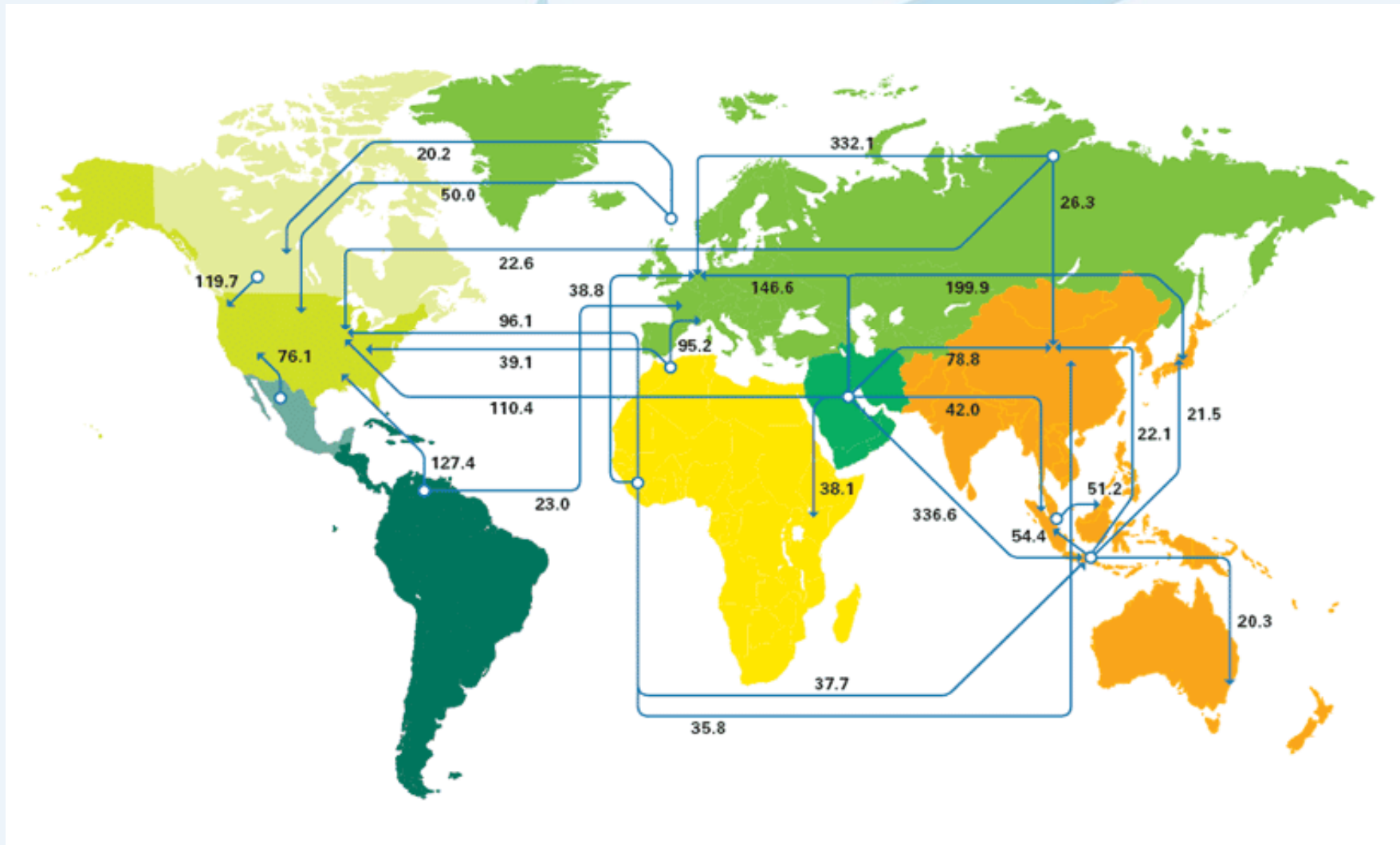


- Middle East
- Europe & Eurasia
- Africa
- S. & Cent. America
- North America
- Asia Pacific

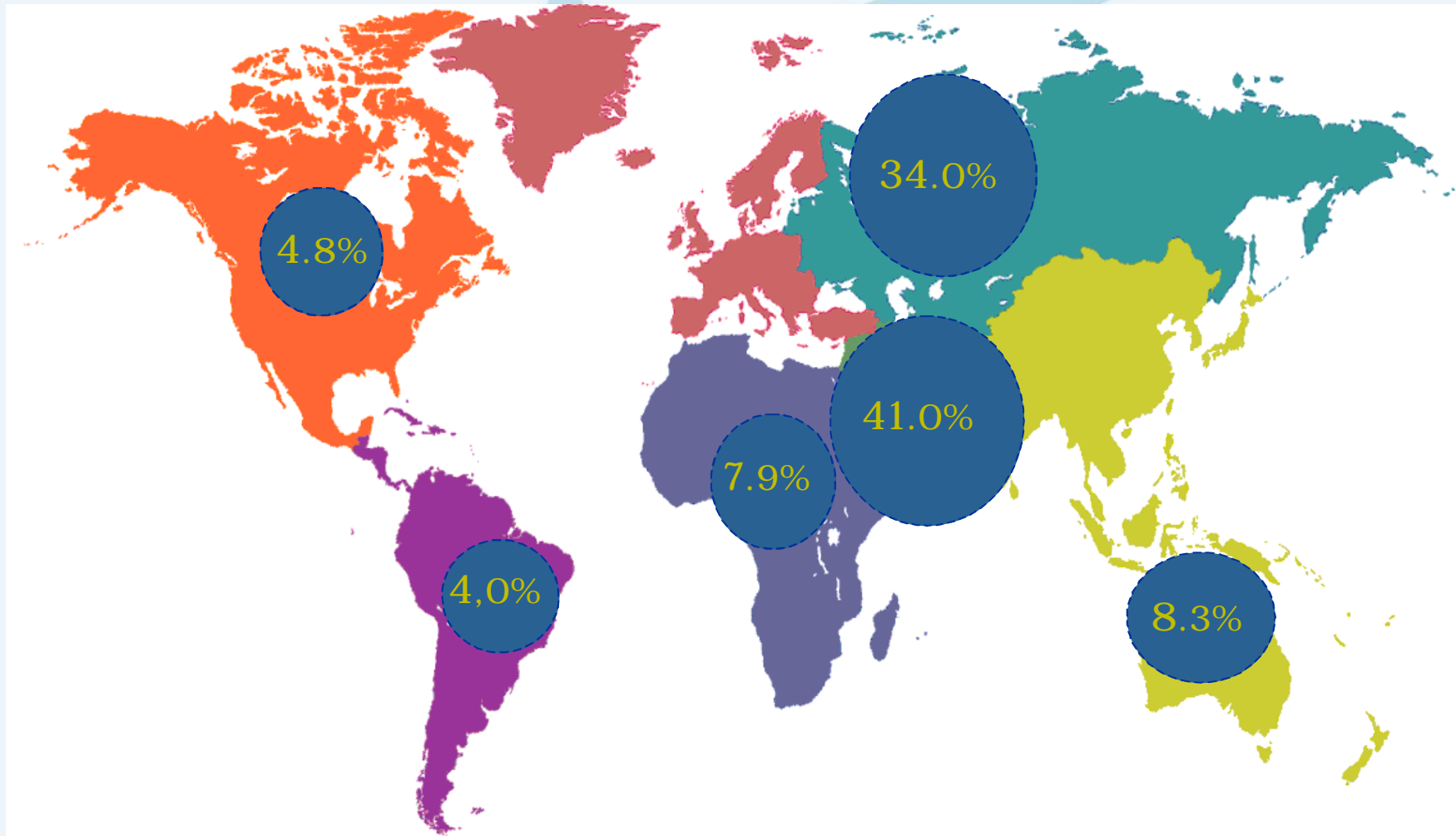




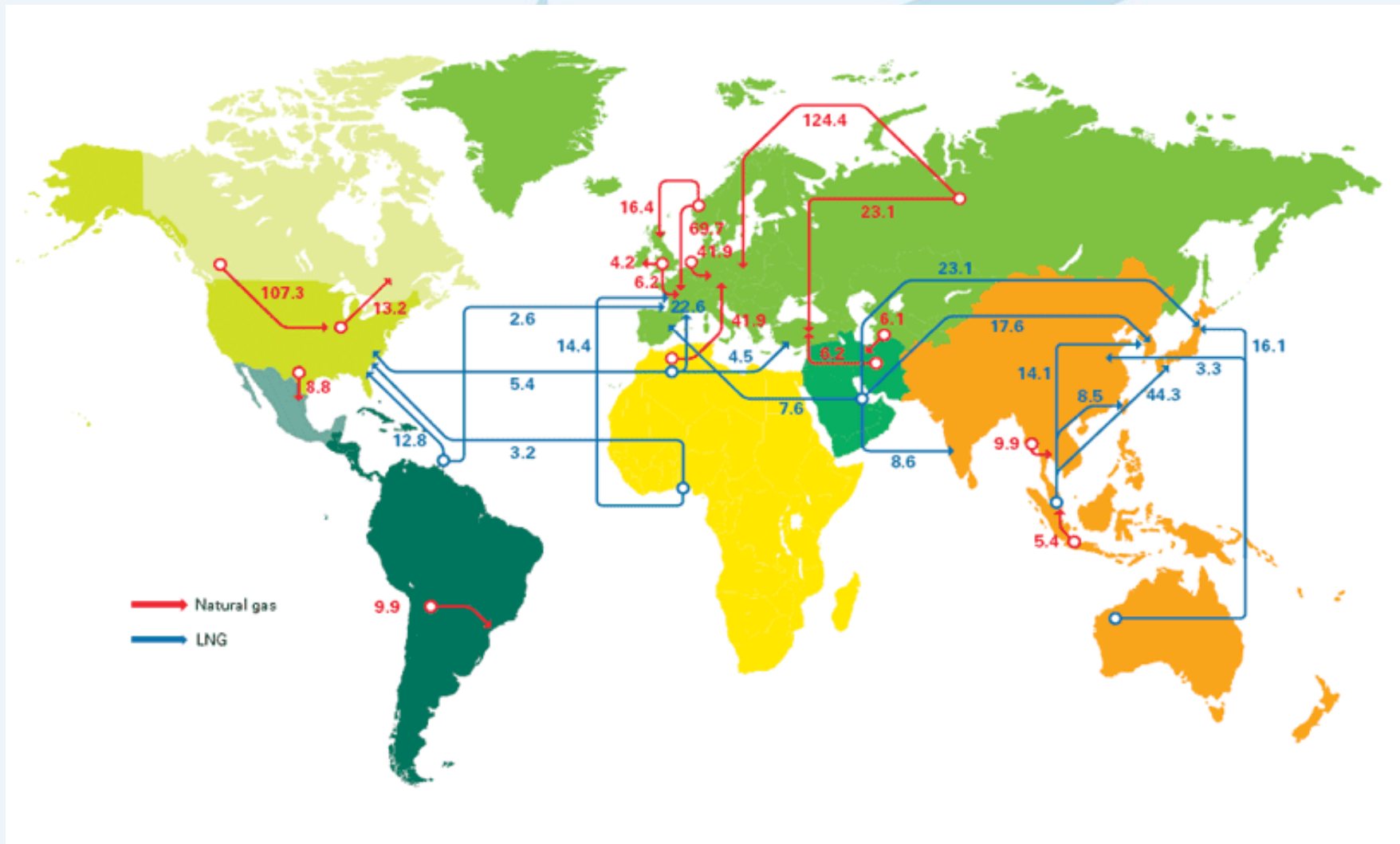
# Global Oil Trade Routes



# Distribution of World Gas Reserves (2008)



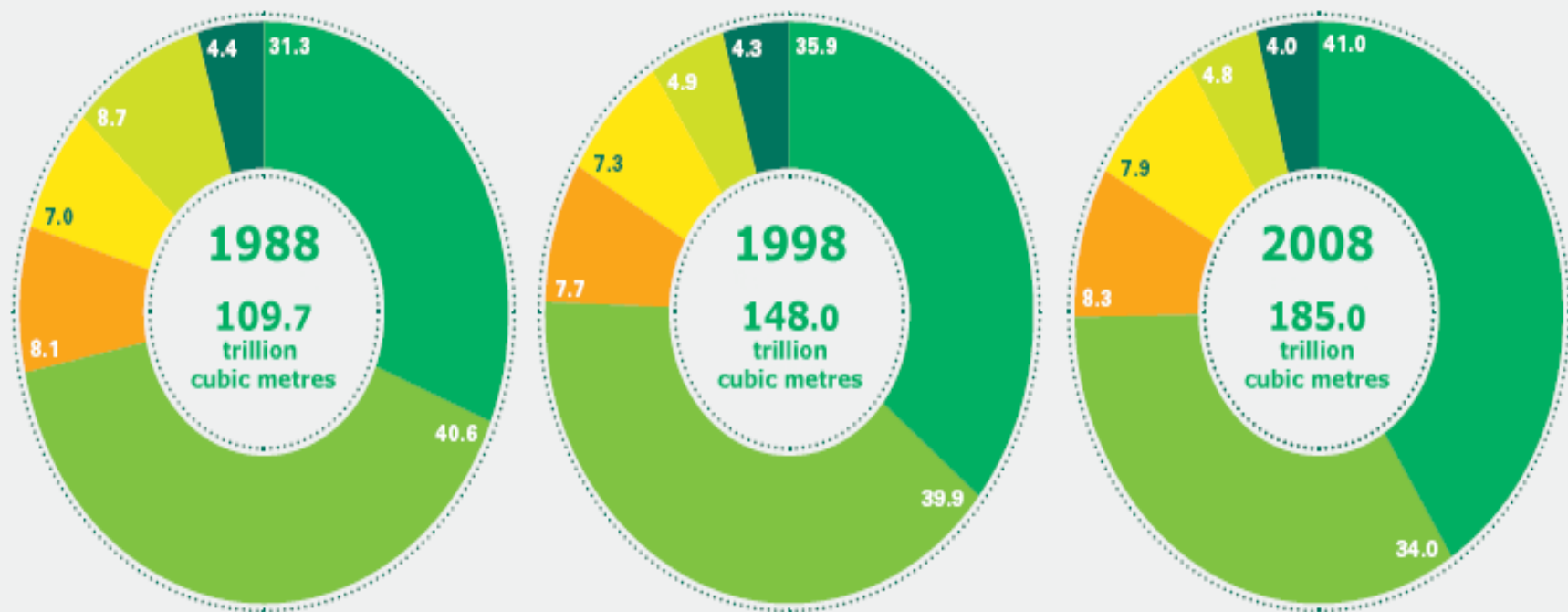
# Global Gas Trade Routes



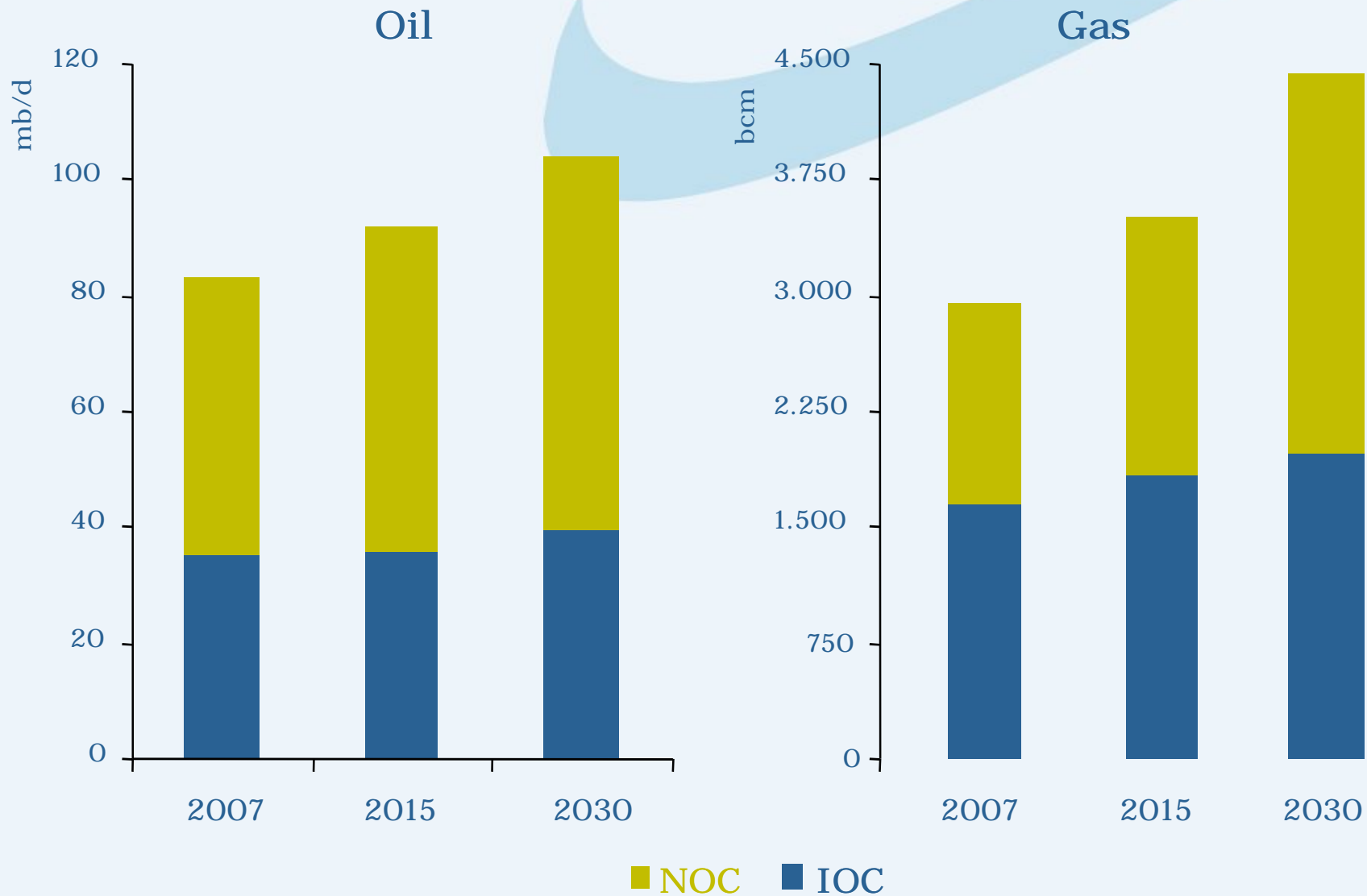
# Distribution of World Gas Reserves (1988 – 2008)



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

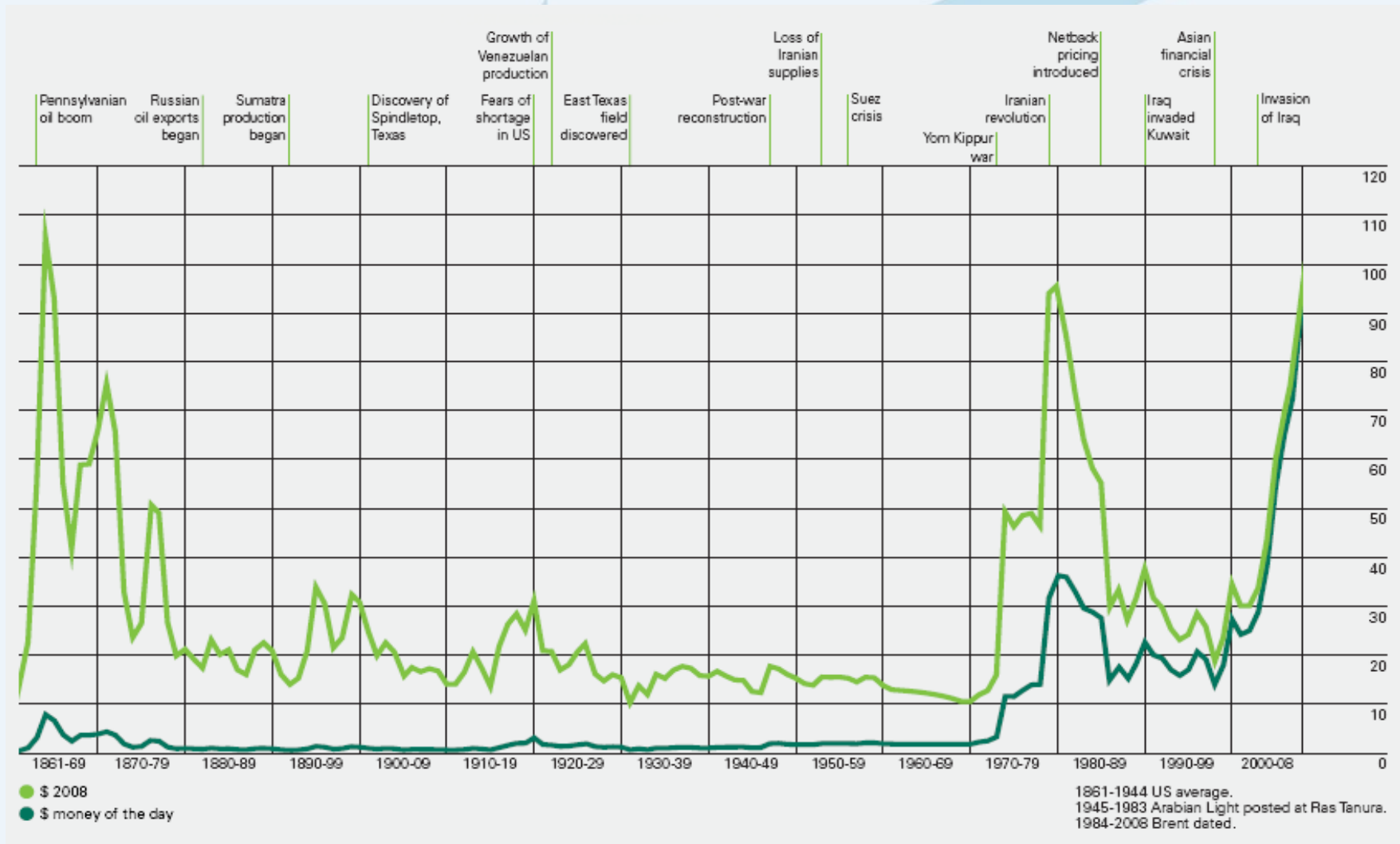


# NOC & IOC Production Trends (2007 – 2015 – 2030)



Source: IEA

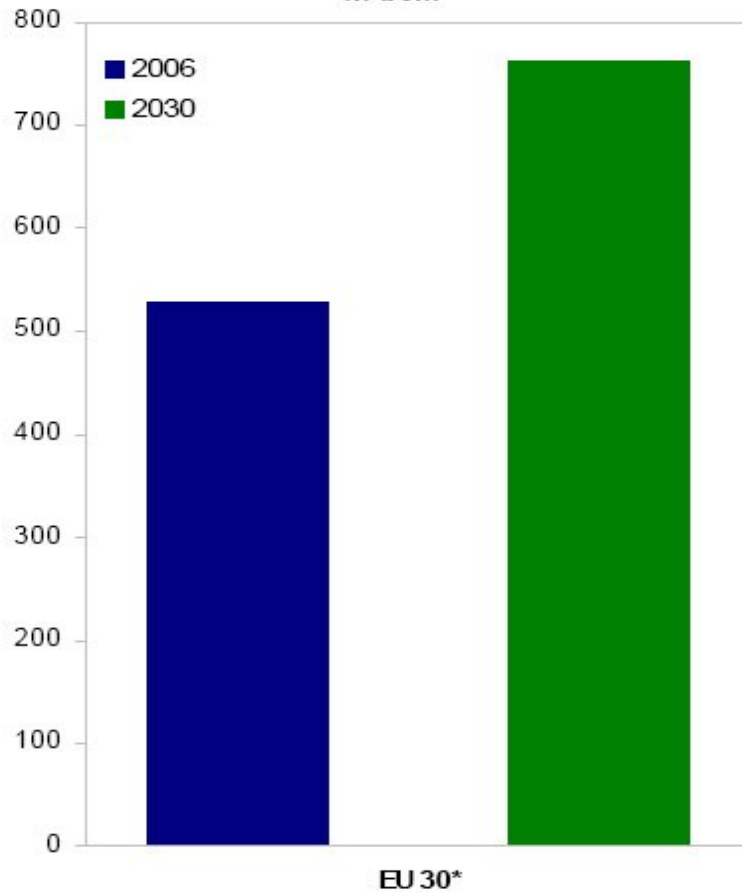
# Crude Oil Prices (1861 – 2008)



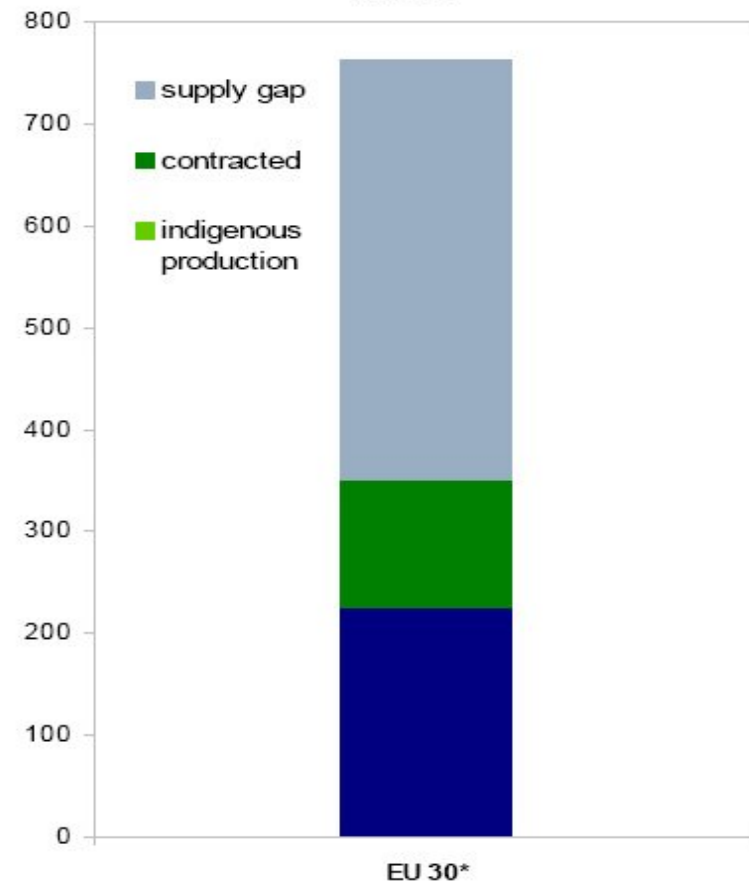
# Gas Supply – Demand Gap in Europe (2006 – 2030)



**Demand in Europe**  
in bcm

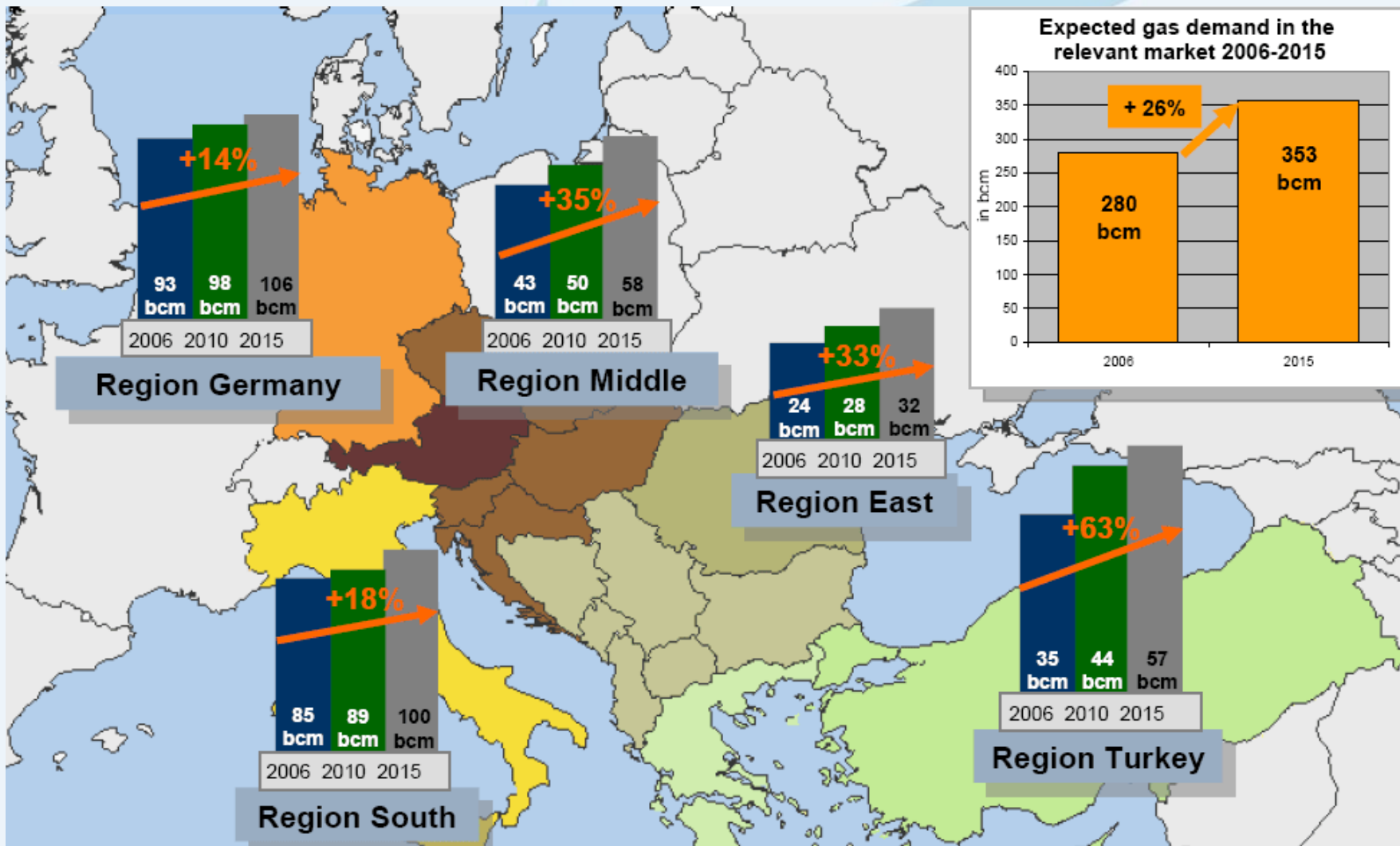


**Supply gap in Europe 2030**  
In bcm



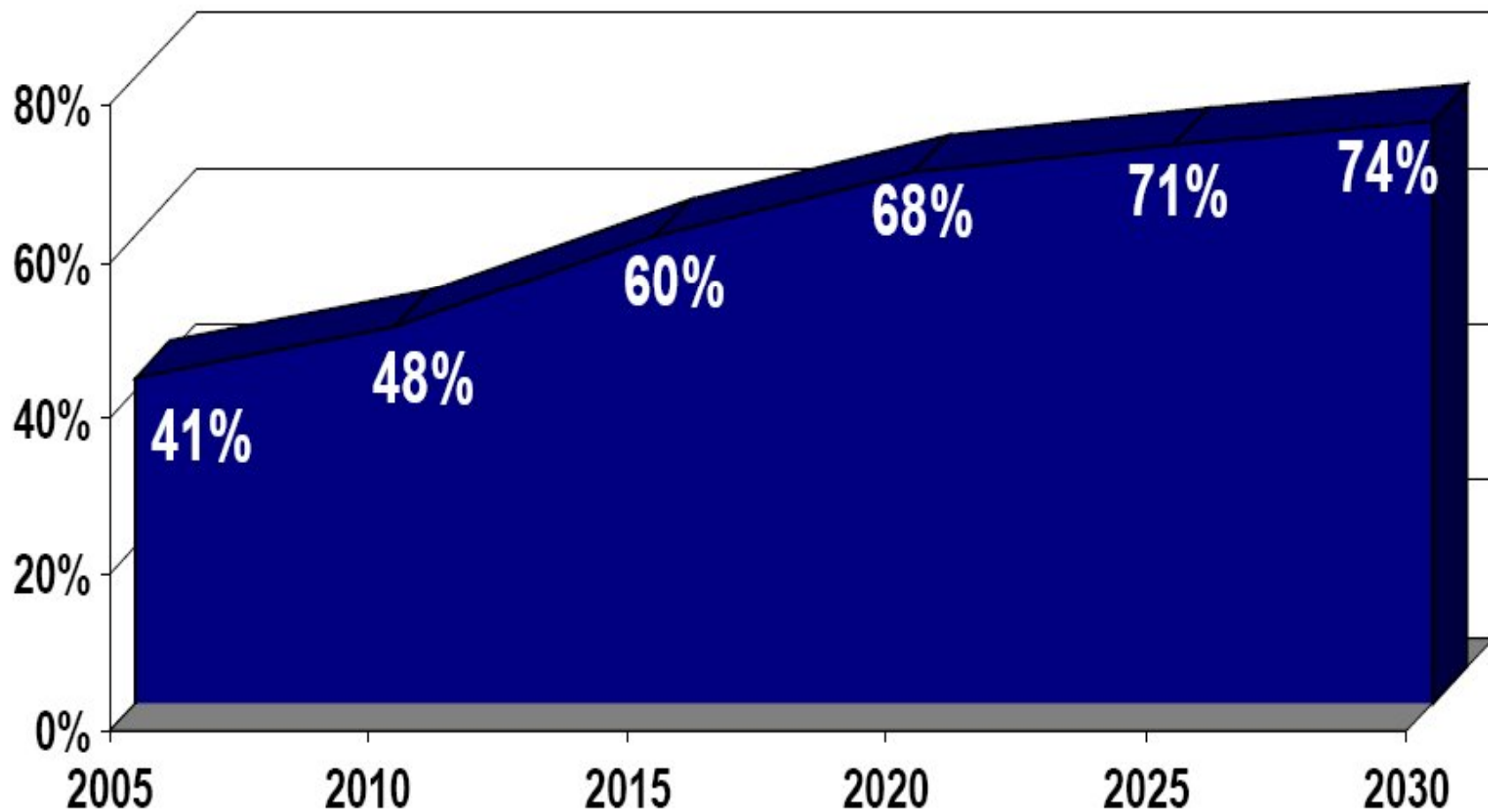
\* Europe 30 (EU 25 + Rumania, Bulgaria, Croatia, Turkey, Norway)

# Europe's Gas Demand Forecast (2006 – 2015)





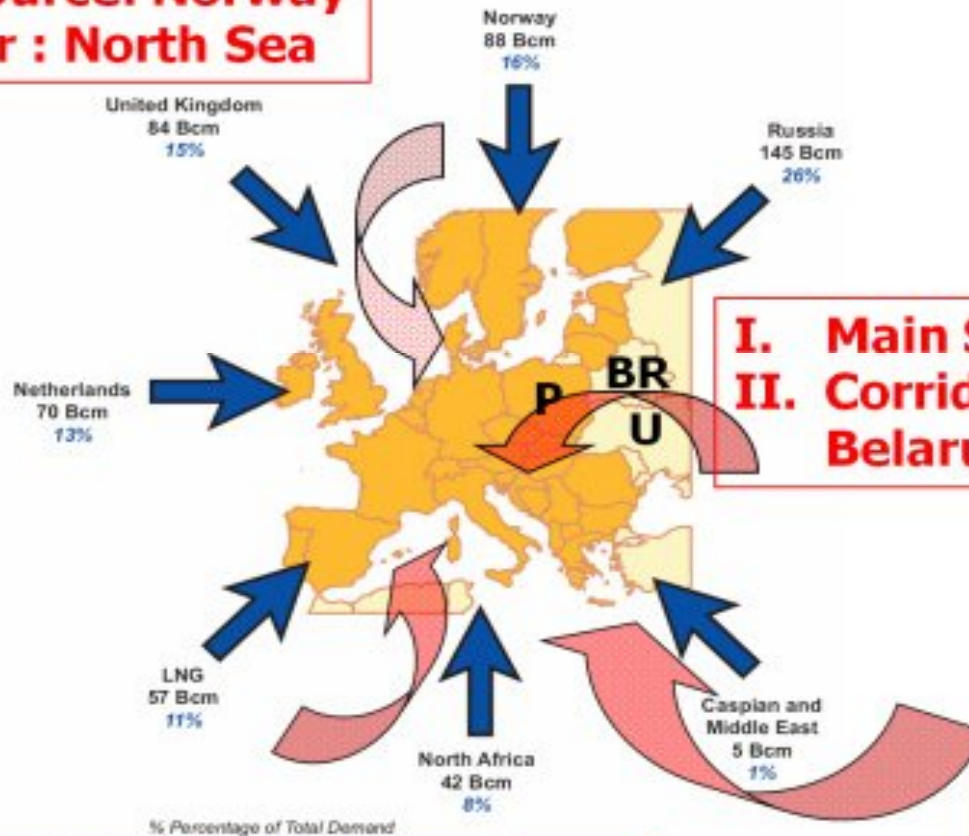
# Europe's Gas Import Dependency (2005 – 2030)



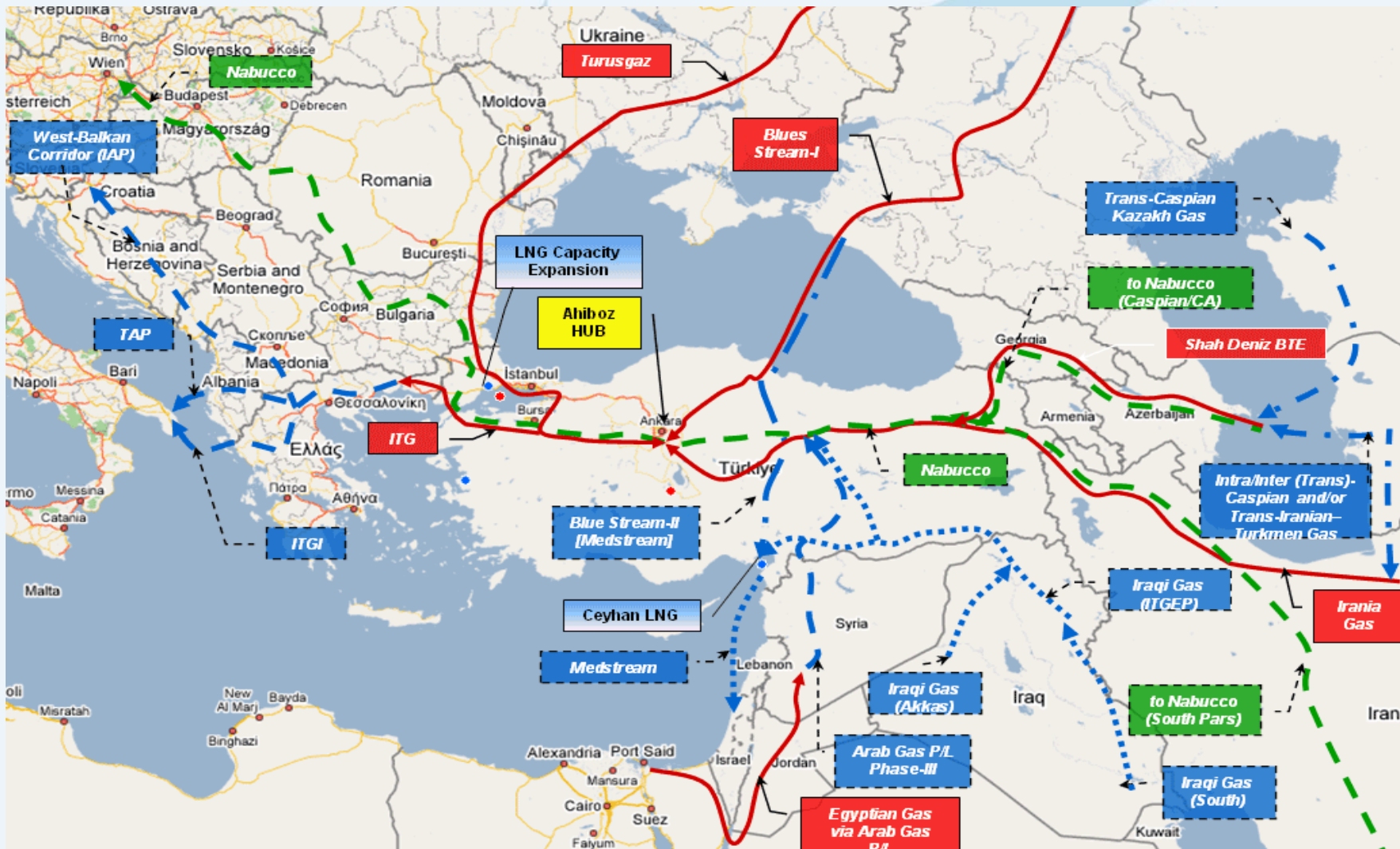
# Corridors to the European Gas Market



**II. Main Source: Norway**  
**II. Corridor : North Sea**



# Gas Pipelines via Turkey



# Energy Demand – Domestic Production Balance (1990–2008)



Source: MENR

	1990	1995	2000	2005	2008
Demand (million toe)	52.9	80.5	91.3	0.8	106.2
Production (million toe)	25.6	26.7	26.1	24.5	29.1
Import (million toe)	30.9	39.7	56.3	73.4	85.5
Export (million toe)	2.1	1.9	1.5	5.1	7.1
Bunker Fuel (million toe)	0.3	0.4	0.4	0.6	0.7
Net Import (million toe)	28.4	37.3	54.2	67.6	77.4
Coverage of Domestic Production to Total Consumption (%)	48.1	42.0	33.1	26.9	27.2

# Primary Energy Production – Consumption Balance (2007)



Source: MENR

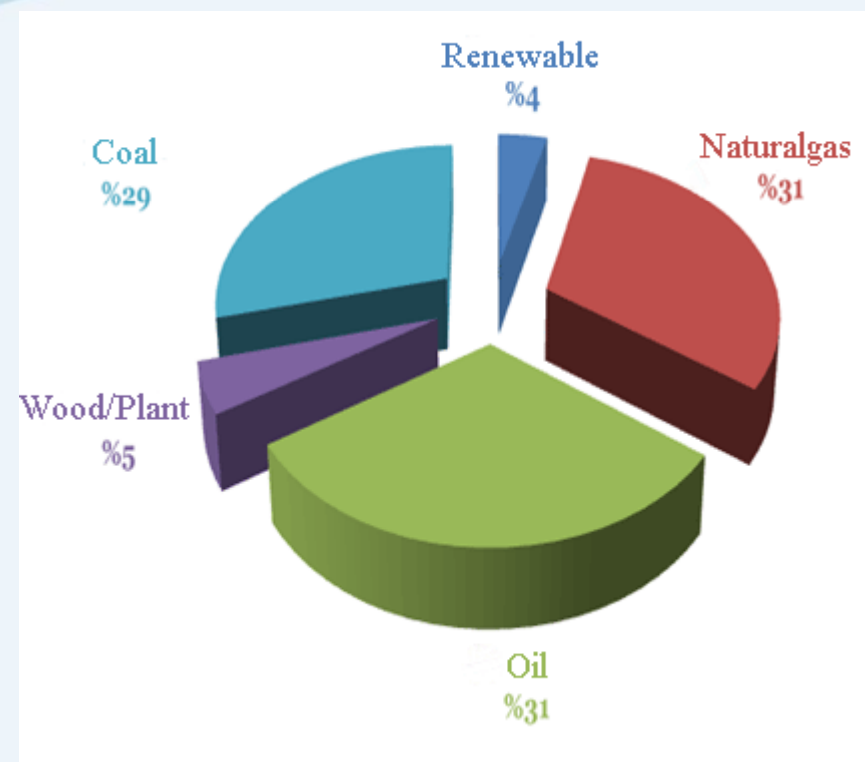
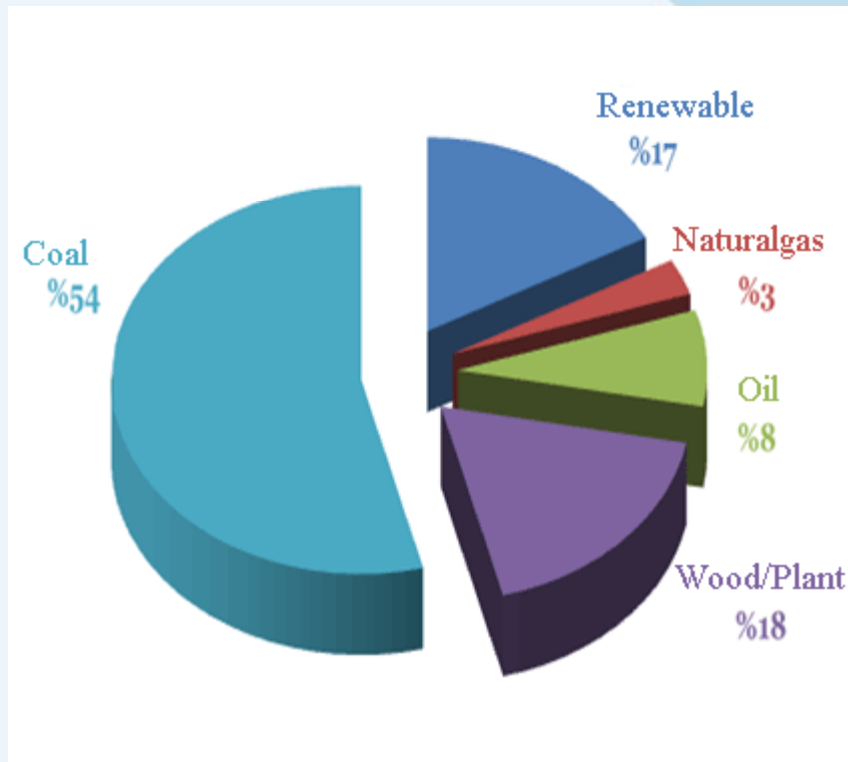
Resources	Coal	Wood & Plant	Oil	Natural Gas	Renewables	Total
Primary Energy Production (million toe)	14.7	4.9	2.2	0.8	4.5	27.4
Share in Primary Energy Production (%)	53.9	18.2	8.2	3.0	16.7	100.0
Primary Energy Consumption (million toe)	30.9	4.9	33.3	33.9	4.5	107.6
Share in Primary Energy Consumption (%)	28.7	4.6	30.9	31.5	4.3	100.0
Coverage of Production to Consumption (%)	47.9	100.0	6.7	2.4	100.0	25.5

# Primary Energy Production – Consumption Balance (2007)



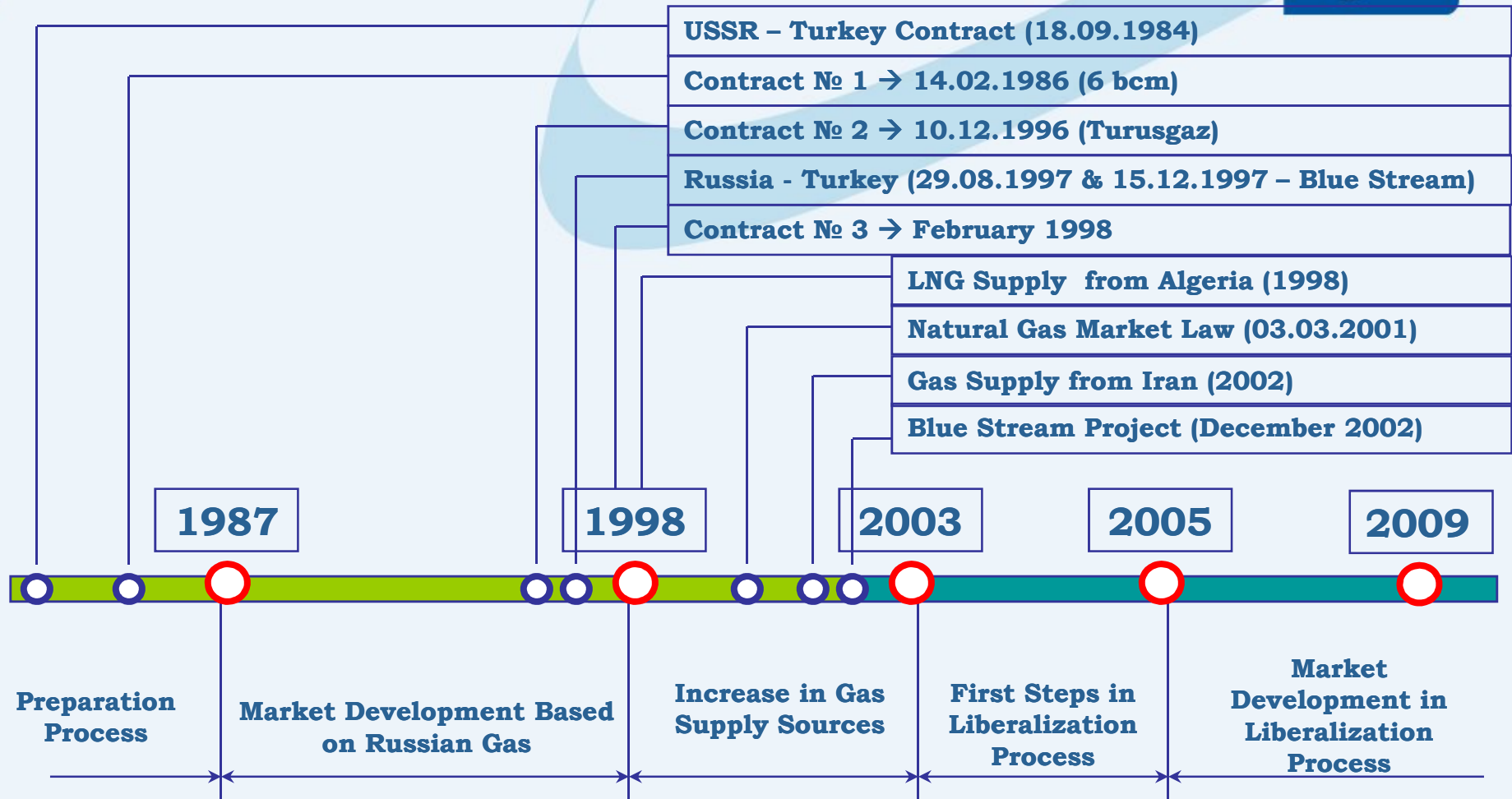
**Distribution of Production**  
(27.4 million toe)

**Distribution of Consumption**  
(107.6 million toe)



**Share of Imported Energy Resources: 75%**

# Development of the Turkish Natural Gas Market



## 2005 - 2010

- 2005 Nov - Contract Release Tender to be done
- 2006 Dec - Announcement of Tender Results
- 2007 Dec - First Private Importer's Access into Market
- 2009 Jan - Second Private Importer's Access into Market
- 2009 Apr - Other Two Private Importers' Access into Market
- 2009 May - LNG Importer's Access into Market
- 2009 Jun/Jul - Wholesale Companies Access into Market
- 2010 Jan - 5 Wholesale Companies in Operation

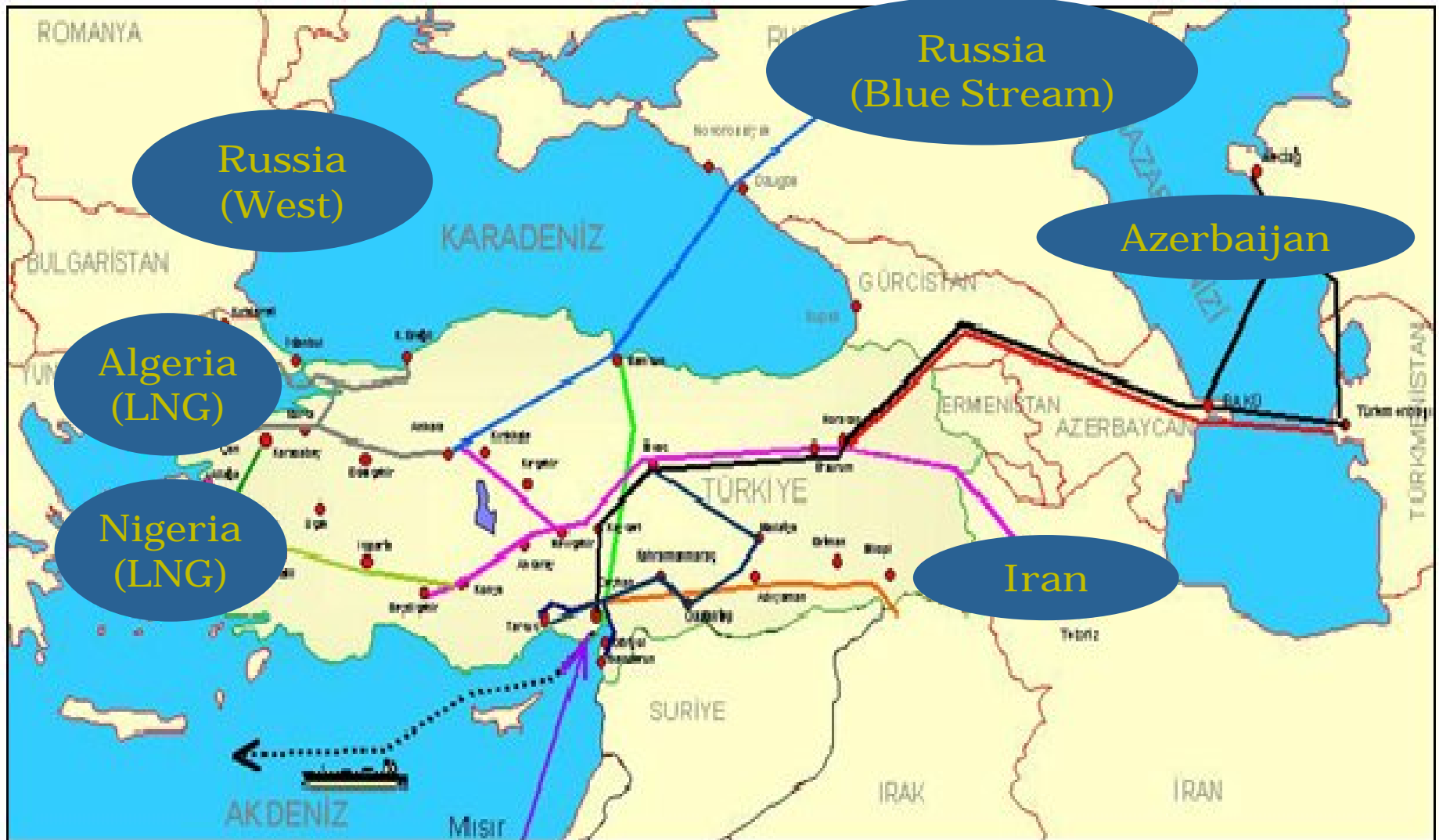
# Gas Purchase Agreements



Contract	Date of Signature	Date of Operation	Duration (Years)	Volume (Plateau bcma)	Date of Expiration
Russia (West)	Feb 1986	Jun 1987	25	6	2011
Algeria (LNG)	Apr 1988	Aug 1994	20	4	2014
Nigeria (LNG)	Nov 1995	Nov 1999	22	1.2	2021
Iran	Aug 1996	Dec 2001	25	10	2026
Russia (B.Stream)	Dec 1997	Feb 2003	25	16	2028
Russia (West)	Feb 1998	Mar 1998	23	8	2021
Azerbaijan	Mar 2001	Jul 2007	15	6.6	2022



# Gas Supply Sources



# Distribution of Gas Import Based on Source Country (2008 – 2009)



	<u>2008</u>	→	<u>2009</u>
<b>Russia</b>	<b>23,159 (60,5%)</b>		<b>19,894 (55,6%)</b>
<b>Iran</b>	<b>4,113 (10,7%)</b>		<b>5,253 (14,8%)</b>
<b>Azerbaijan</b>	<b>4,580 (12,0%)</b>		<b>4,960 (13,8%)</b>
<b>Others</b>	<b>6,465 (16,8%)</b>		<b>5,648 (15,8%)</b>
<hr/>			
	<b>38,317 bcm</b>	→	<b>35,755 bcm</b>
			<b>(- 6,7 %)</b>

# Distribution of Gas Imports Between State and Private Sector (2008 – 2009)



2008

2009

**BOTAS**

**38,120 (%99,5) → 33,068 (%92,5)**

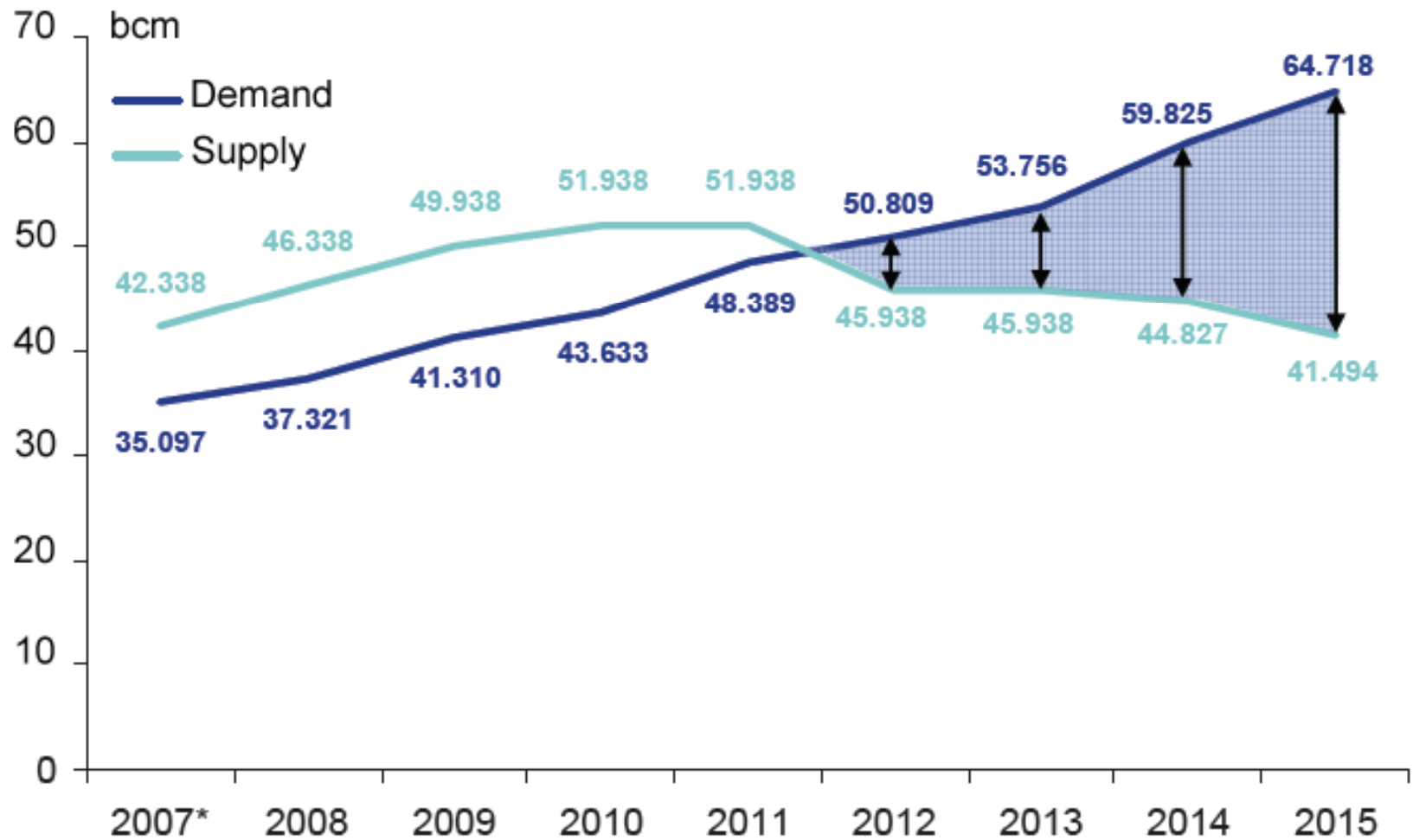
**Private Co's**

**0,197 (%0,5) → 2,687 (%7,5)**

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**38,317 → 35,755**

# Gas Supply – Demand Balance (2007 – 2015)





THANK YOU...