World & Turkey Energy Outlook

EIF
24.11.2014 – Ankara

Aytaç Eren
Yönetim Kurulu Başkanı

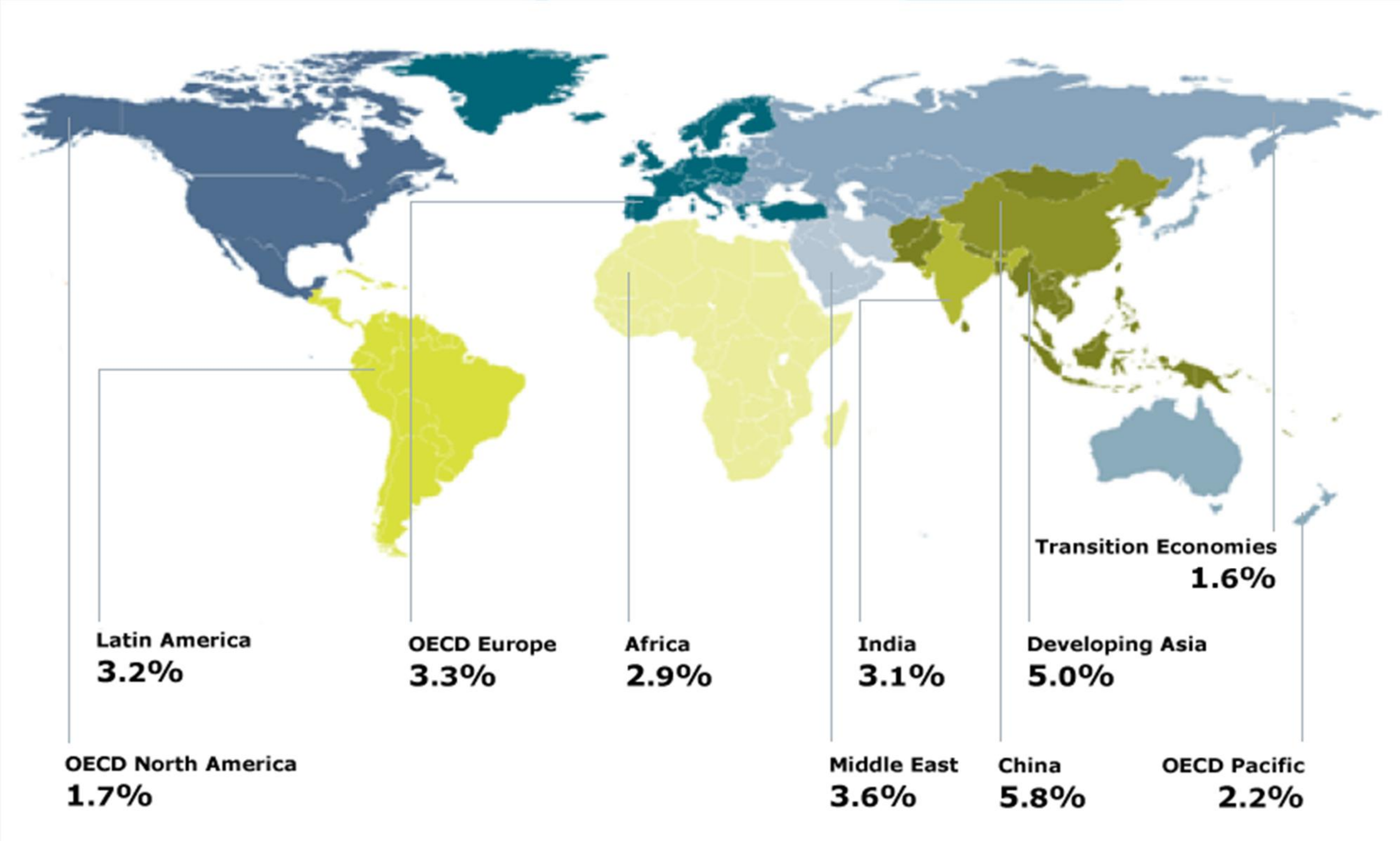
About PETFORM

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. Member companies mainly have activities in 2 sectors:

- Exploration & Production Sector
- Natural Gas Market

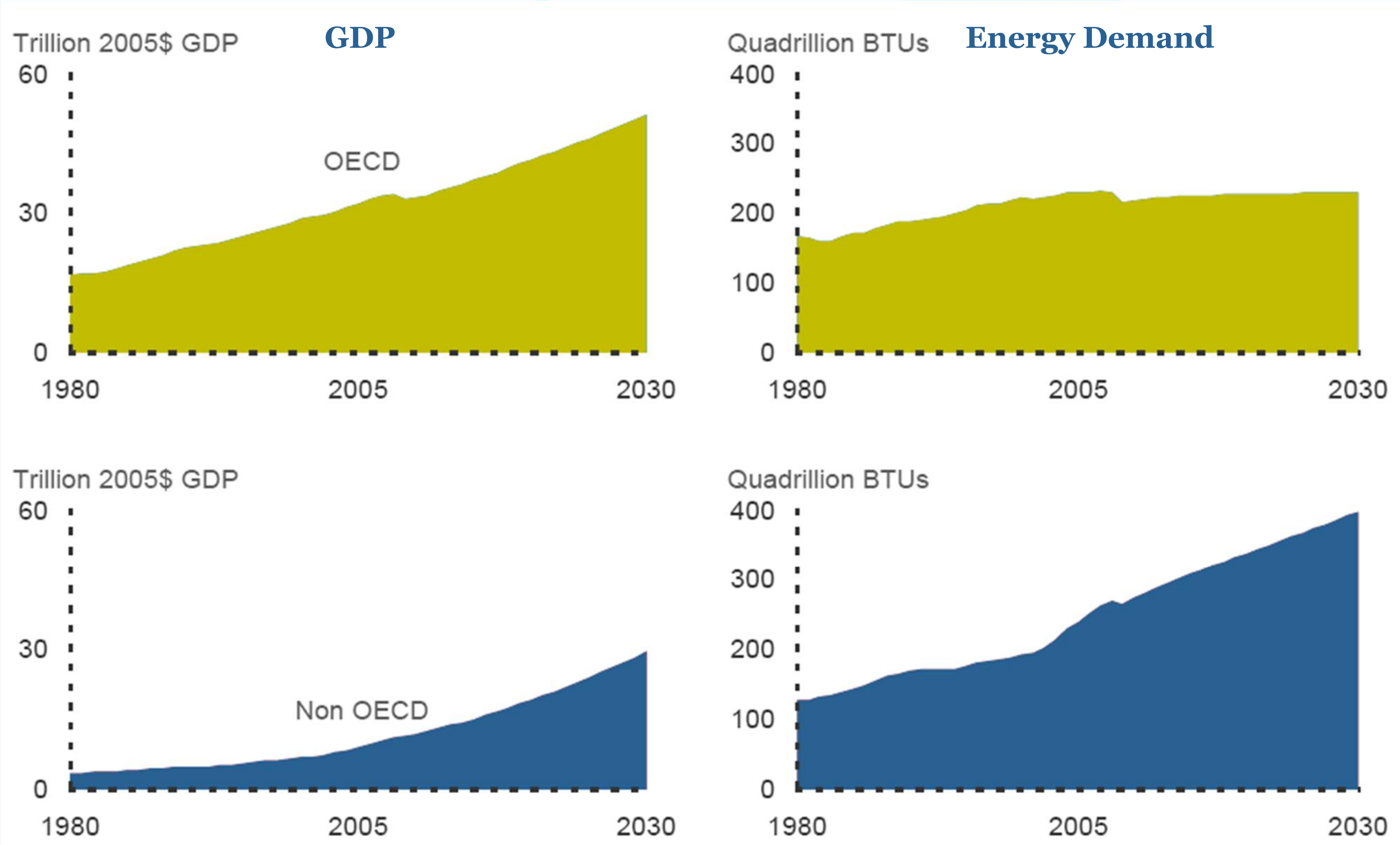
World Energy Outlook

World GDP Development (2005 – 2050)



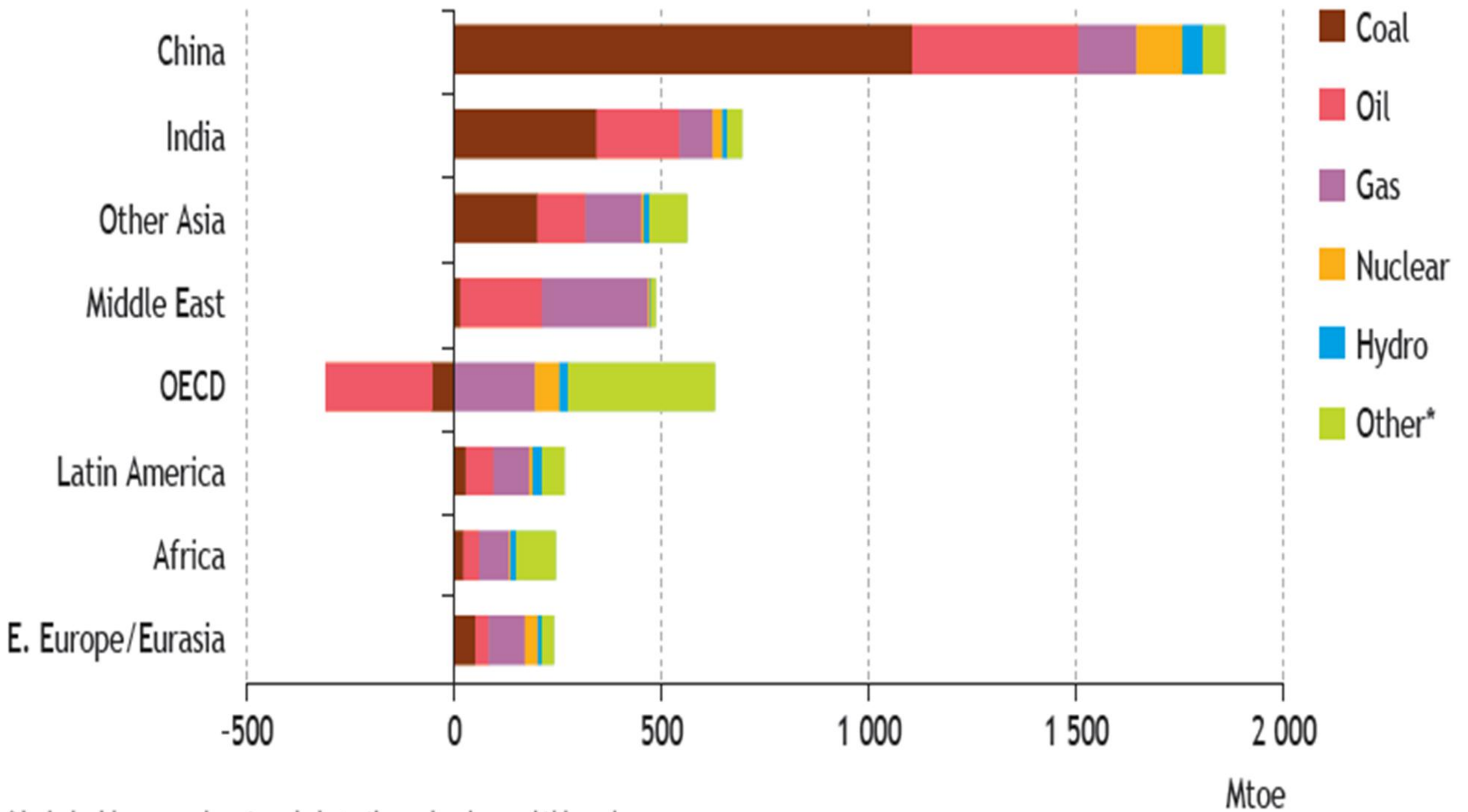
Kaynak: IEA

GDP & Energy Demand Increase (1980 – 2005 – 2030)



Kaynak: ExxonMobil

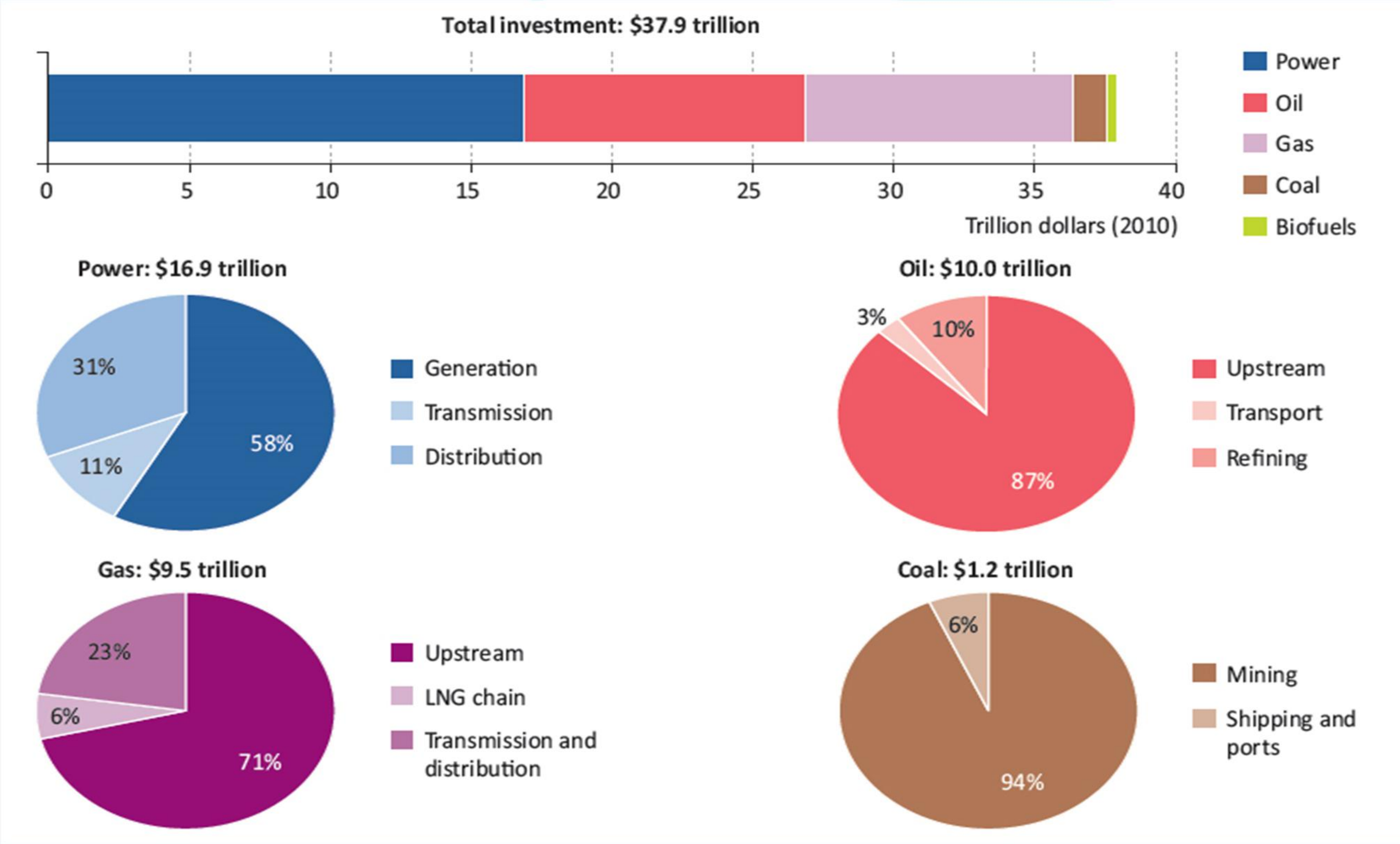
Distribution of Primary Energy Resources - I (2007 – 2030)



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

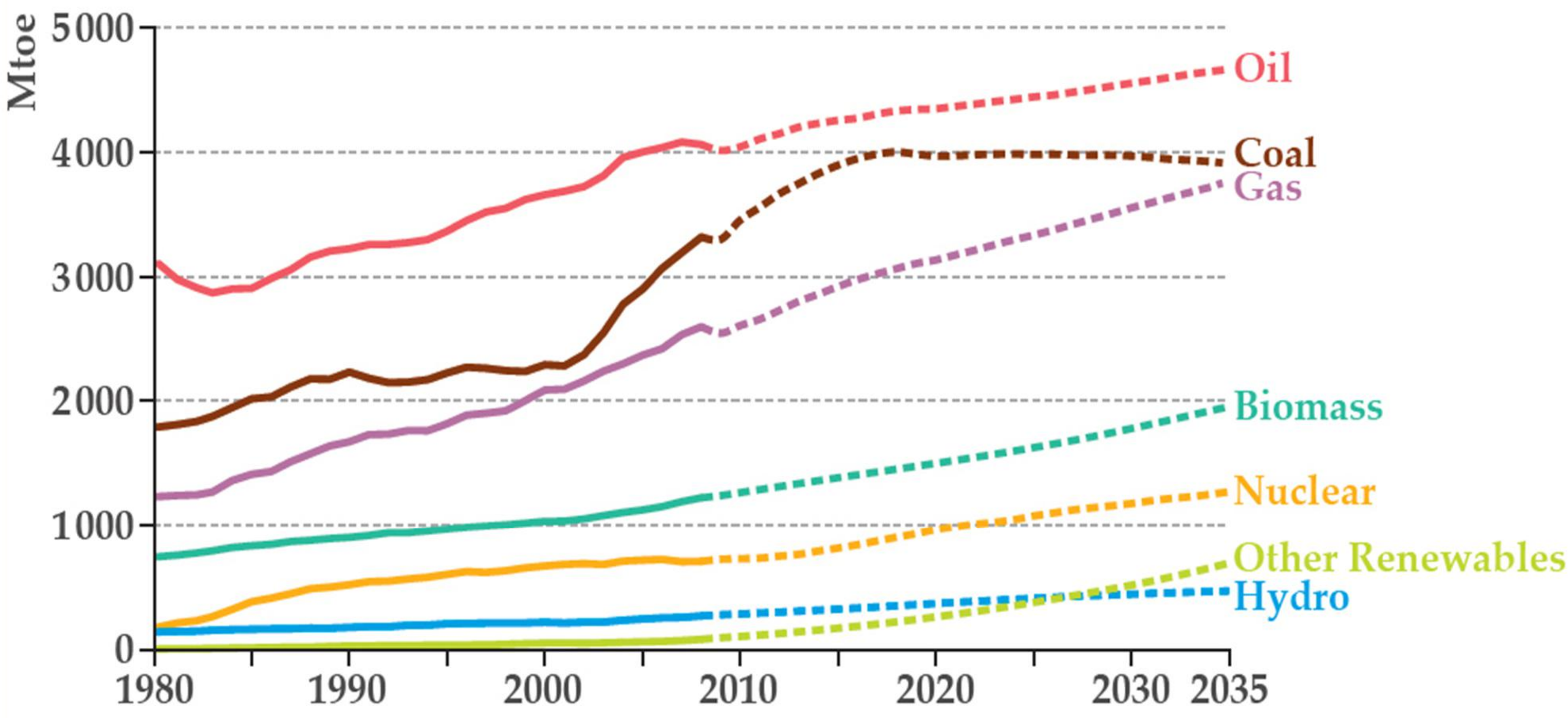
Kaynak: IEA

World Energy Investments Need (2011 – 2035)



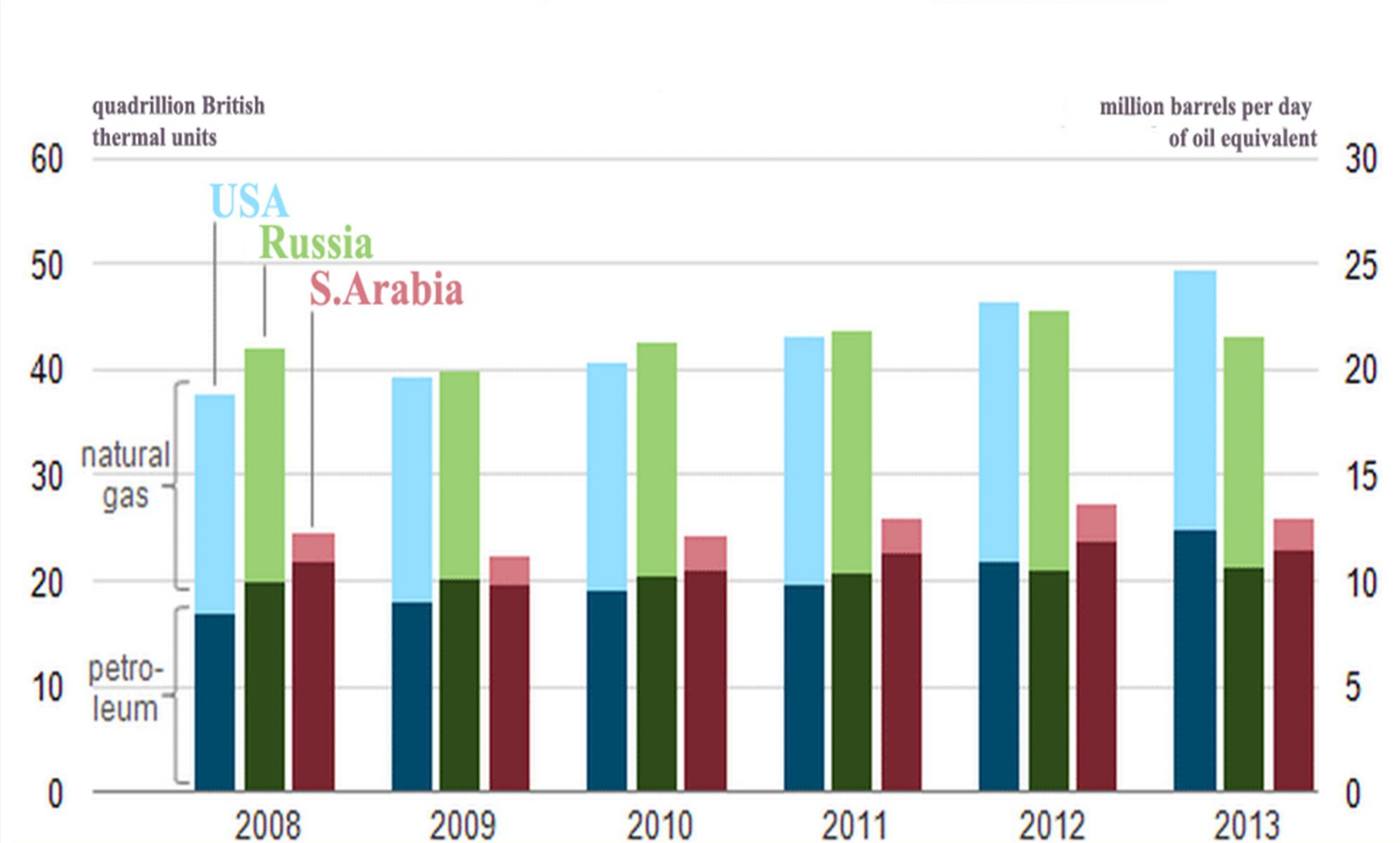
Kaynak: IEA

Distribution of Primary Energy Resources - II (2007 – 2030)



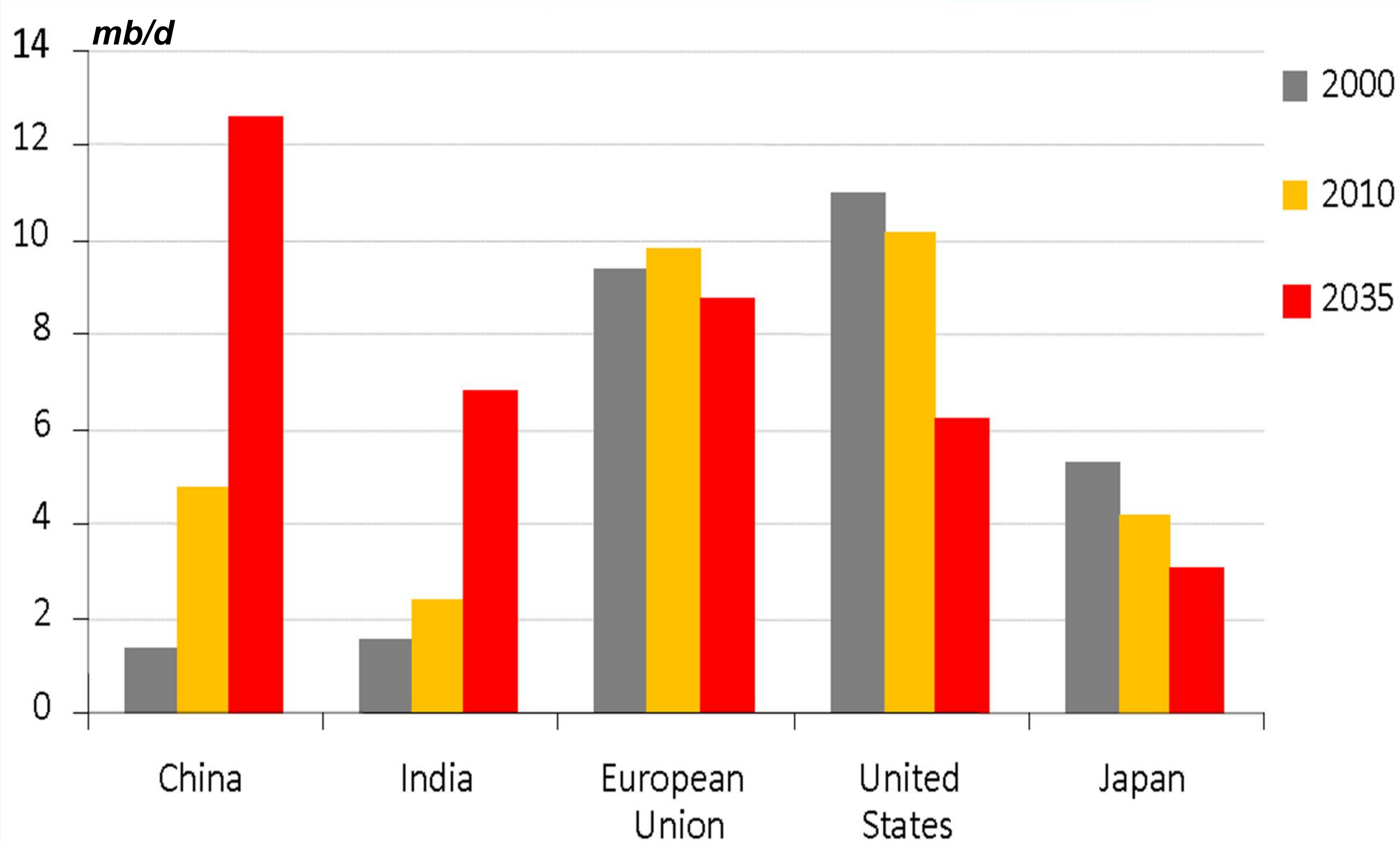
Kaynak: IEA

Saudi America



Kaynak: EIA

Changes in Net Petroleum Import (2000 – 2035)



Kaynak: IEA

Future Trends

- Hydrocarbon energy resources will remain as the dominant element in the energy mix
- Despite the fact that slowing growth rates of China and India, non-OECD countries will be the major drivers of global energy demand
- Shale Gas and Tight Oil production will remain effecting global energy system
- Transition from oil indexed pricing system to hub based pricing system in natural gas trade will expand
- New actors will include to game in energy geopolitics

Turkey Energy Outlook

Turkey's Overall Energy Balance (1990 – 2013)

	1990	2013	Change
Total Energy Demand *(million toe)*	52.9	119.5	↑ 118% ↑
Total Domestic Production *(million toe)*	25.6	29.2	↑ 26% ↑
Total Energy Imports *(million toe)*	30.9	90.3	↑ 192% ↑
Coverage of Domestic Production to Total Consumption	48%	28%	↓ - 42% ↓

Source: ETKB

Oil Imports by Source Country (2011–2012–2013)

(thousand million tons)	2011	2012	2013	Share in Total (2013)
Iran	9.287	7.561	5.256	%28
Iraq	3.071	3.739	6.000	%32
Saudi Arabia	1.965	2.823	2.754	%15
Russia	2.131	2.113	1.462	%8
Kazakhstan	1.186	1.414	1.545	%8,5
Others	0,452	1,835	1.537	%8,5
Total	18.092	19.485	18.554	

Source: EMRA

Gas Imports by Source Country (2011–2012–2013)

(bcm)	2011	2012	2013	Share in Total (2013)
Russia	25.406	26.491	26.212	58 %
Iran	8.190	8.215	8.730	19 %
Azerbaijan	3.806	3.354	4.245	9 %
Algeria (LNG)	4.156	4.076	3.917	9 %
Nigeria (LNG)	1.248	1.322	1.274	3 %
Spot LNG	1.069	2.464	892	2 %
Total	43.874	45.922	45.270	

Source: EMRA

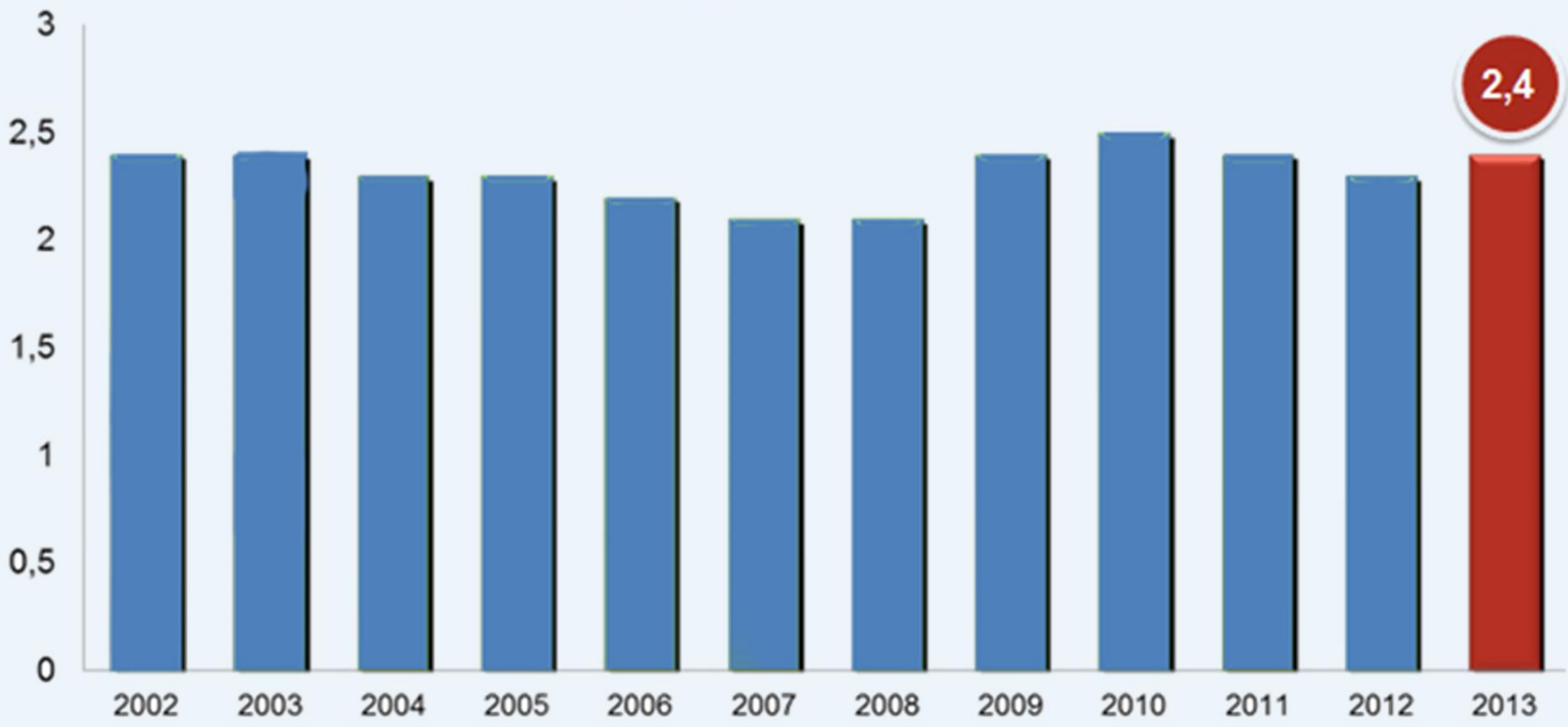
Share of Energy in Turkey's Total Imports (2009 – 2013)

(billion USD)	2010	2011	2012	2013
Crude Oil & Petroleum Products	20,6	29,2	31,5	29,4
Natural Gas	14,1	20,2	23,2	21,2
Coal	3,3	4,1	4,6	4,3
Total Energy Imports	38,5	54,1	60,1	55,9
Turkey's Total Imports	185,5	240,8	236,5	251,6
Share of Oil & Gas in Turkey's Total Imports	%18,7	%20,5	%23,1	%22,2

Source: Ministry of Economy

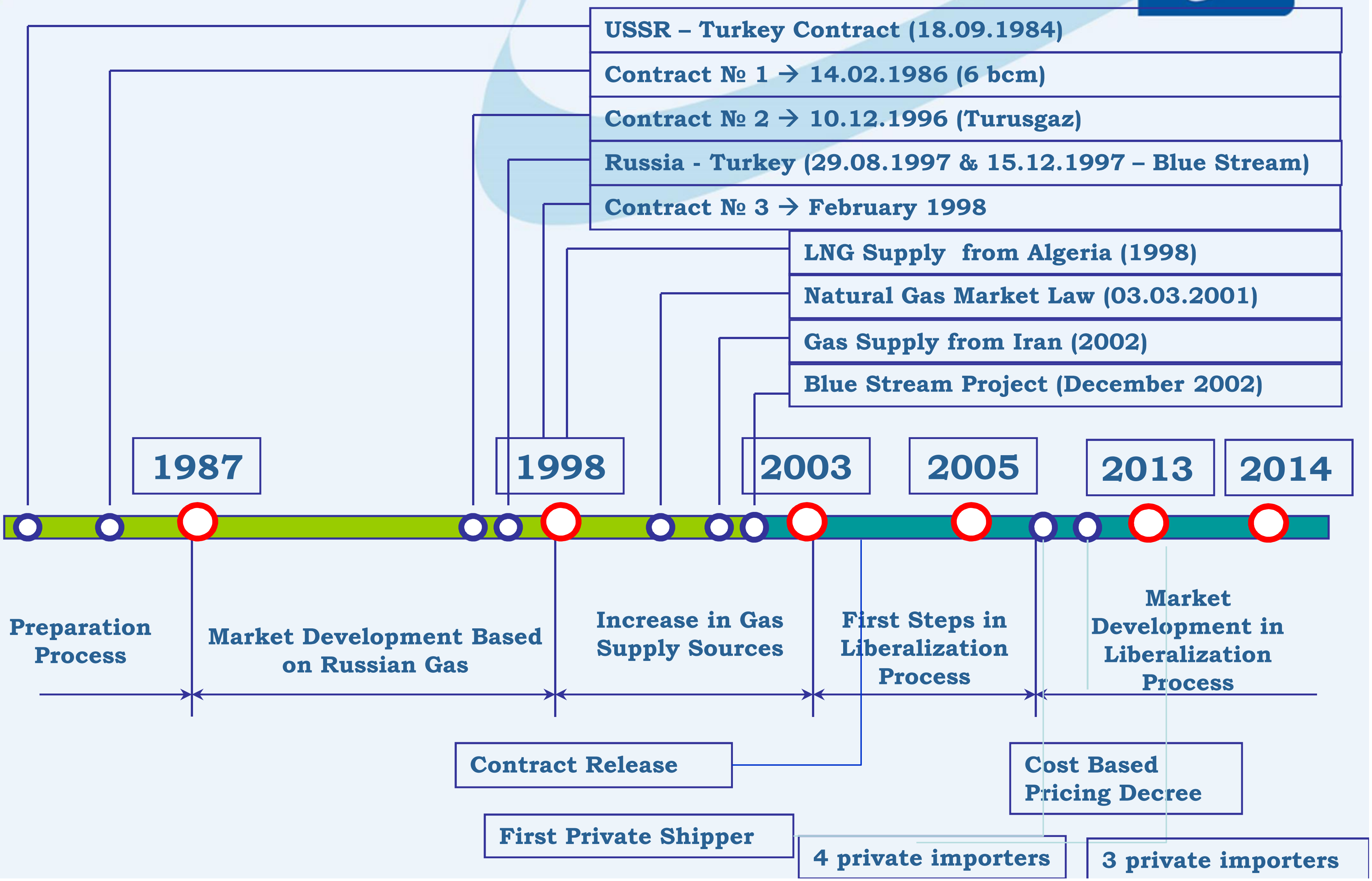
Crude Oil Production (2002 - 2013)

Average daily production is 44 thousand barrels. The rate of production's meeting consumption is 8 %.

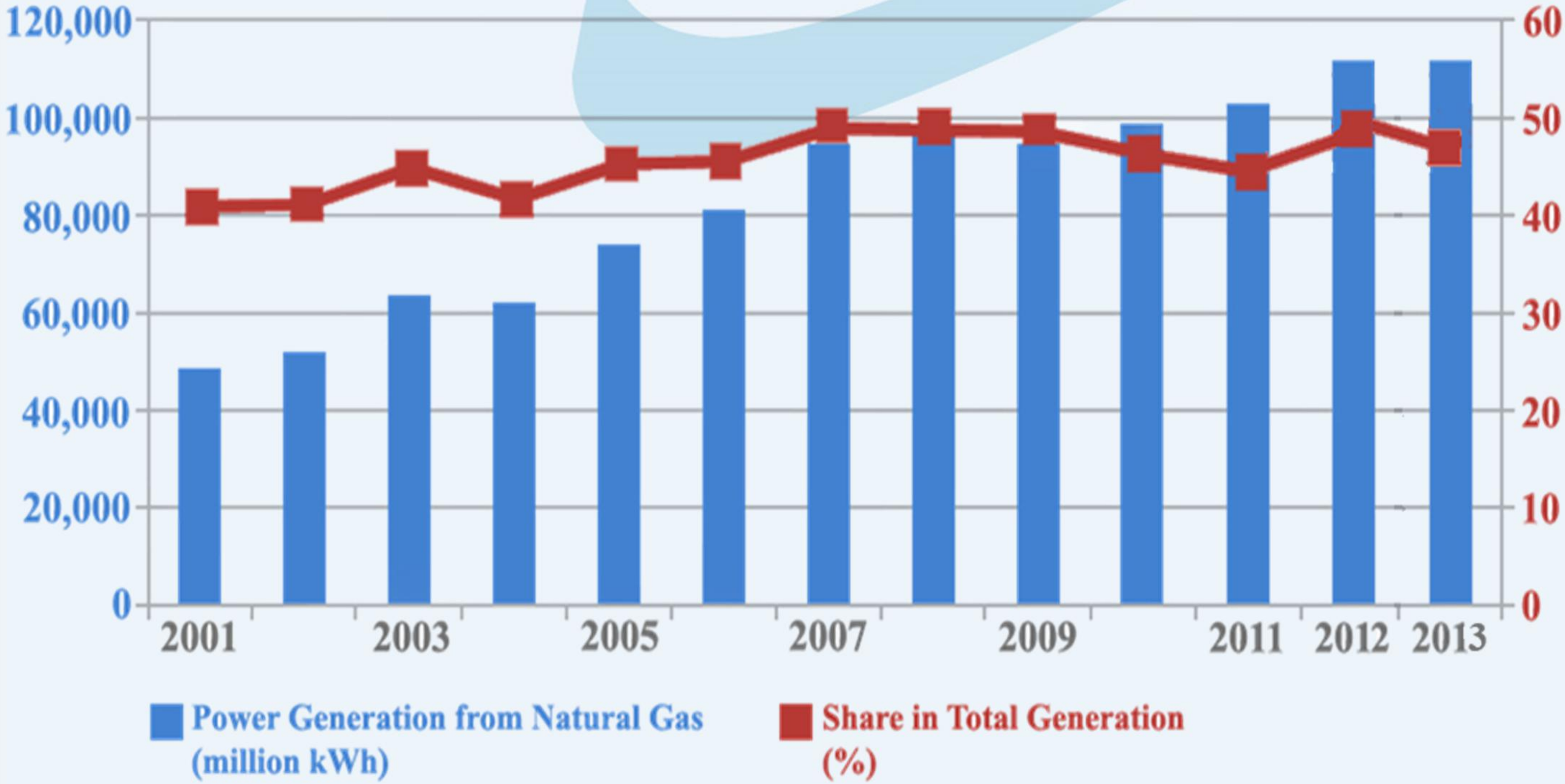


Source: PİGM

Development Process of Turkish Natural Gas Market

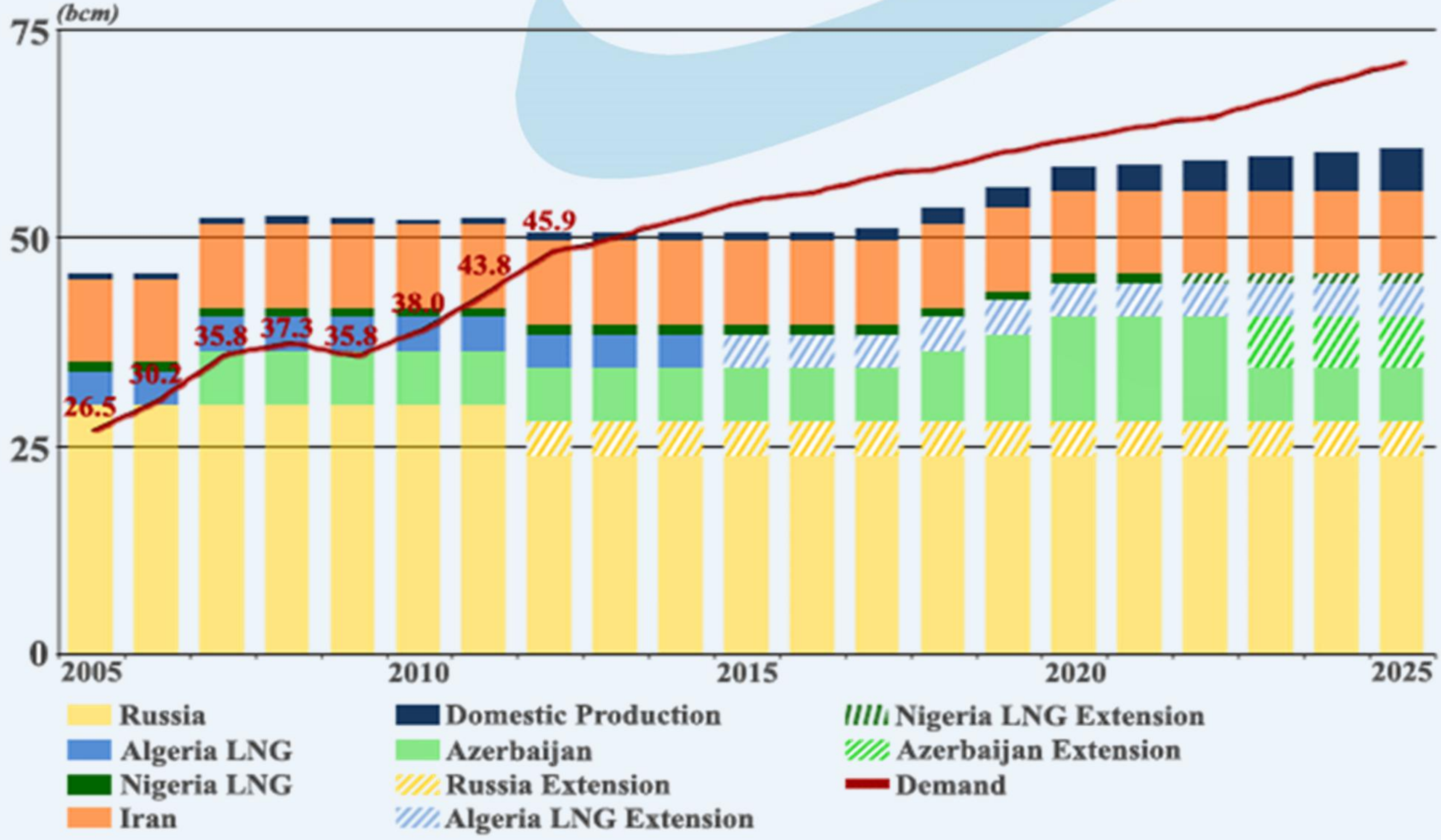


Natural Gas in Power Generation (2001 – 2013)



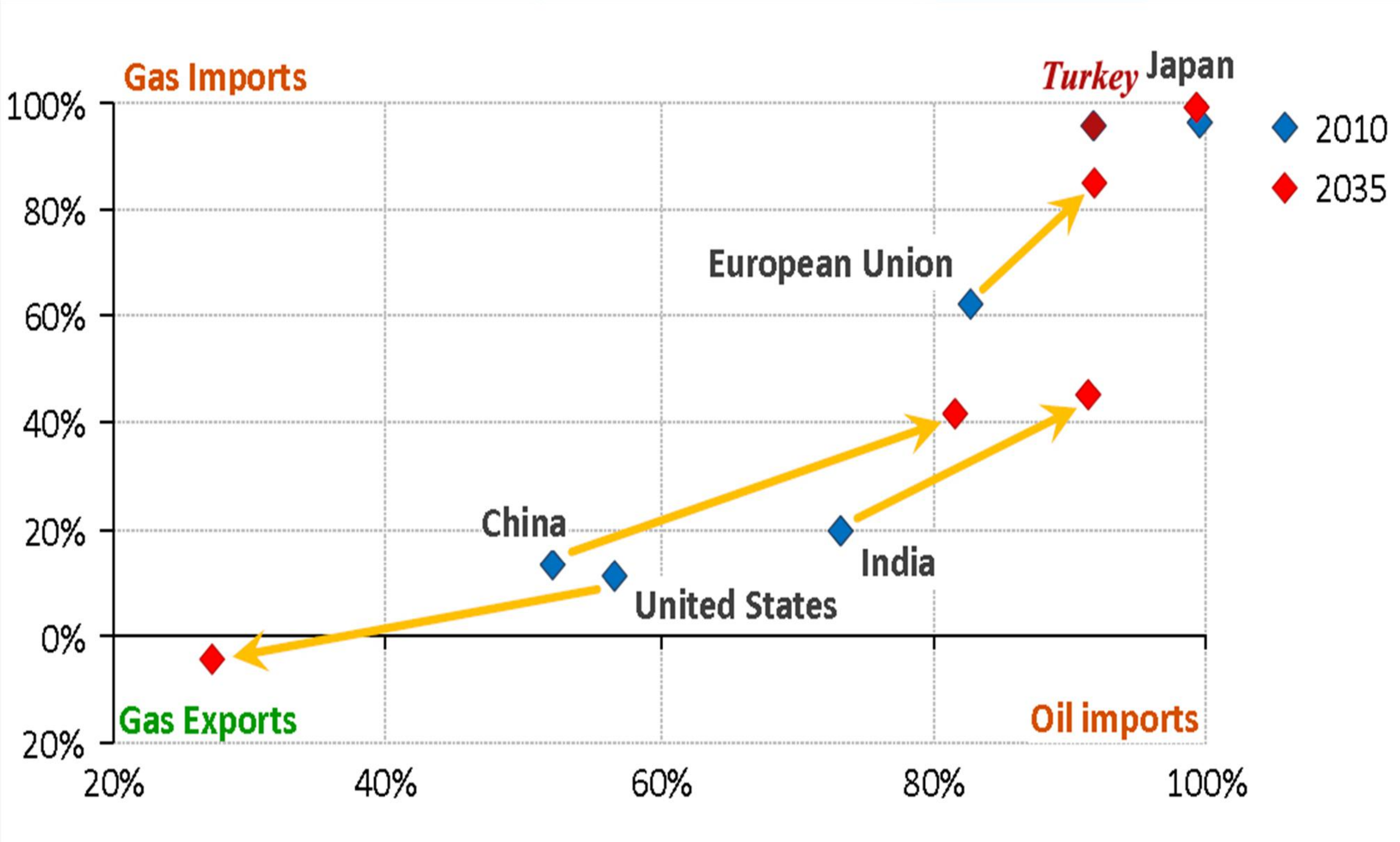
Source: EMRA

Natural Gas Demand vs Supply (2005 – 2025)



Source: BP

Import Dependency Ratios to Oil & Gas (2010 – 2035)



Source: IEA

PETFORM's Recommendations for E&P Sector

1. Turkey's onshore and offshore hydrocarbon potential should be examined, particularly in sedimentary basins.
2. New drilling investments should be promoted with incentives.
3. TPAO's offshore exploration projects with major companies should be intensified.
4. Well-disciplined project teams using state-of-the-art technology should be formed.
5. New Licensing tenders should be executed in competitive and transparent way.
6. Technical data on sedimentary basins should be classified for each basin and digitalized.

PETFORM's Recommendations for Natural Gas Market

1. Establishment of natural gas trading hub based on free market pinciples, therefore, removal of subsidies and cross-subsidies
2. Legal, technical and commercial ground for Gas Hub / Gas Trading
3. Removal of financial, legal, and technical restrictions for private sector's imports and natural gas trade
4. Decreasing Botaş market share
5. Legal unbundling of BOTAŞ
6. Completion of IT (EBB & Scada) and technical infrastructure investments in a timely manner
7. Draft Gas Market Law should be amended as per liberal market principles