

PETFORM

10. Yıl

# “Turkish E&P Sector in Light of Global Energy Trends”

*Nusret Cömert*  
*Chairman of the Board*

STEAM 12<sup>th</sup> Energy Arena  
Istanbul

October 14, 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, Turkish Petroleum Law...)**

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

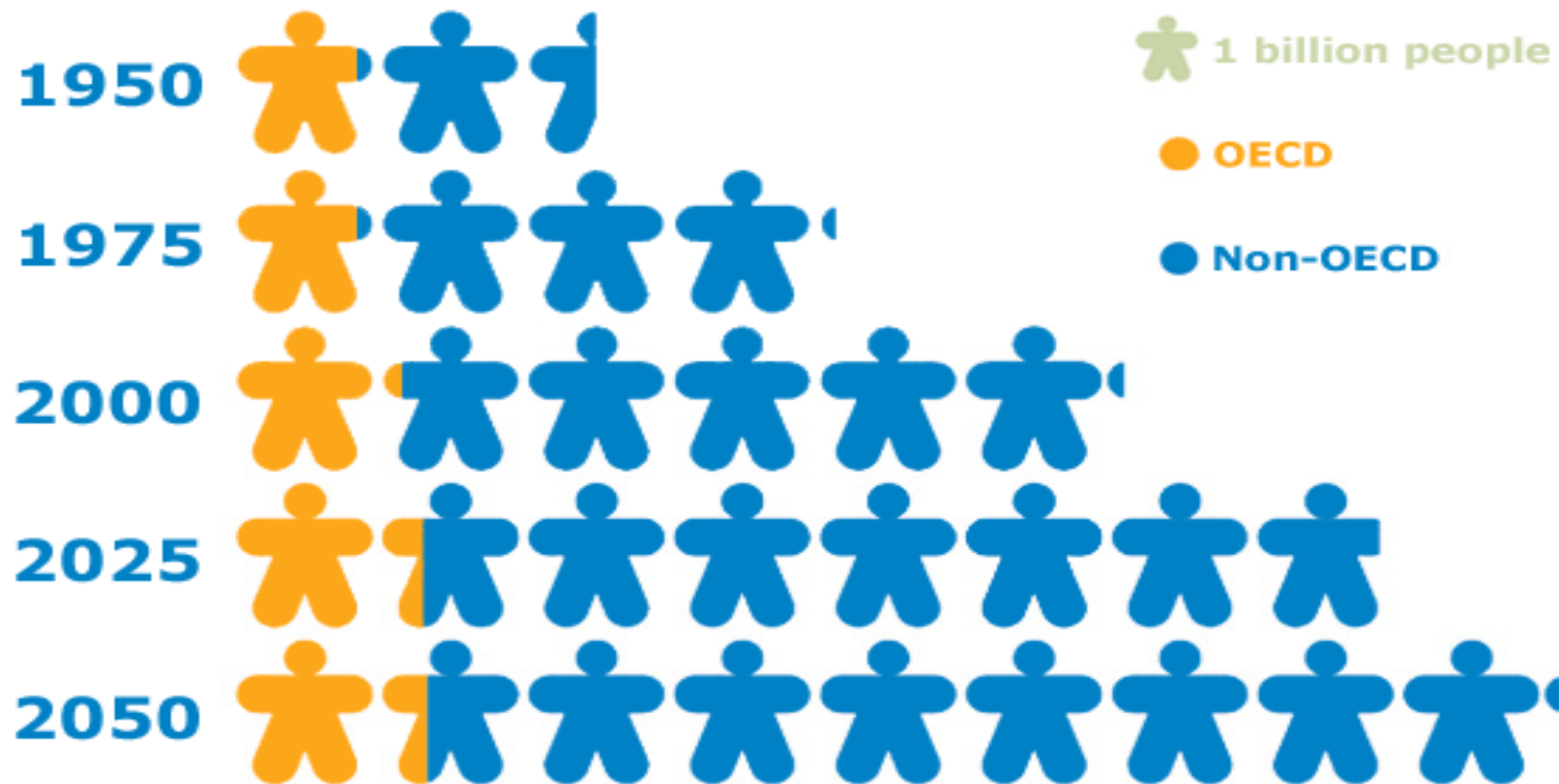
- Exploration & Production**
- Natural Gas Market**

# PETFORM Member 42 Energy Companies

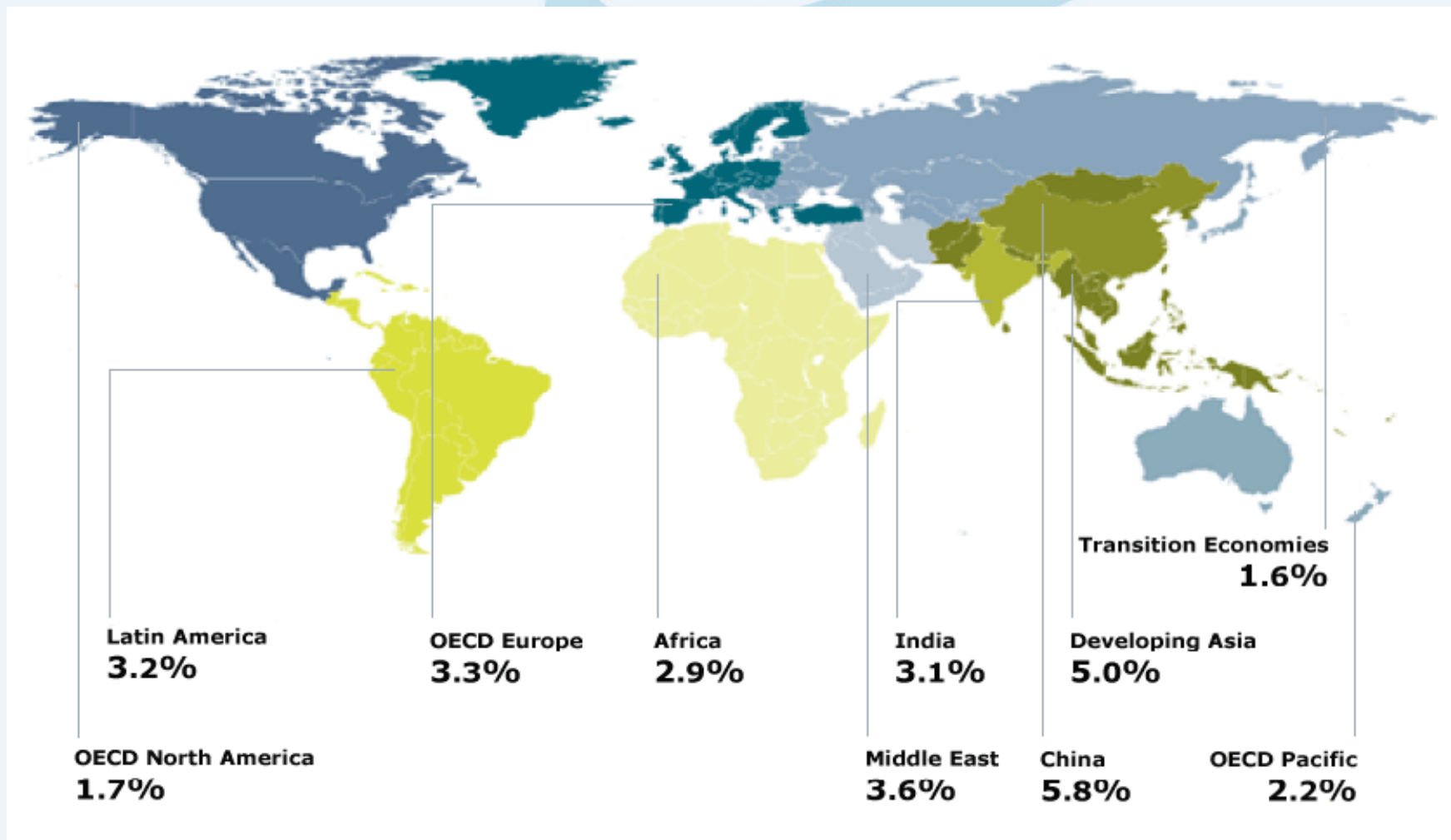


- AKENERJİ
- AKSA
- ALADDIN MIDDLE EAST
- ATTİLA DOĞAN İNŞAAT
- AVRASYA GAZ
- AYGAZ DOĞAL GAZ
- BM İNŞAAT
- BOSPHORUSGAZ
- BP
- ÇALIK ENERJİ
- DOĞAL ENERJİ
- EDISON
- EGE GAZ
- ENEL
- ENERCO ENERJİ
- ENERJİSA
- ENI
- E.ON RUHRGAS
- EWE ENERJİ
- GENEL ENERJİ
- GÜNEY YILDIZI PETROL
- IBS RESEARCH
- NATURGAZ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

# World Population Growth (1950 – 2050)



# World GDP Growth (2005 – 2050)

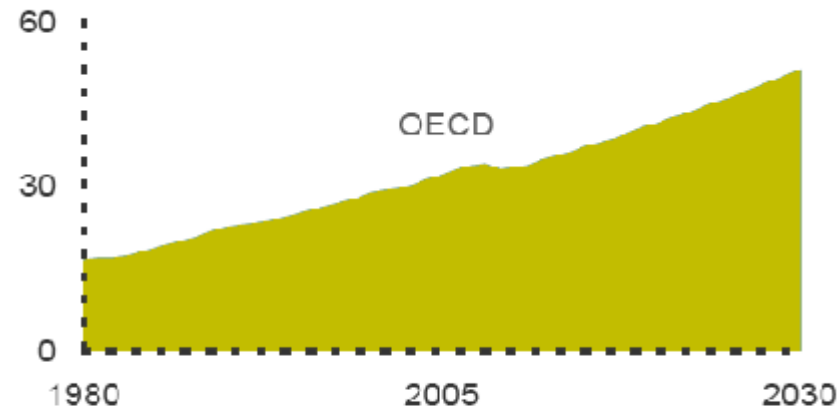


# GDP & Energy Demand Growth (1980 – 2005 – 2030)



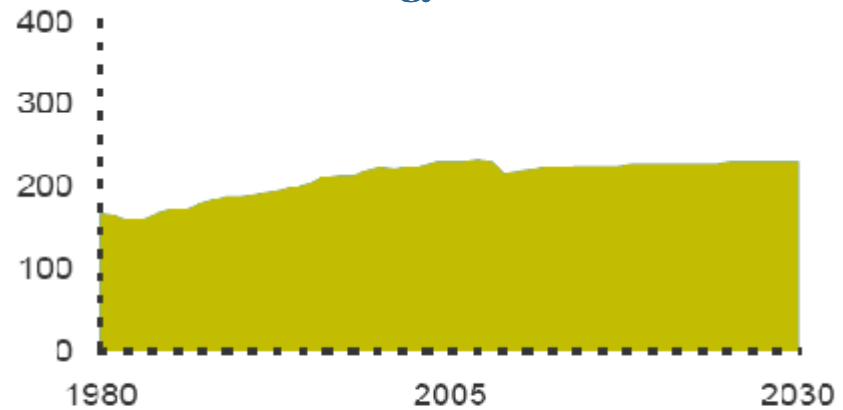
Trillion 2005\$ GDP

**GDP**



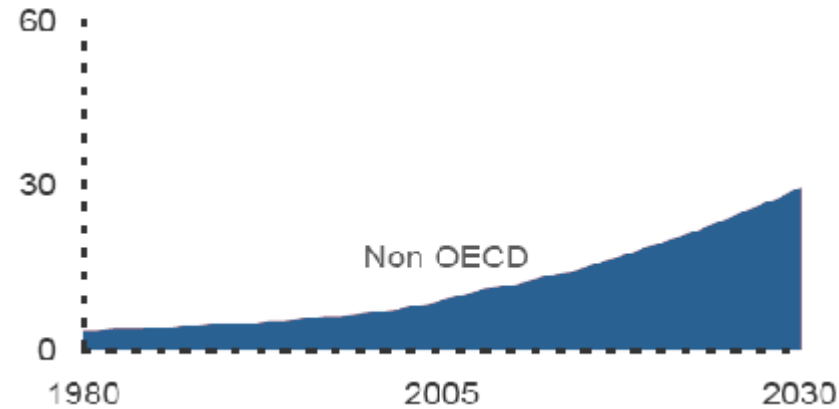
Quadrillion BTUs

**Energy Demand**

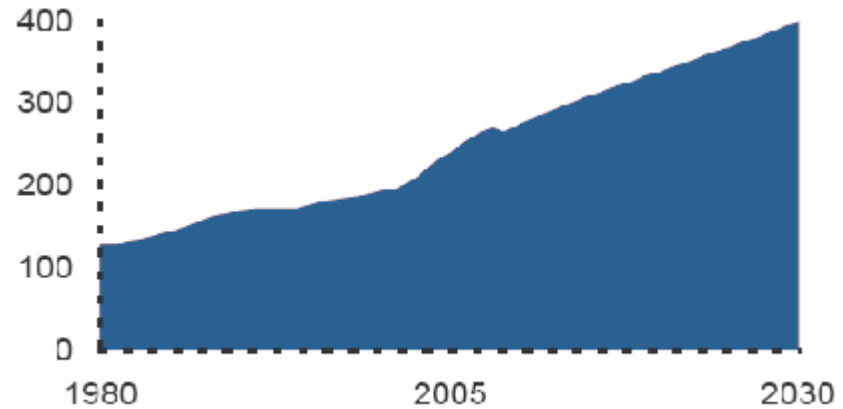


Trillion 2005\$ GDP

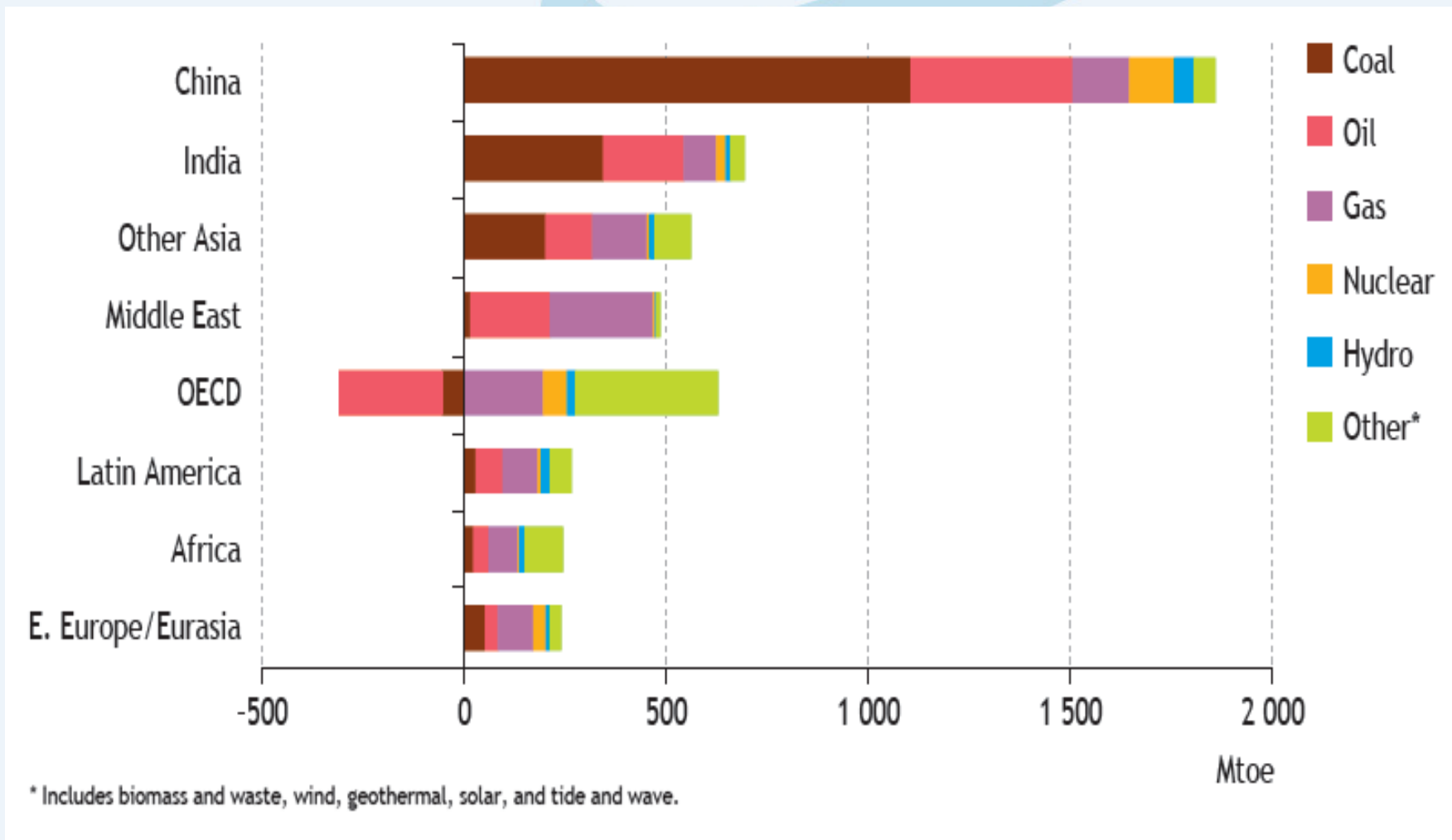
**Non OECD**



Quadrillion BTUs



# World Primary Energy Demand (2007 – 2030)

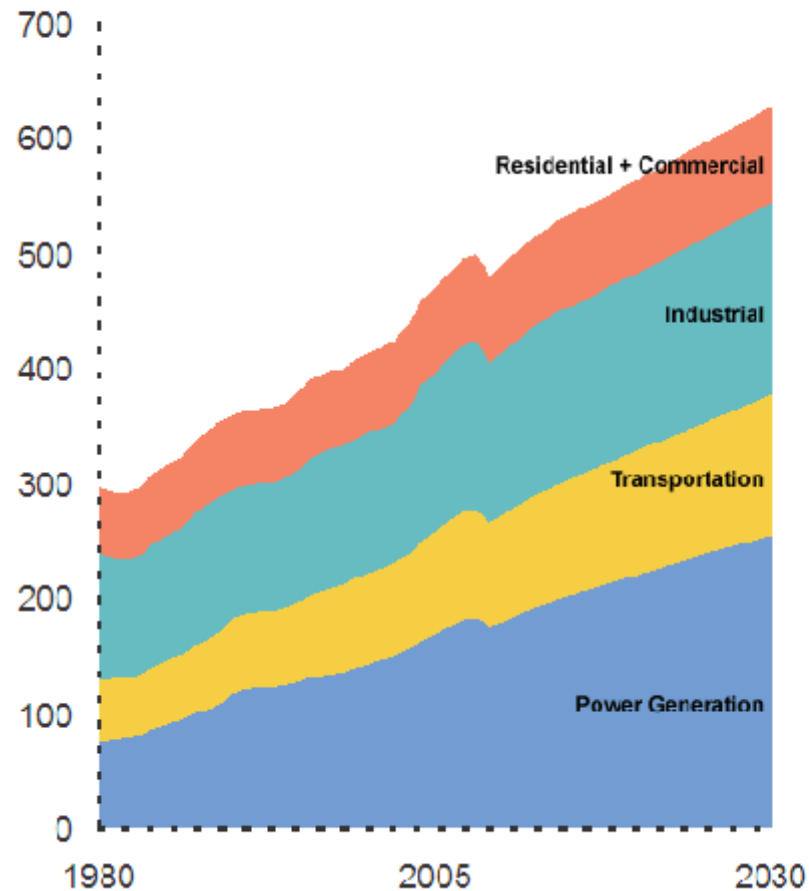


\* Includes biomass and waste, wind, geothermal, solar, and tide and wave.

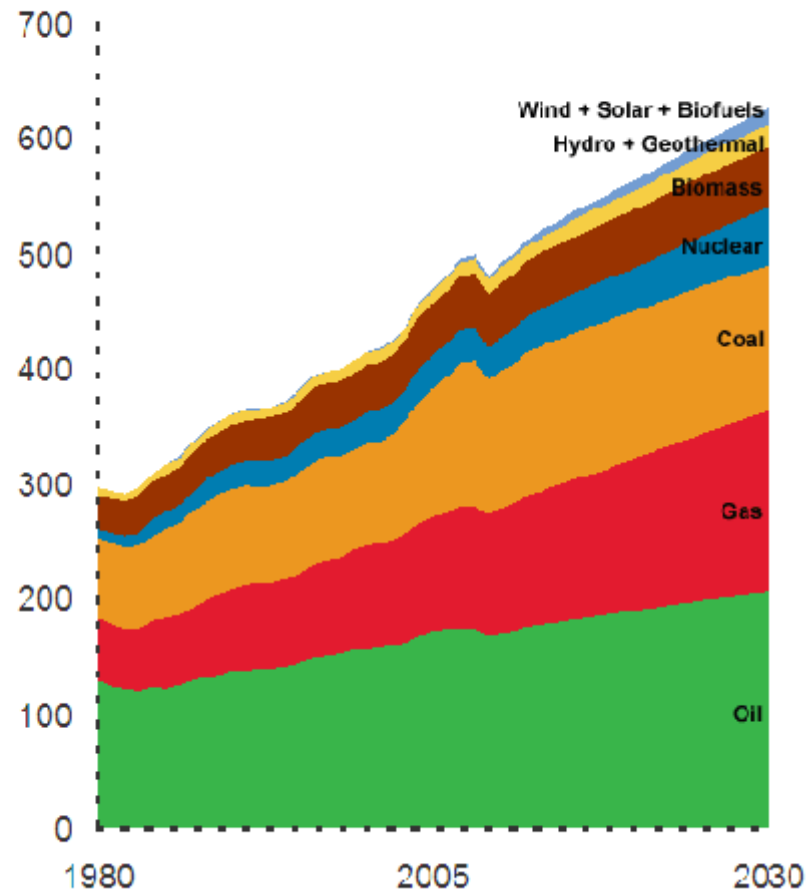
# Energy Demand By Sector & By Fuel (1980 – 2005 – 2030)



Quadrillion BTUs **By Sector**



Quadrillion BTUs **By Fuel**



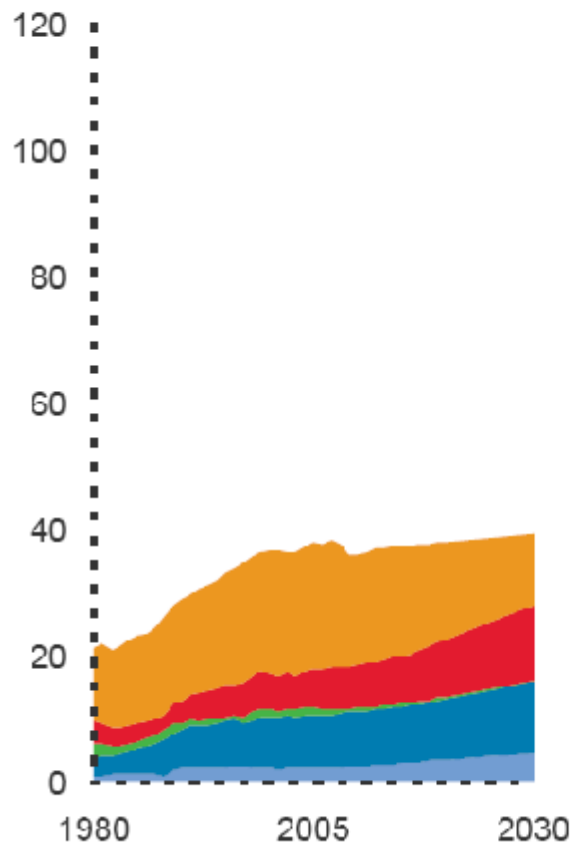


# Power Generation Fuel Demand (1980 – 2005 – 2030)



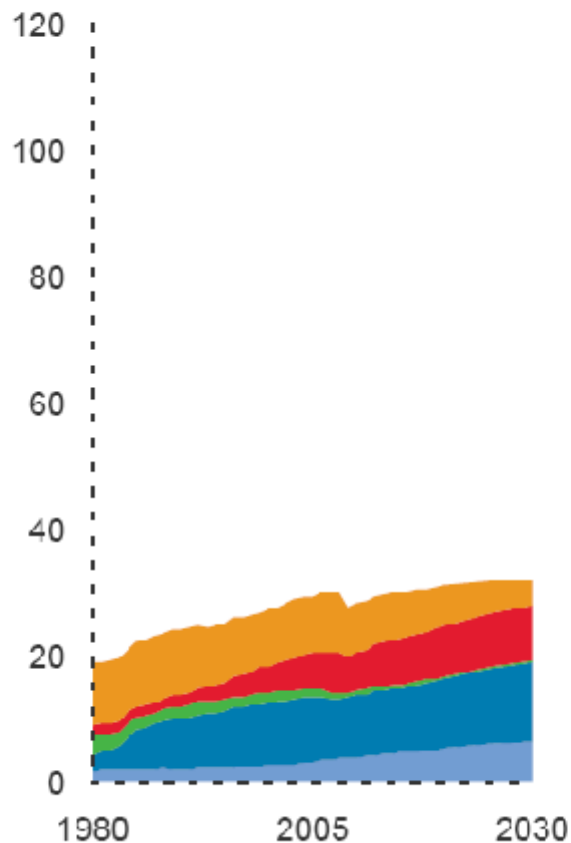
## United States

Quadrillion BTUs



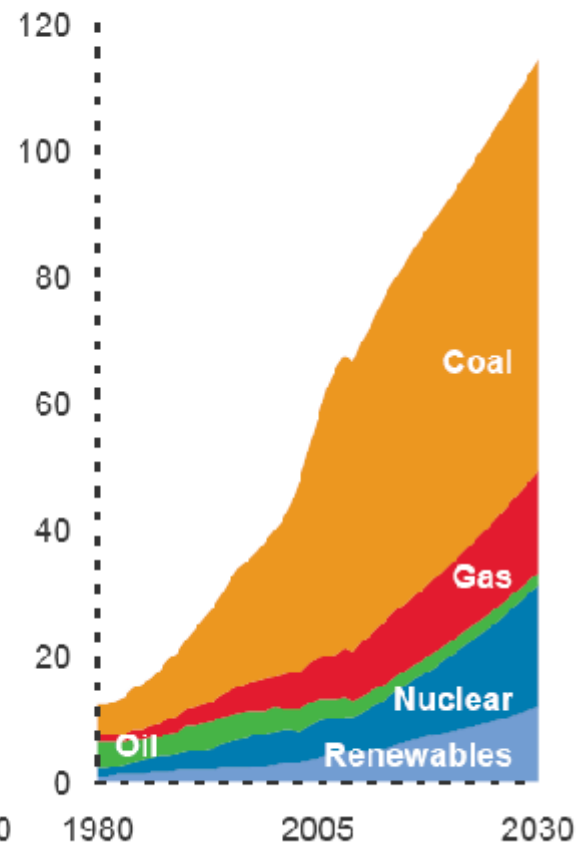
## Europe OECD

Quadrillion BTUs



## Asia Pacific

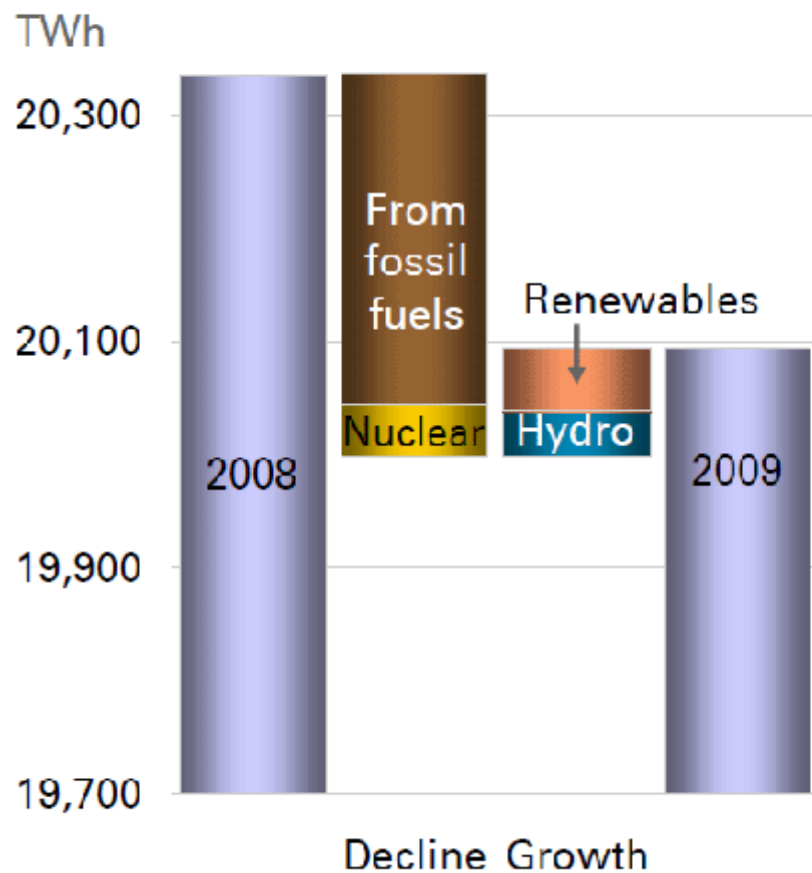
Quadrillion BTUs



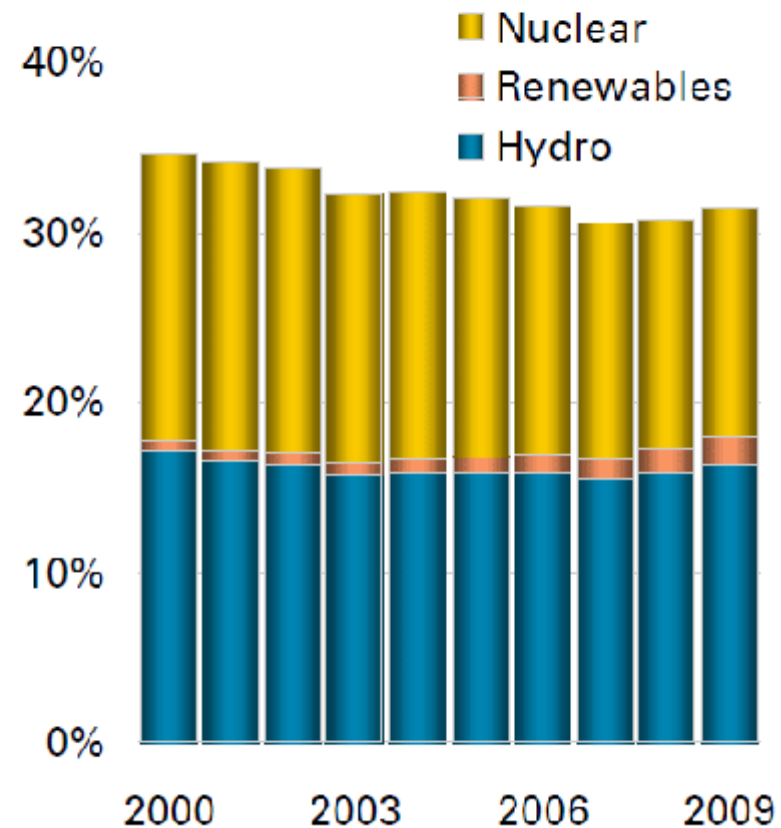
# Share of Non-Fossil Fuels in Power Generation



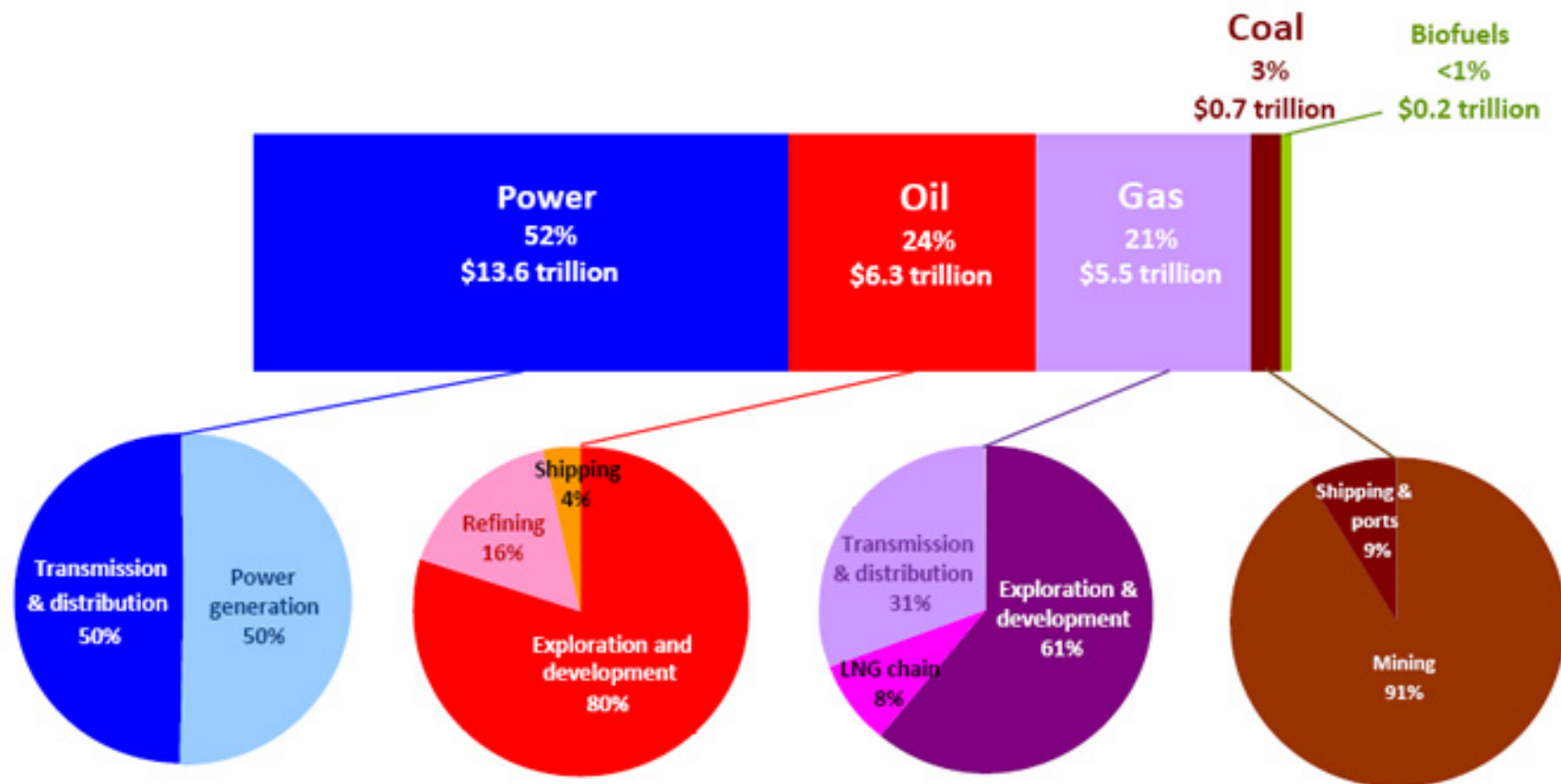
Total electricity generation



Share of total generation



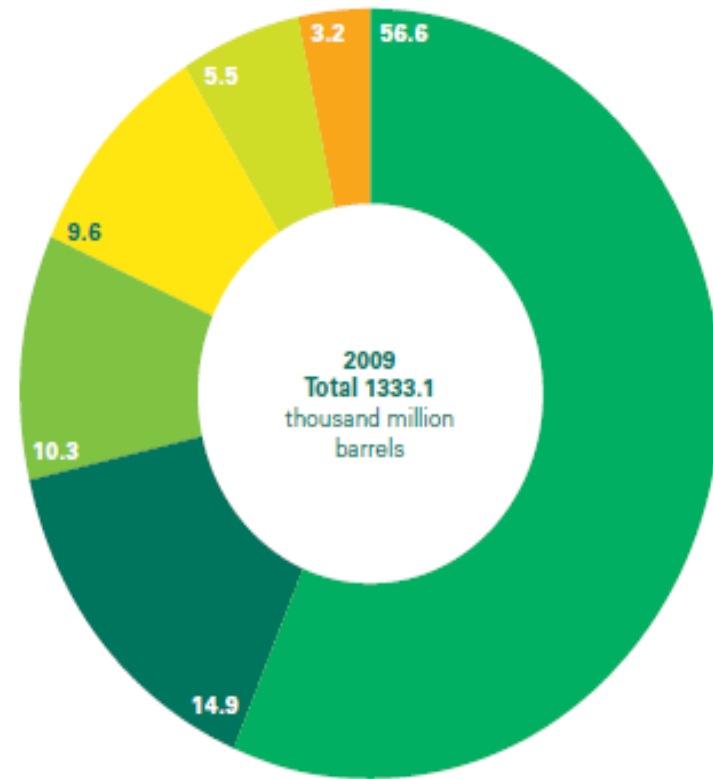
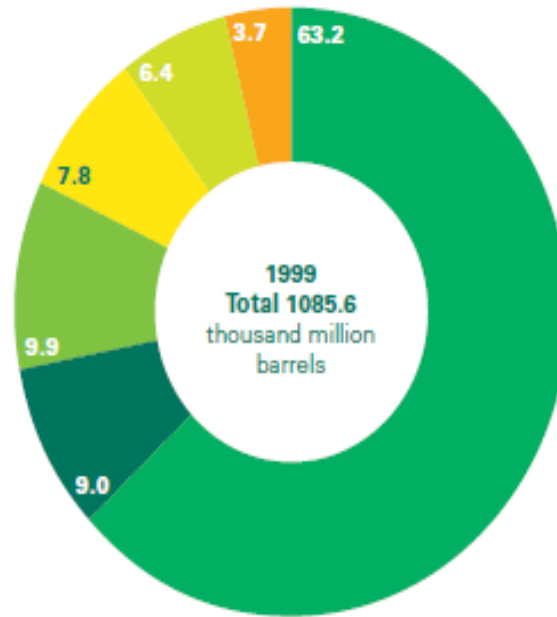
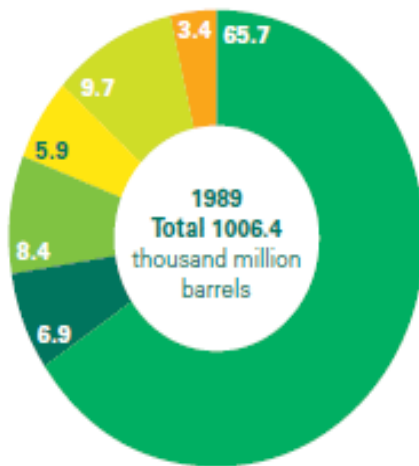
# Primary Energy Investment Requirement (2007 – 2030)



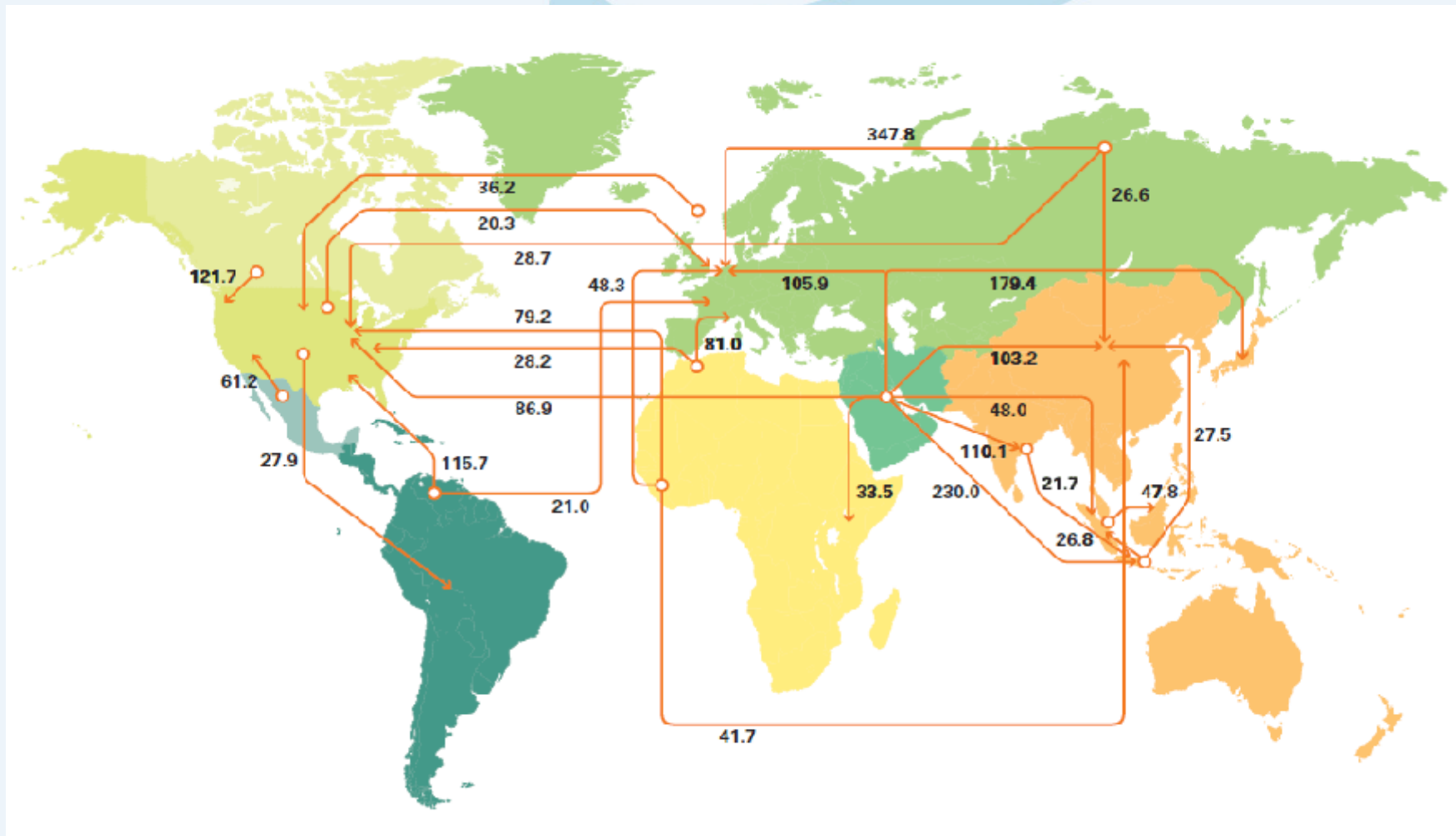
# Distribution of World Oil Reserves (1989 – 2009)



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



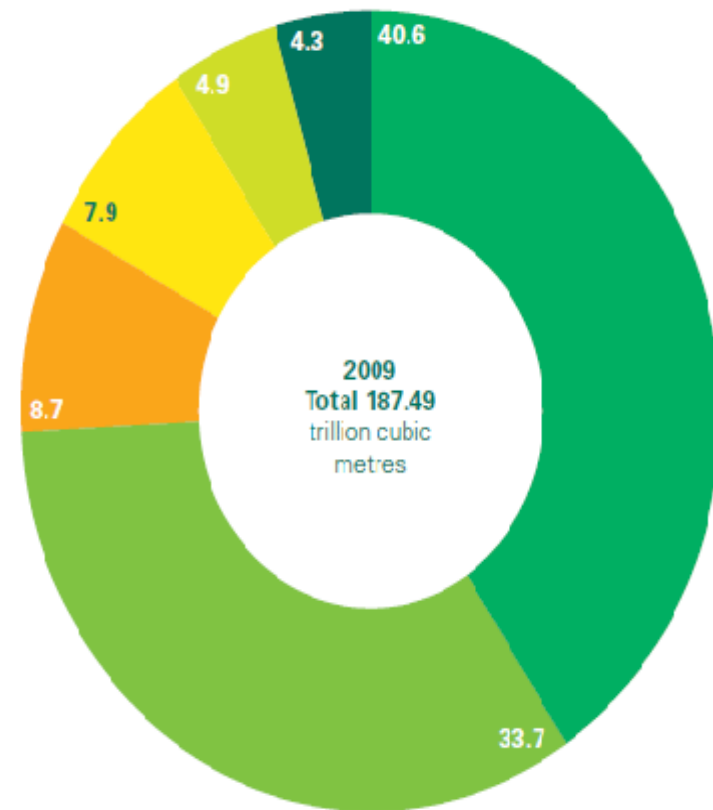
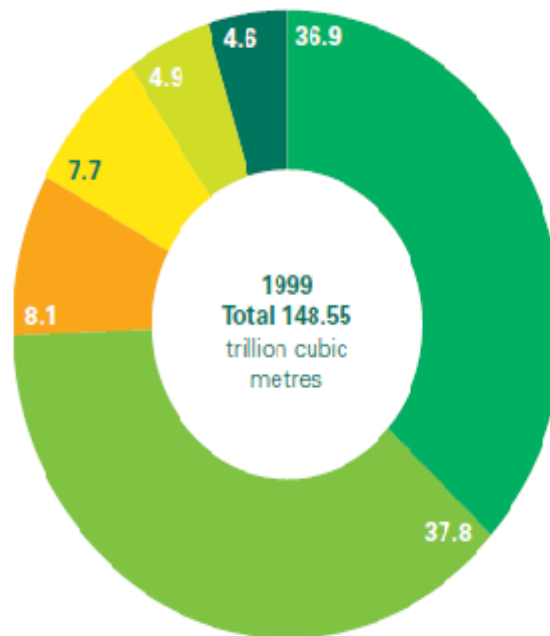
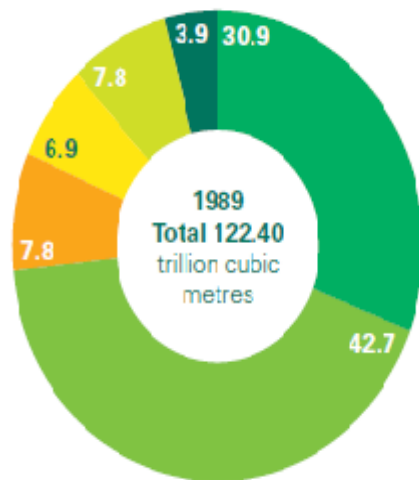
# Global Oil Trade Routes



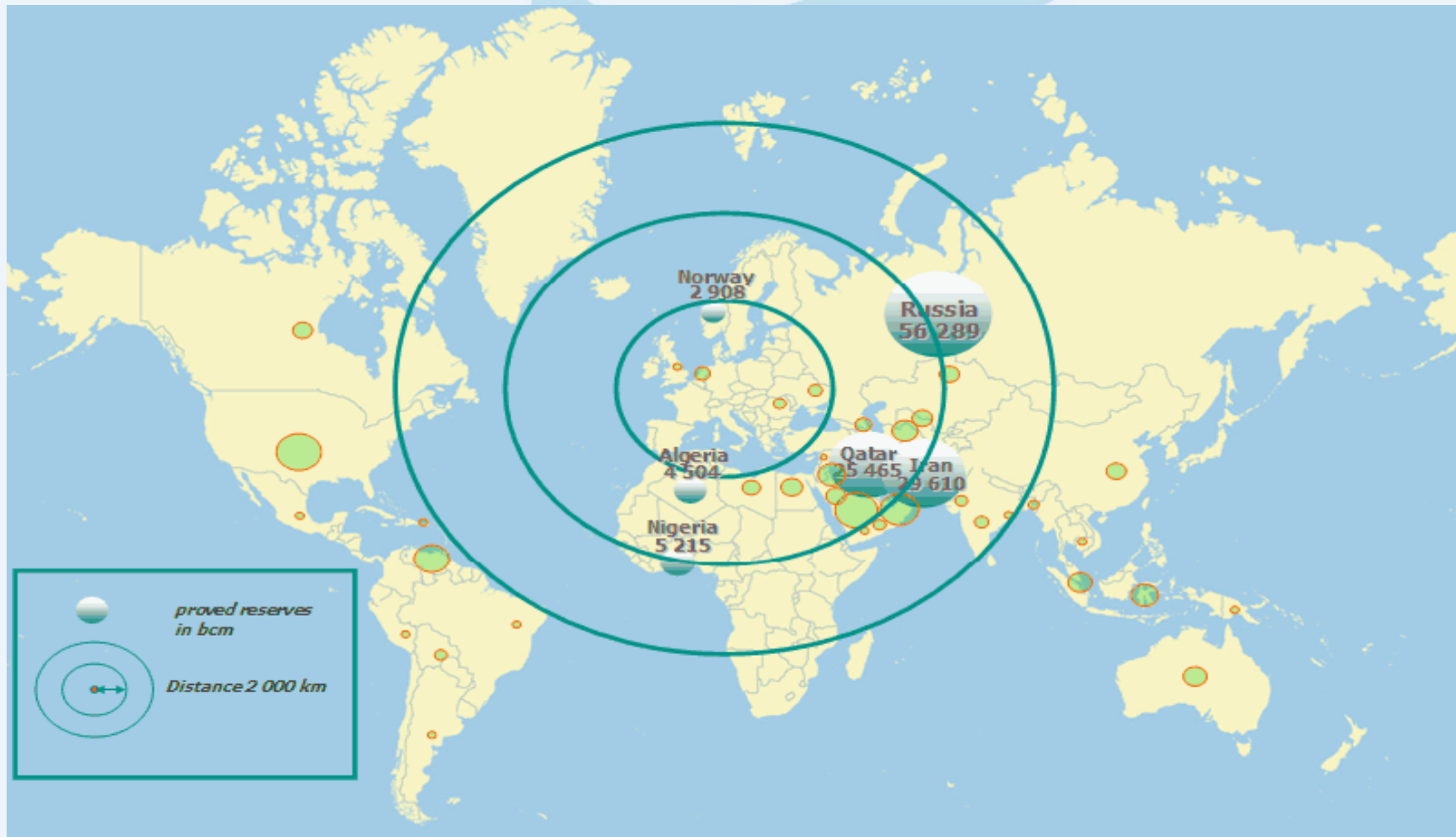
# Distribution of World Gas Reserves (1989 – 2009)



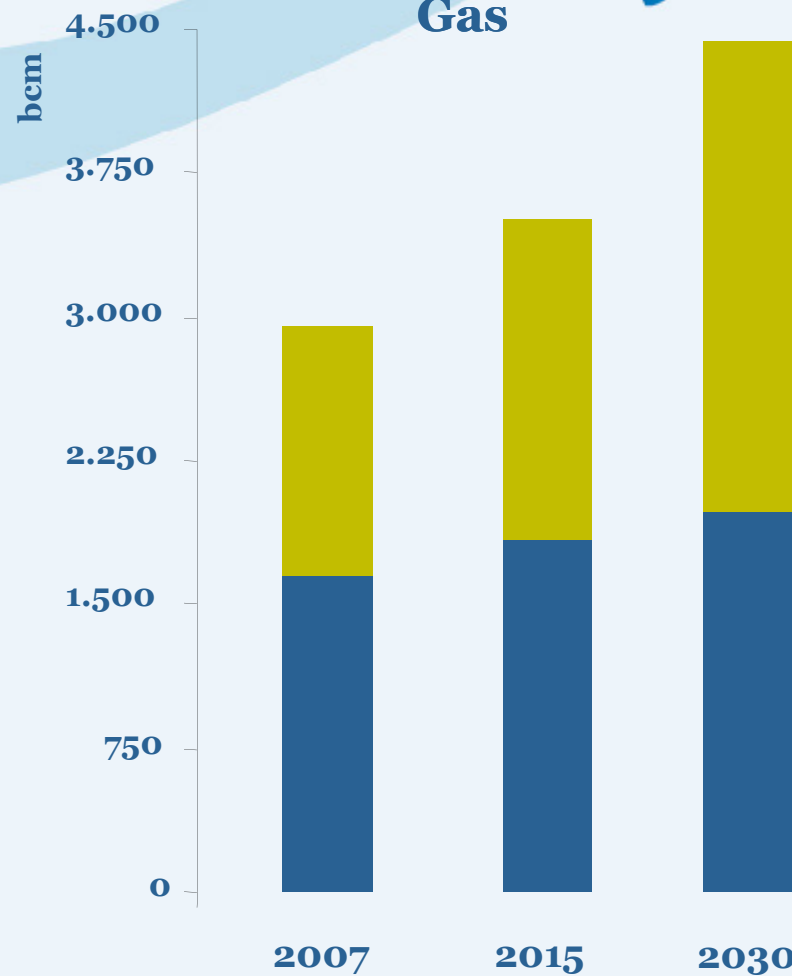
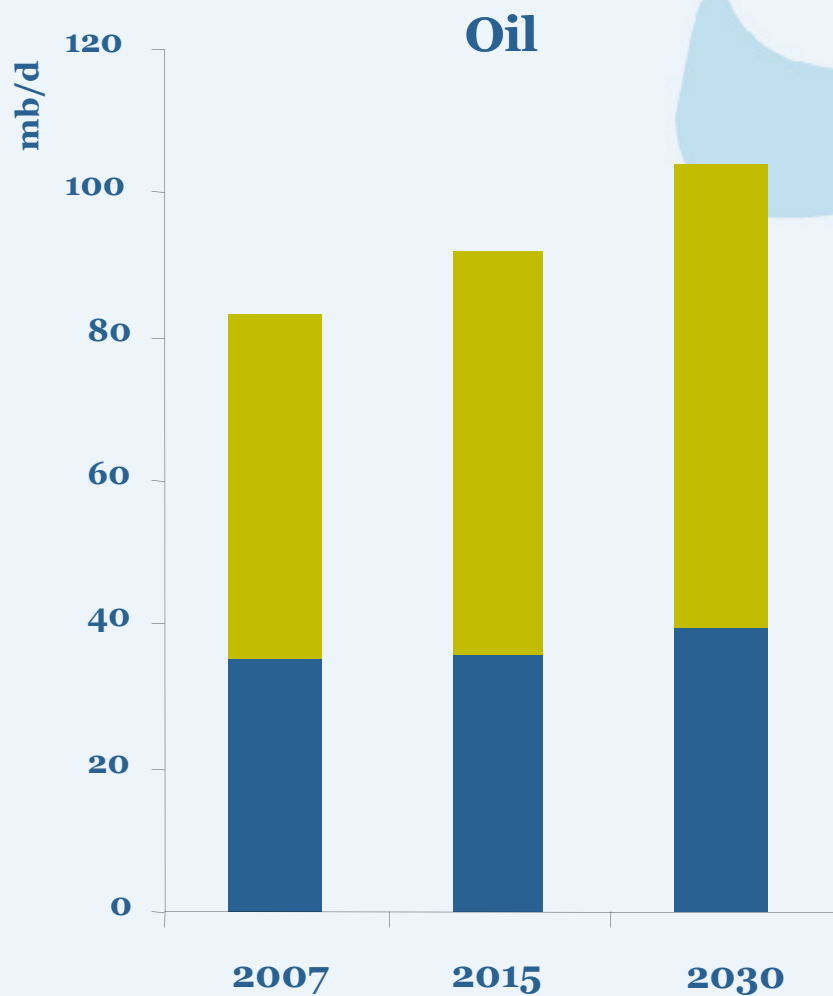
- Middle East
- Europe & Eurasia
- Asia Pacific
- Africa
- North America
- S. & Cent. America



# Distribution of World Gas Reserves



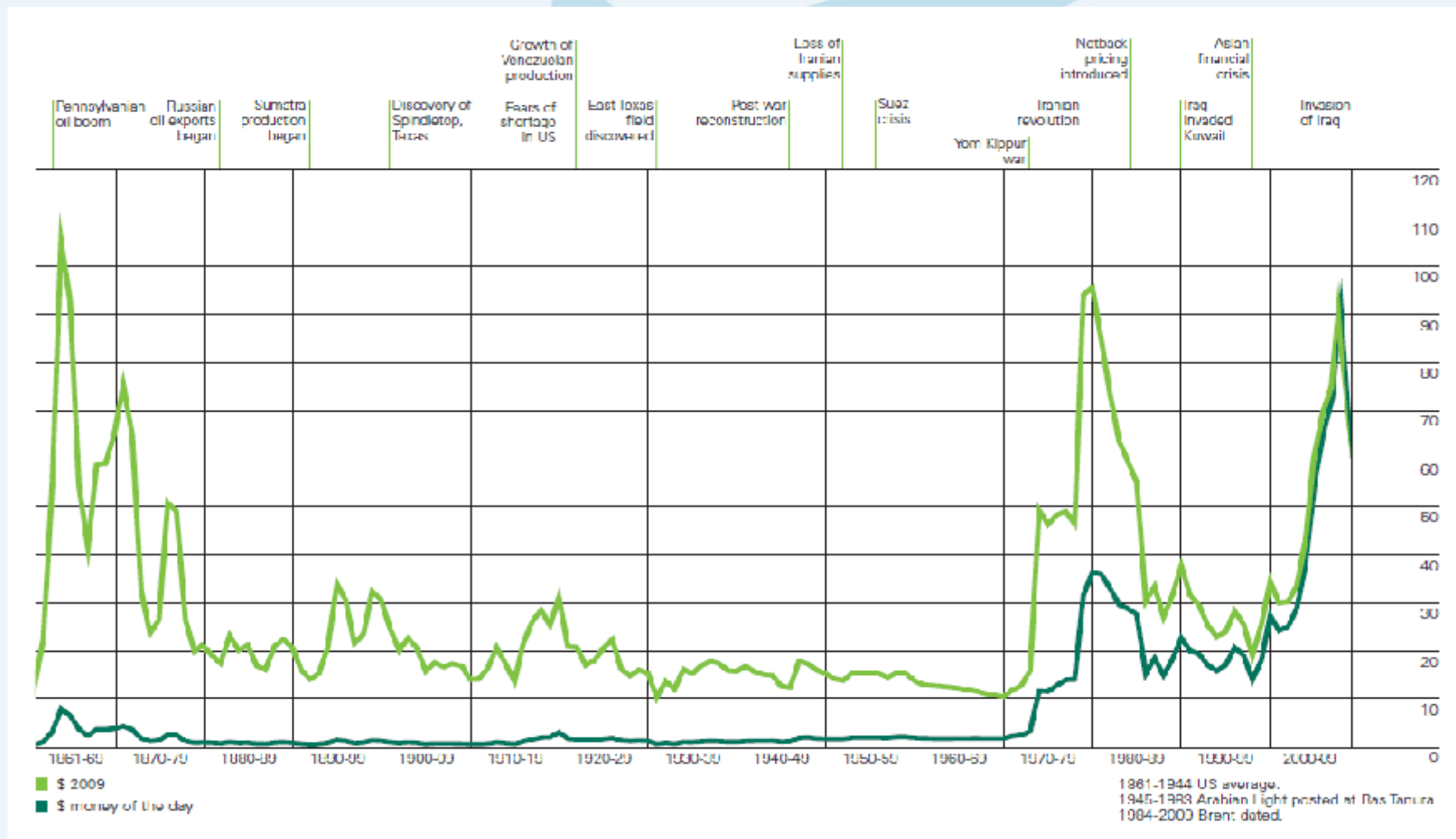
# NOC & IOC Production Trends (2007 – 2015 – 2030)



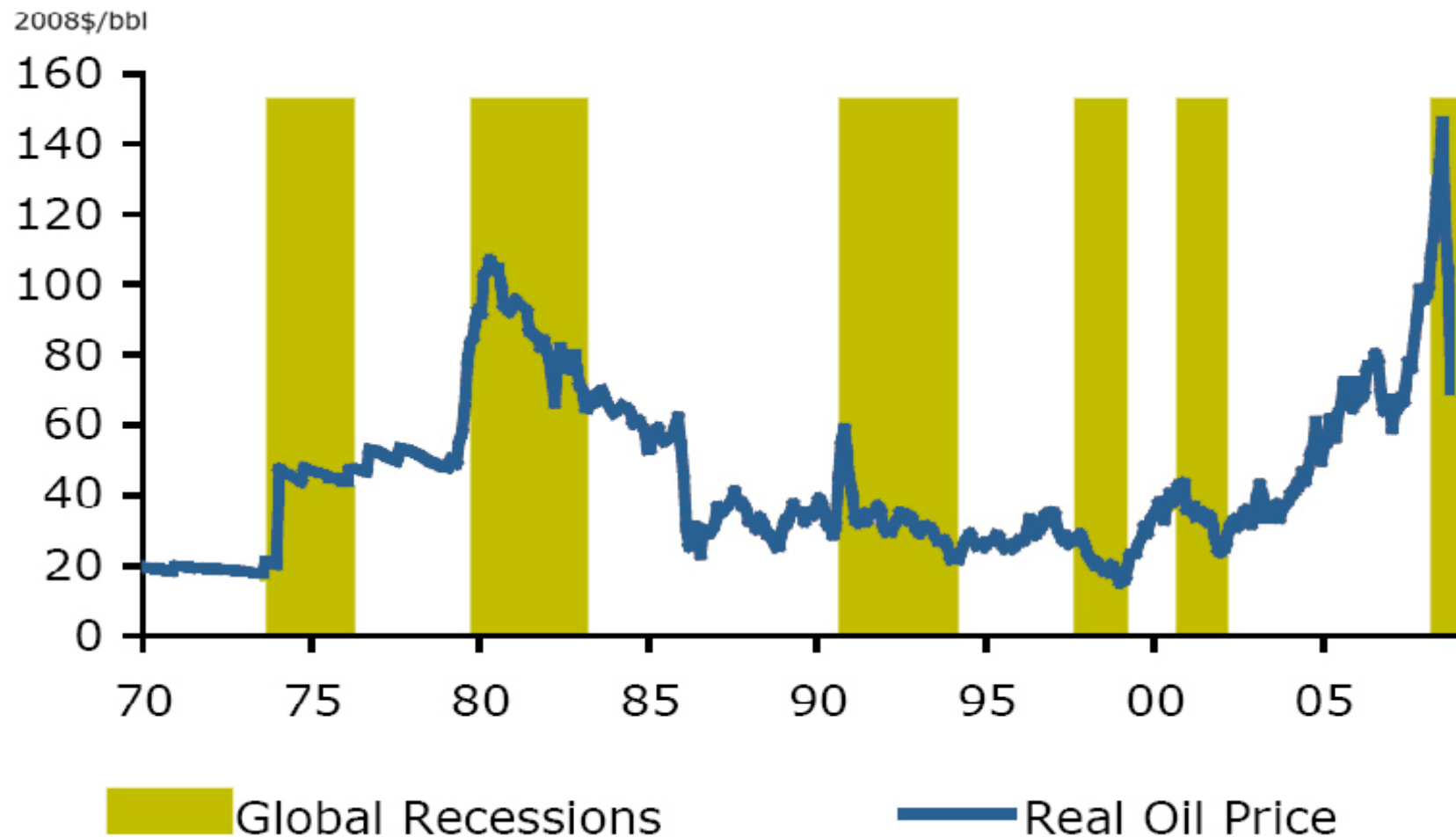
■ NOC ■ IOC



# Crude Oil Prices (1861 – 2009)



# Oil Prices & Global Recessions



# Energy Demand – Local Production Balance of Turkey (1990–2008)



	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 Local Production to Total Consumption (%)	48.1	42.0	33.1	26.9	27.2

Source: MENR

# Primary Energy Production – Consumption Balance (2007)



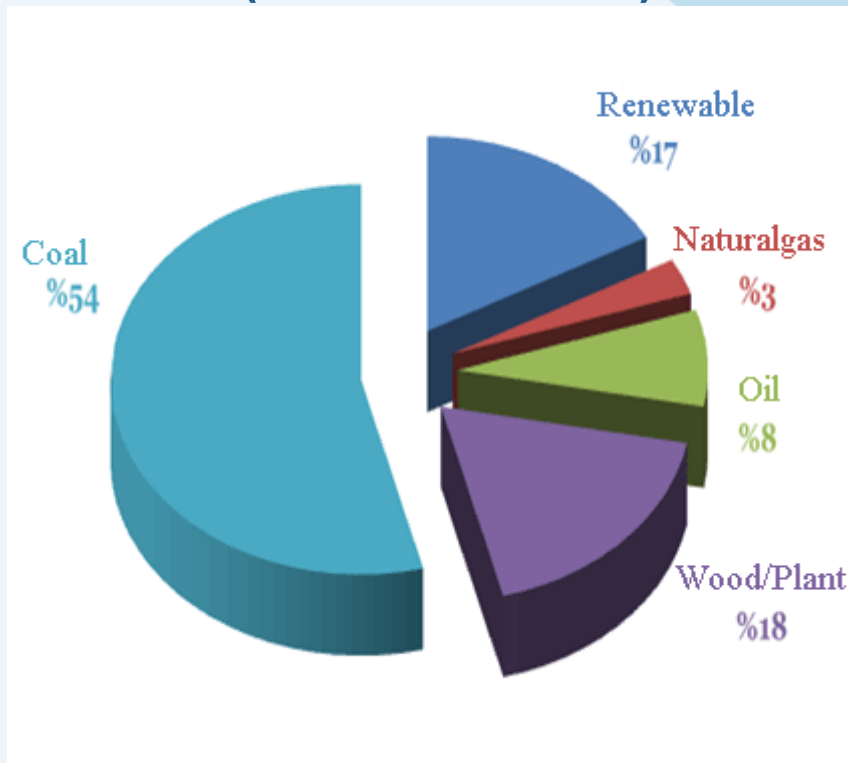
Resources	Coal	Wood & Plant	Oil	Natural Gas	Renewables	Total
Primary Energy Production (million toe)	14.7	4.9	2.2	0.8	4.5	27.4
Share in Primary Energy Production (%)	53.9	18.2	8.2	3.0	16.7	100.0
Primary Energy Consumption (million toe)	30.9	4.9	33.3	33.9	4.5	107.6
Share in Primary Energy Consumption (%)	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

Source: MENR

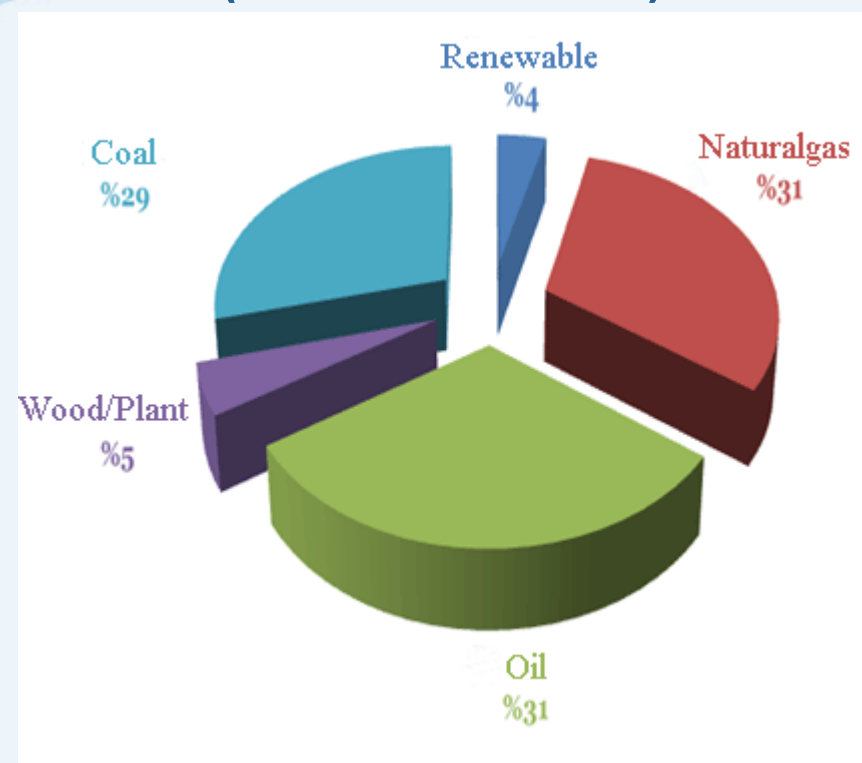
# Primary Energy Production – Consumption Balance (2007)



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



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



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

# Gas Production in Turkey



- **First Gas Discovery** : Kırklareli (1970)
- **Recoverable Reserves** : 17.4 bcm
- **Cumulative Production** : 11.3 bcm
- **Remaining Recoverable Res.:** 6.1 bcm
- **Annual Production** : 0.7 bcm
- **Annual Consumption** : 35.7 bcm
- **Production / Consumption** : 2%
- **Distribution of Production** : 43% Private Sector  
38% Private + TPAO Partnerships  
19% TPAO



# Oil Production in Turkey



- **First Oil Drilling** : İskenderun (1890)
- **Recoverable Reserves** : 172.5 million tonnes
- **Cumulative Production** : 133.1 million tonnes
- **Remaining Recoverable Res.** : 39.4 million tonnes
- **Annual Production** : 2.4 million tonnes
- **Annual Consumption** : 32.3 million tonnes
- **Production / Consumpition** : %7.4
- **Wells Drilled (1934 – 2009)** : 3,727 (*average per year: 50*)
- **Distribution of Production** : 69% TPAO  
18% Private Companies  
13% Private + TPAO Partnership



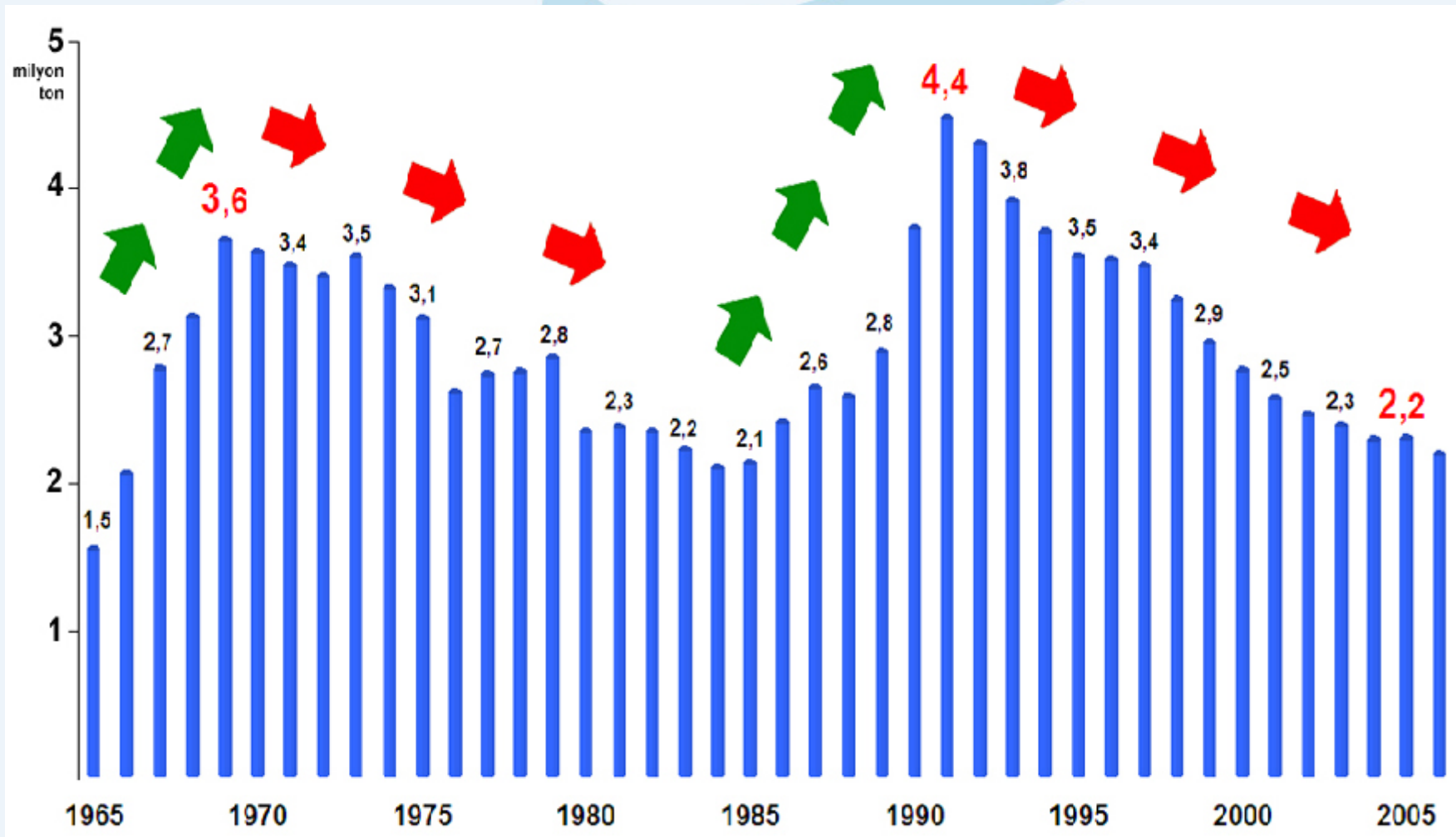
# Petroleum Law No. 6326 (1954)



- Separation of the public company (*TPAO*) and the decision-making mechanism (*GDPA*)
- Equal approach to TPAO and local/foreign private companies
- Fixed Royalty rate (*12.5%*)
- Drilling obligations envisaged by the Law
- Based on 'Tax & Royalty' model



# Oil Production Trend



# Reasons for Decrease in Exploration Investments



## 1. Legal Issues

Due to the ambiguities in the provisions of the Petroleum Law numbered 6326, some time in the past 56 years the Law has interpreted against the private sector and implementation of legal provisions were stopped by administrative decisions.

# Reasons for Decrease in Exploration Investments



## **2. Opening of New Oil Fields to Investments Around the World**

After the collapse of the Eastern Bloc, in the major E&P companies directed their investments to new oil fields in the Central Asia and Caspian Region.

# Reasons for Decrease in Exploration Investments



## **3. Delay in the New Legislation**

The new Petroleum Law numbered 5574 is waiting on the Parliament's agenda since January 2007. This legal uncertainty affects Turkey's competitiveness in upstream sector in a negative way.

# Results of Decrease in Exploration Investments



- Total number of wells drilled in the whole history of Turkey is equal to the number of wells drilled in Texas only in one year.
- Exploration activities have only been conducted in 20% of potential onshore and only 1% of potential offshore areas.
- Our import dependency is reached to 93% for oil and 98% for natural gas.
- Only 1\$ rise in oil prices per barrel causes rise of 400 million dollars in foreign trade deficit.
- The bill of import of petroleum products has exceeded 80 billion dollars in last 5 years.

# Turkish Petroleum Law

## No. 5574



- **2000** : Start-up of the draft text in the General Directorate of Petroleum Affairs (GDPA)
- **Nov 2005** : Finalization in the TGNA Energy Commission
- **Jan 2007** : Ratification in the TGNA General Assembly
- **Feb 2007** : Sending back four articles of the Law to the Parliament by 10th President
- **2007 – 2010** : The Law is still waiting on the Parliament's agenda.

# PETFORM's Suggestions



- 1.** Adaptation of a 'state policy' encouraging E&P activities and creation of know-how and capital accumulation
- 2.** Formation of a 'Petroleum Law Working Group' chaired by the Ministry of Energy and coordinated by the GDPA, revision of the law in order to solve structural problems of the sector and enactment in the Parliament
- 3.** Prevention of 'closure' of all licences through drilling obligations based on abstract criteria, creation a new business model encouraging companies to compete with each other through 'Business and Investment Programmes'
- 4.** Strengthening the structure of the GDPA administratively and financially for a more efficient management and supervision mechanism sector need

# PETFORM's Suggestions



- 5.** Utilization of drilling equipments imported in accordance with the Law also in geothermal drilling activities
- 6.** Transfer of GDPA archives, currently located in TPAO due to various problems, to new modern and digital-based facilities
- 7.** 'Tax Holiday' until the refund of the investment
- 8.** Implementation of regional incentives in order to encouraging E&P activities
- 9.** Maintain of the 'Tax & Royalty' model
- 10.** Termination of the implementation of the 'Fund No.20' as well as import/export and VAT/SCTs exemptions





***THANK YOU...***