



Turkish E&P Sector & New Petroleum Law

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Content of the Presentation



- 1) About PETFORM
- 2) Global Energy Market
- 3) Energy Market
- 4) Turkish E&P Sector
- 5) Turkey's Position in Global Energy Market
- 6) New Turkish Petroleum Law
- 7) Forward Plan

About PETFORM



Established in 2000, PETFORM has played a crucial role in the development of the E&P sector and natural gas market between private sector and public authorities.

Member companies mainly have activities in 2 sectors:

- Exploration & Production Sector
- Natural Gas Market

58 Member Companies



- AKENERJ
- AKFEL
- AKSA
- ALADDIN MIDDLE EAST
- ANATOLIA ENERGY
- ANGORAGAZ
- ATT LA DO AN N AAT
- AVRASYA GAZ
- AYGAZ
- BATI HATTI GAZ
- BM HOLD NG
- BORDRILL SONDAJ
- BOSPHORUSGAZ
- BP
- CHEVRON
- ÇALIK ENERJ
- DEM RÖREN EGL
- DO AL ENERJ
- DO AN ENERJ
- ED SON
- EGEDAZ
- ENEL
- ENERCO ENERJ
- ENERJ SA
- ERDGAZ
- EWE ENERJ
- EXXONMOBIL
- GDF SUEZ
- GENEL ENERGY
- GLOBAL ENERGY
- GÜNEY YILDIZI PETROL
- HATTU A ENERJ
- H POT ENERJ
- IBS RESEARCH
- K BAR ENERJ
- MARSА ENERGY
- MEDGAZ
- NATURGAZ
- OMV
- PALMET ENERJ
- PERENCO
- PETRAKO
- POLMAK
- POZ T F DO ALGAZ
- SHELL ENERJ
- SOCAR
- STATOIL
- TBS PETROL
- TEKFEN N AAT
- TEM
- THRACE BASIN
- TIWAY
- TOTAL
- TURCAS
- VALEURA ENERGY
- YEN ELEKTR K
- ZMB GAZ DEPO
- ZORLU ENERJ

Global Energy Market



- While oil was meeting 45% of global energy demand in 1970, this ratio decreased to 34% in 2013
- IEA estimates that oil will meet 28% of global energy demand in 2035
- While natural gas was meeting 15% of global energy demand in 1970, this ratio increased to 24% in 2013
- This ratio will further increase in future

Global Energy Market



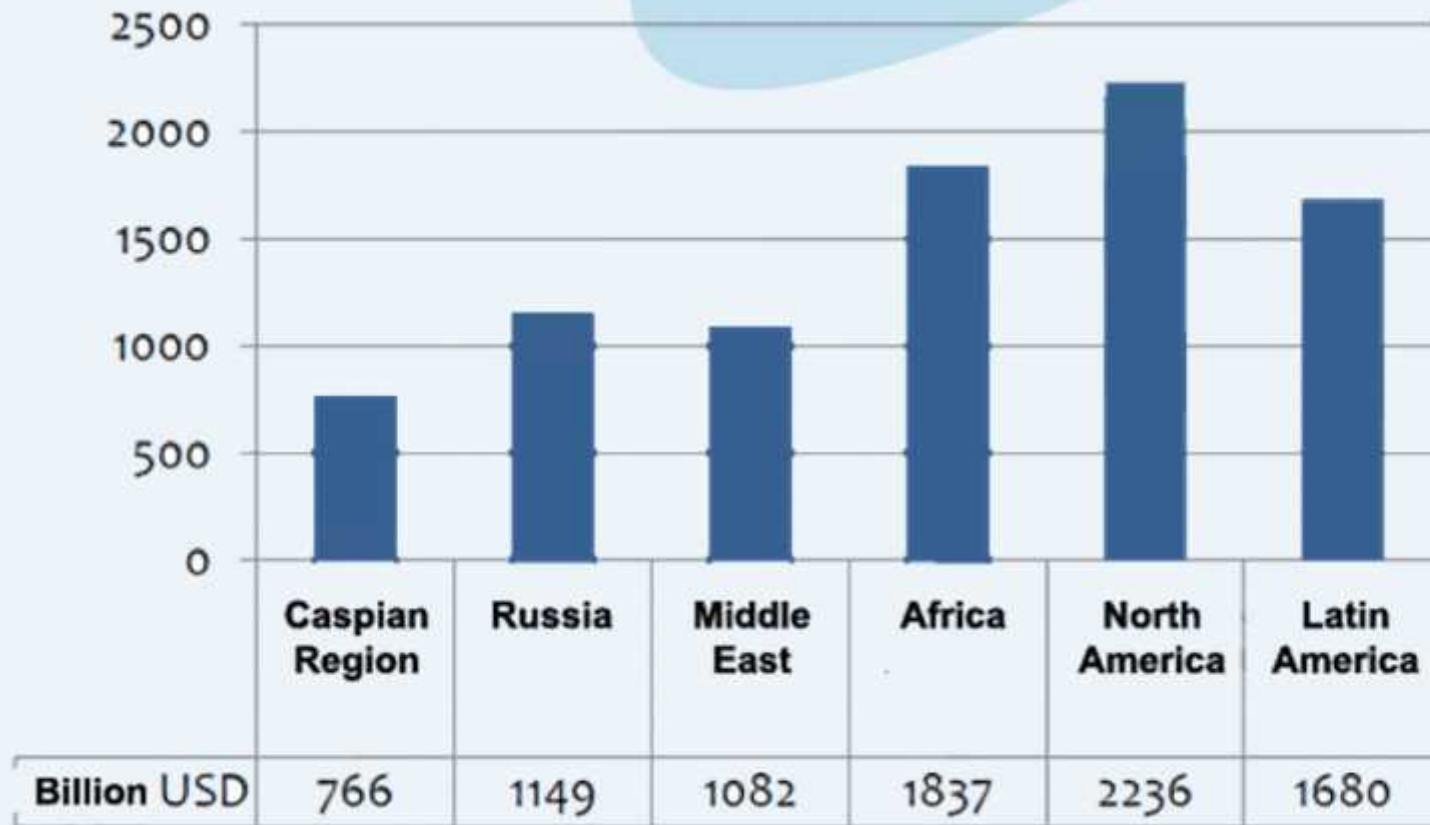
million tons / billion cubic meters



Int. E&P Investments



Exploration – Production investments until 2035



Turkey's Overall Energy Balance (1990 – 2012)



	1990	2012	Change
Total Energy Demand (million toe)	52.9	119.5	118%
Total Domestic Production (million toe)	25.6	32.2	26%
Total Energy Imports (million toe)	30.9	90.2	192%
Coverage of Domestic Production to Total Consumption	48%	28%	- 42%

Source: MENR

Share of Energy in Turkey's Total Imports (2009 – 2012)



(billion USD)	2009	2010	2011	2012
Crude Oil & Petroleum Products	14,9	20,6	29,2	31,5
Natural Gas	11,6	14,1	20,2	23,2
Coal	3,1	3,3	4,1	4,6
Total Energy Imports	29,9	38,5	54,1	60,1
Turkey's Total Imports	140,9	185,5	240,8	236,5
Share of Oil & Gas in Turkey's Total Imports	%18,8	%18,7	%20,5	%23,1

Source: Ministry of Economy

Some Key Facts on Turkish E&P Sector

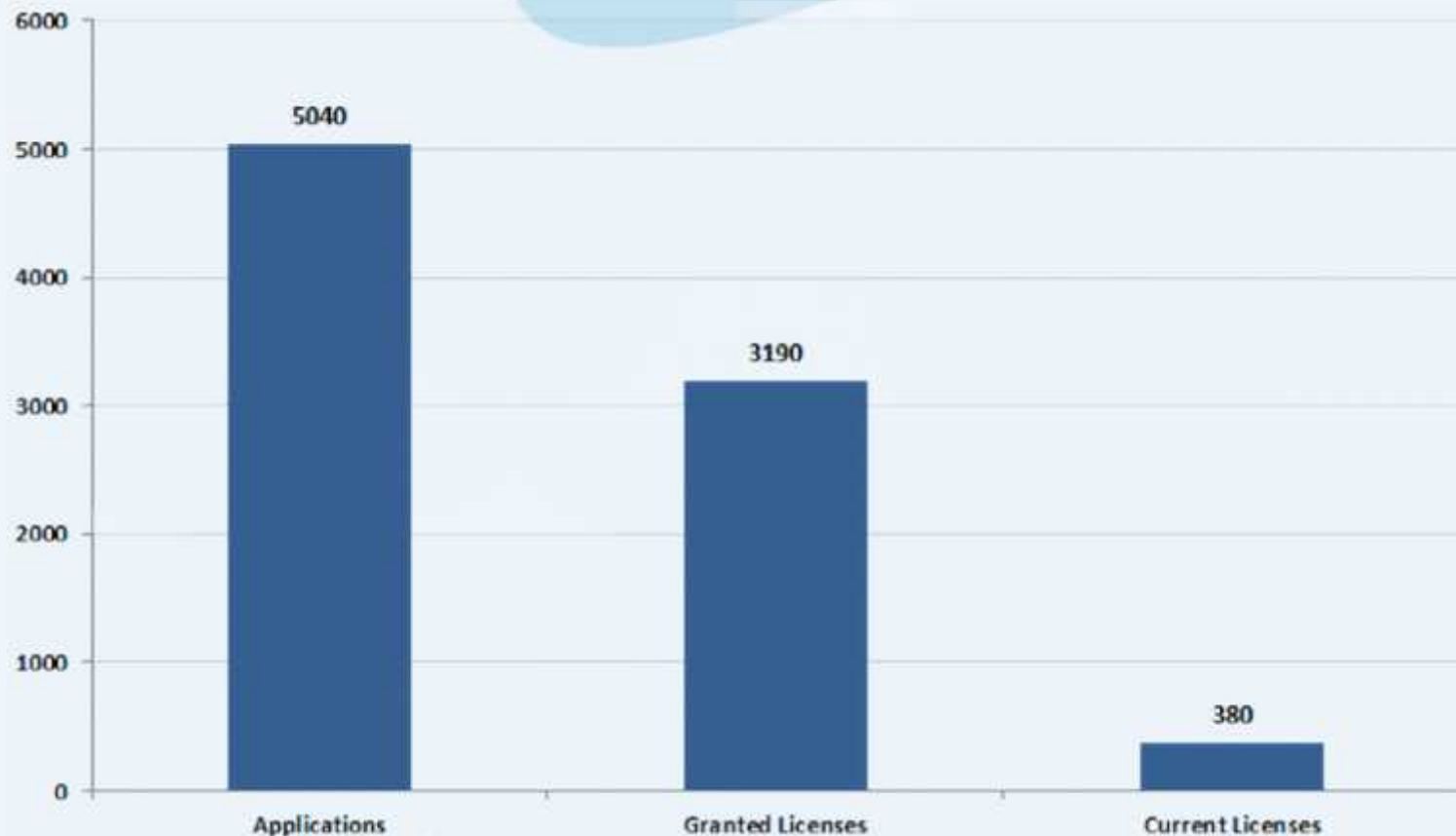


- Annual average of wells drilled throughout the history of Republic of Turkey is only around **51**. 20,000 wells are drilled all around the world, which means that Turkey's share in total is only %0.2.
- Average production per well is only **43 bpd**.
- Each one dollar increase in Brent crude price leads to increase of **400 million USD** in Current Account Deficit.

Exploration Licenses (1954 – 2013)



The exploration license applications made since 1954, **63 %** were granted to investors.

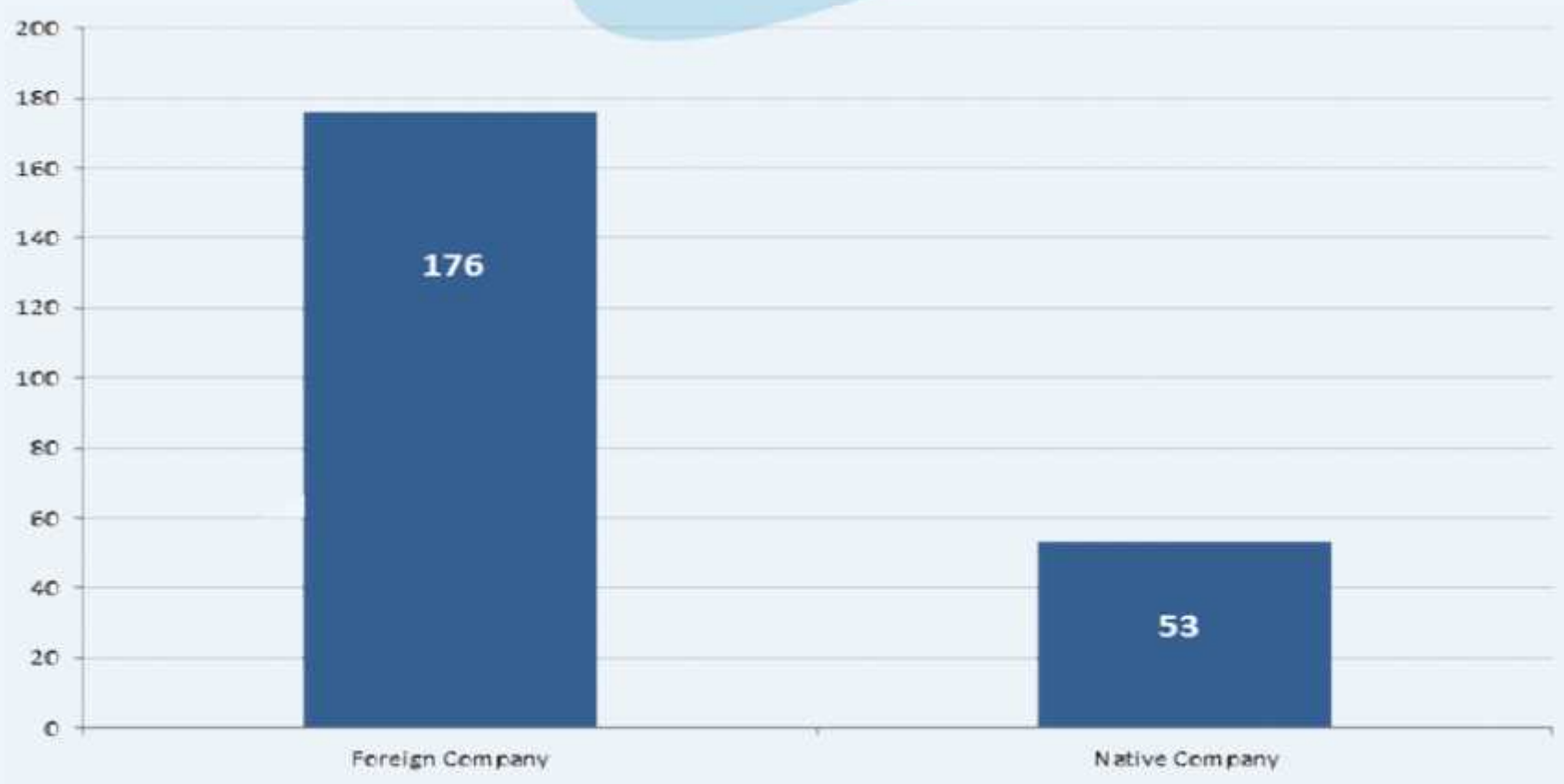


Source: PIGM

Total Number of Companies Active in Turkey since 1954



There have been a total of **229** companies that were active in our country of which **77%** were foreign investors.

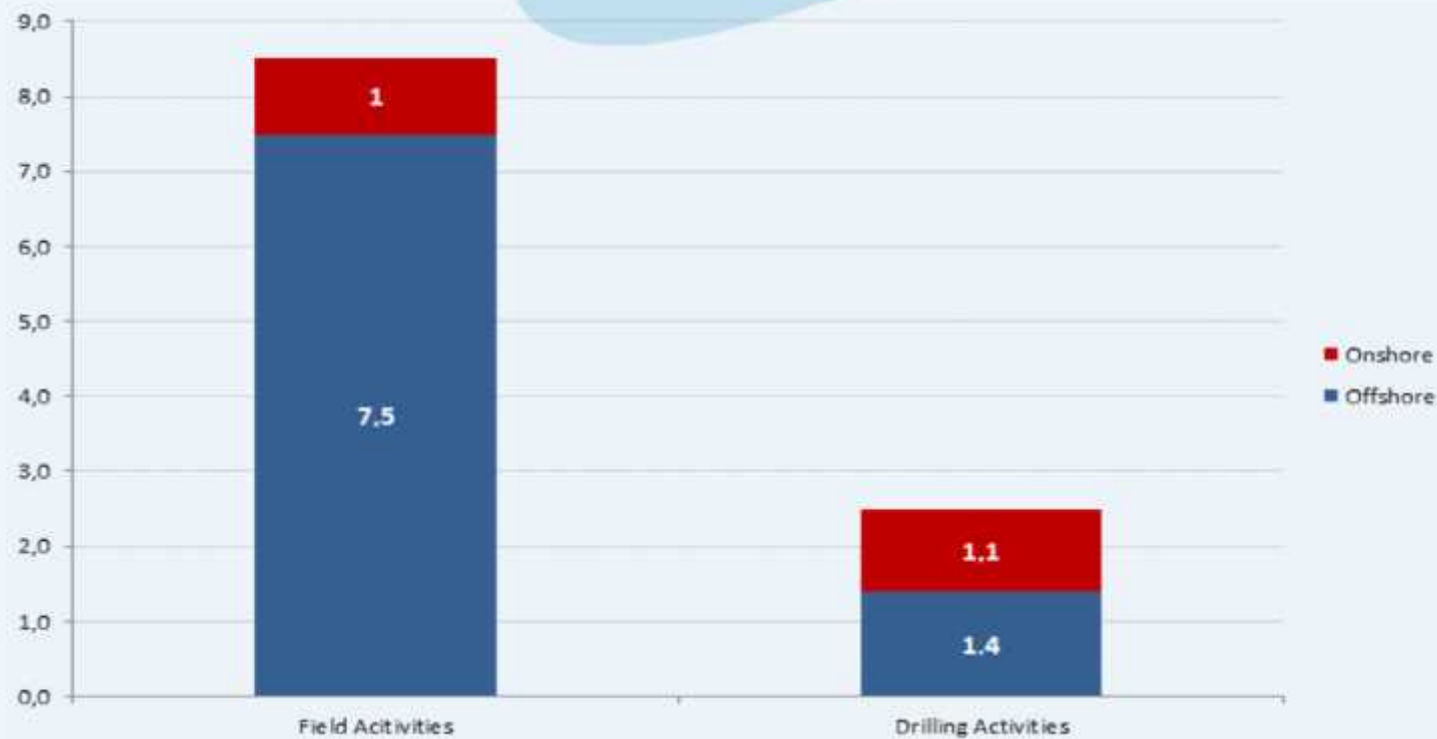


Source: PİGM

Field and Drilling Investments (2002 – 2013)



The total amount of investment in exploration and production in Turkey is **11 Billion USD** for last ten years.



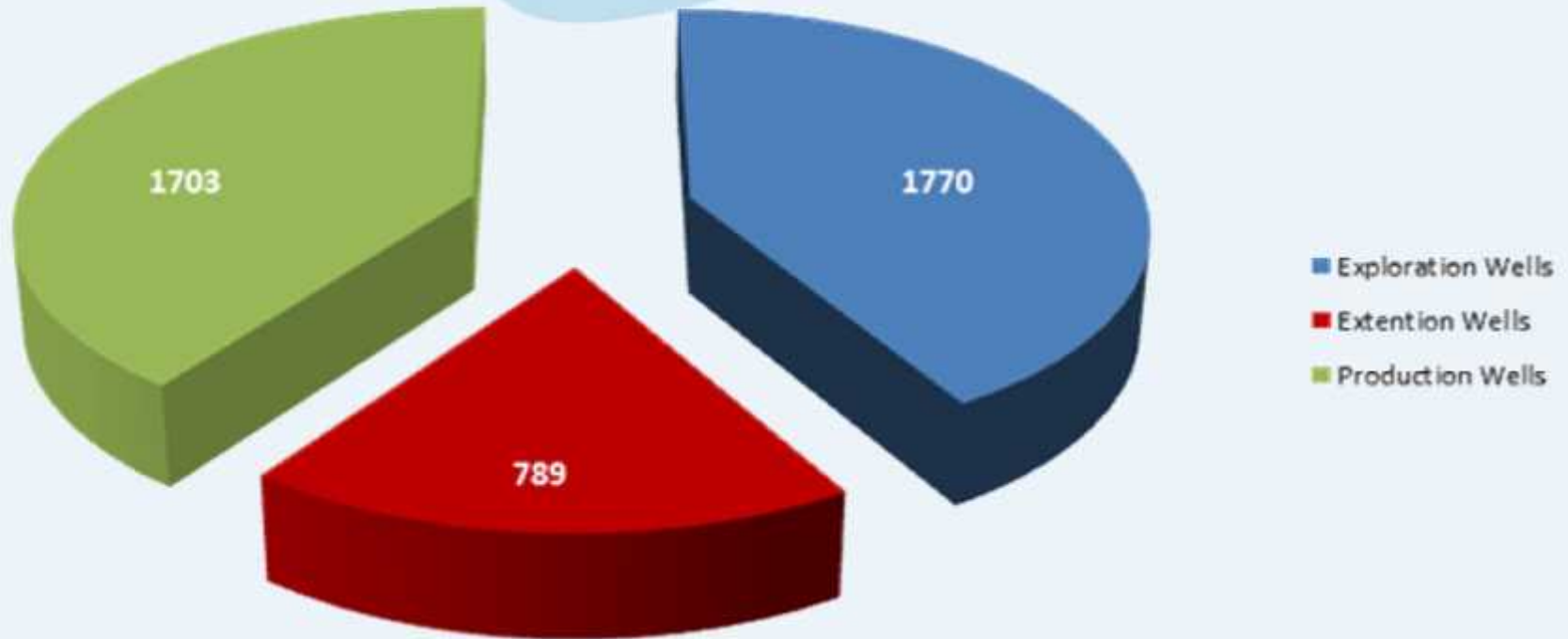
The investments that has been made in the last year consist of **33 %** of the total investments.

Source: PİGM

Distribution of Wells According to Types (1934 – 2012)



Average length of wells is **1,864 meters**.



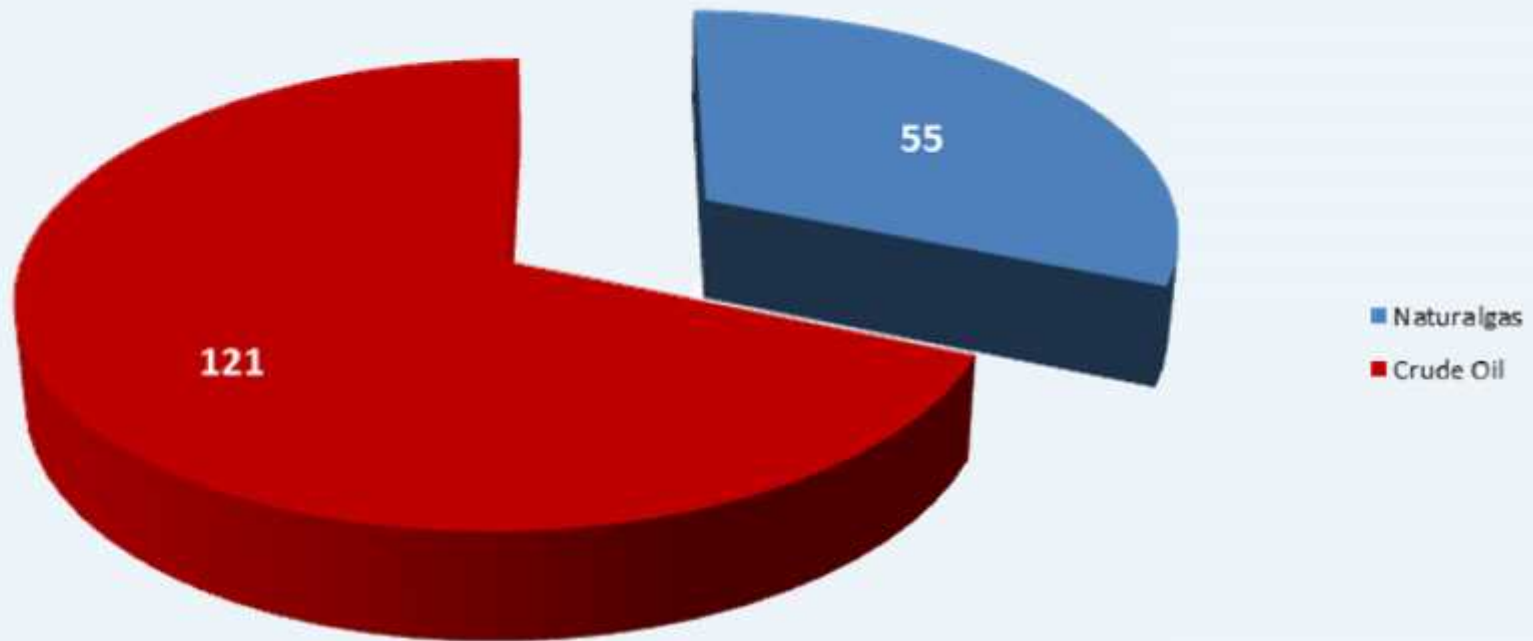
Total Well : 4.262
Total Length : 7,94 million meters

Source: PIGM

Oil and Natural Gas Field Discoveries (1934 – 2012)



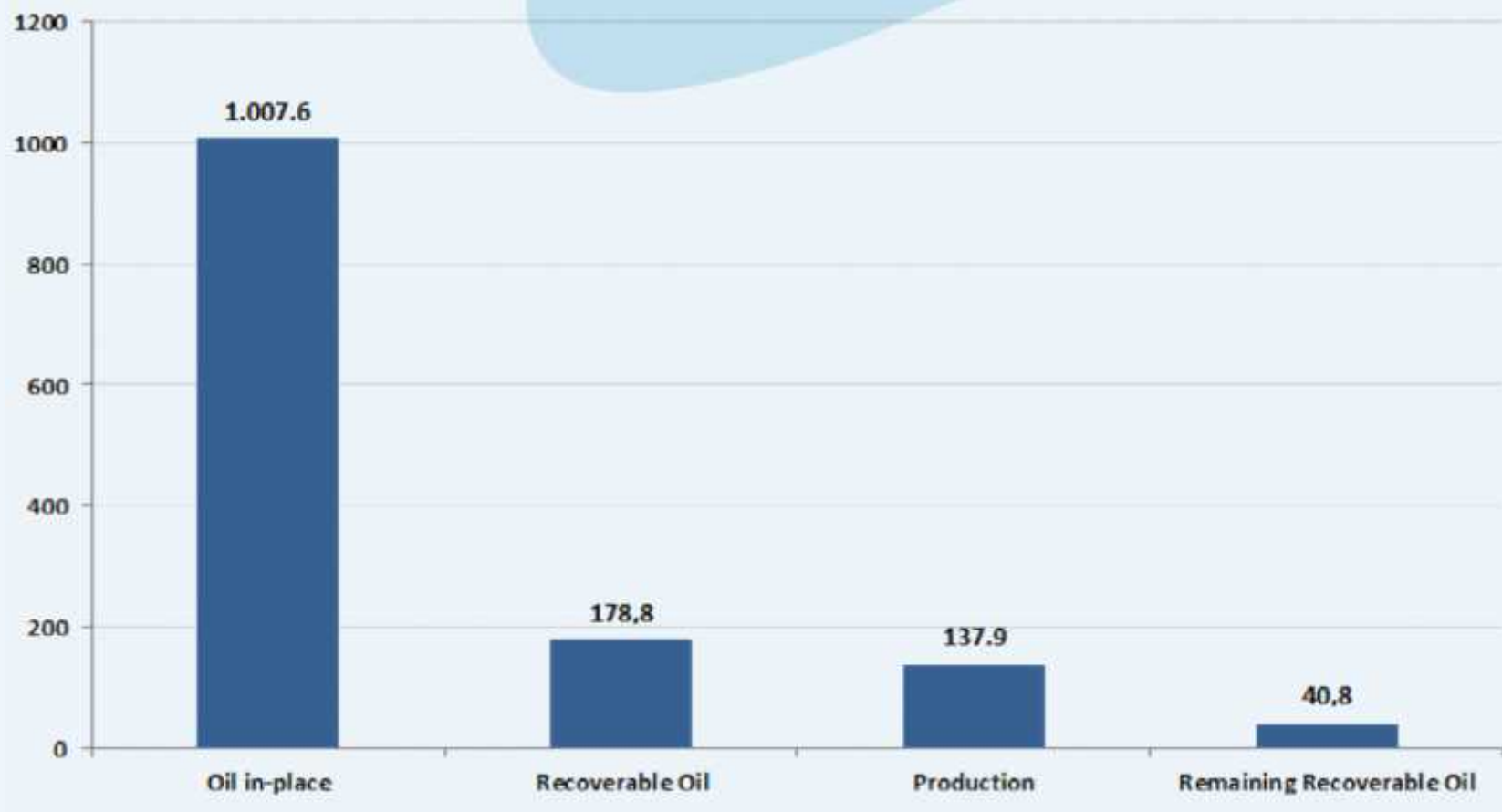
Crude oil and natural gas discoveries has been made in a total **166** fields from **1688** exploration wells with a discovery rate of nearly **10%**.



Crude Oil Reserves (2012)



The recoverability rate of oil in-place has been calculated as **18 %**.

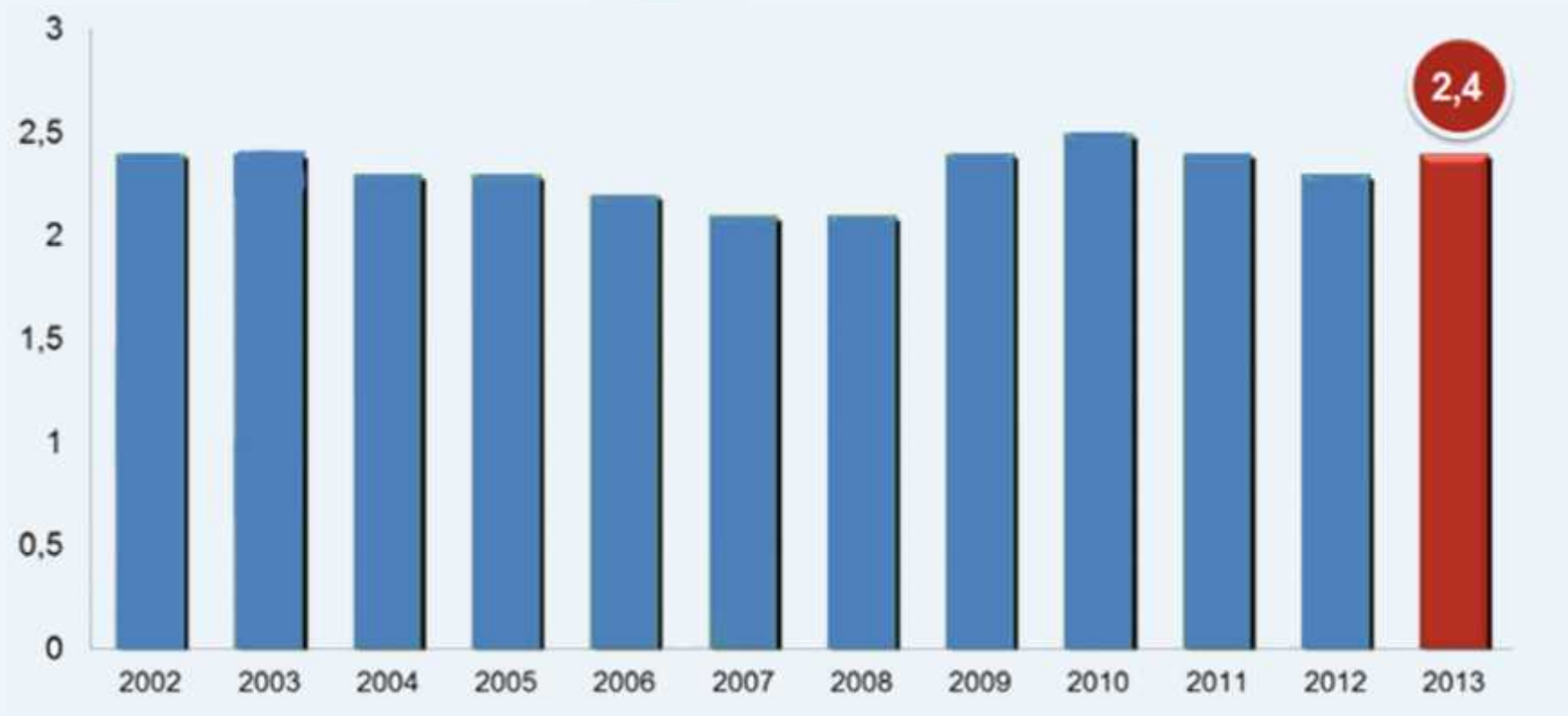


Source: PIGM

Crude Oil Production (2002 - 2013)



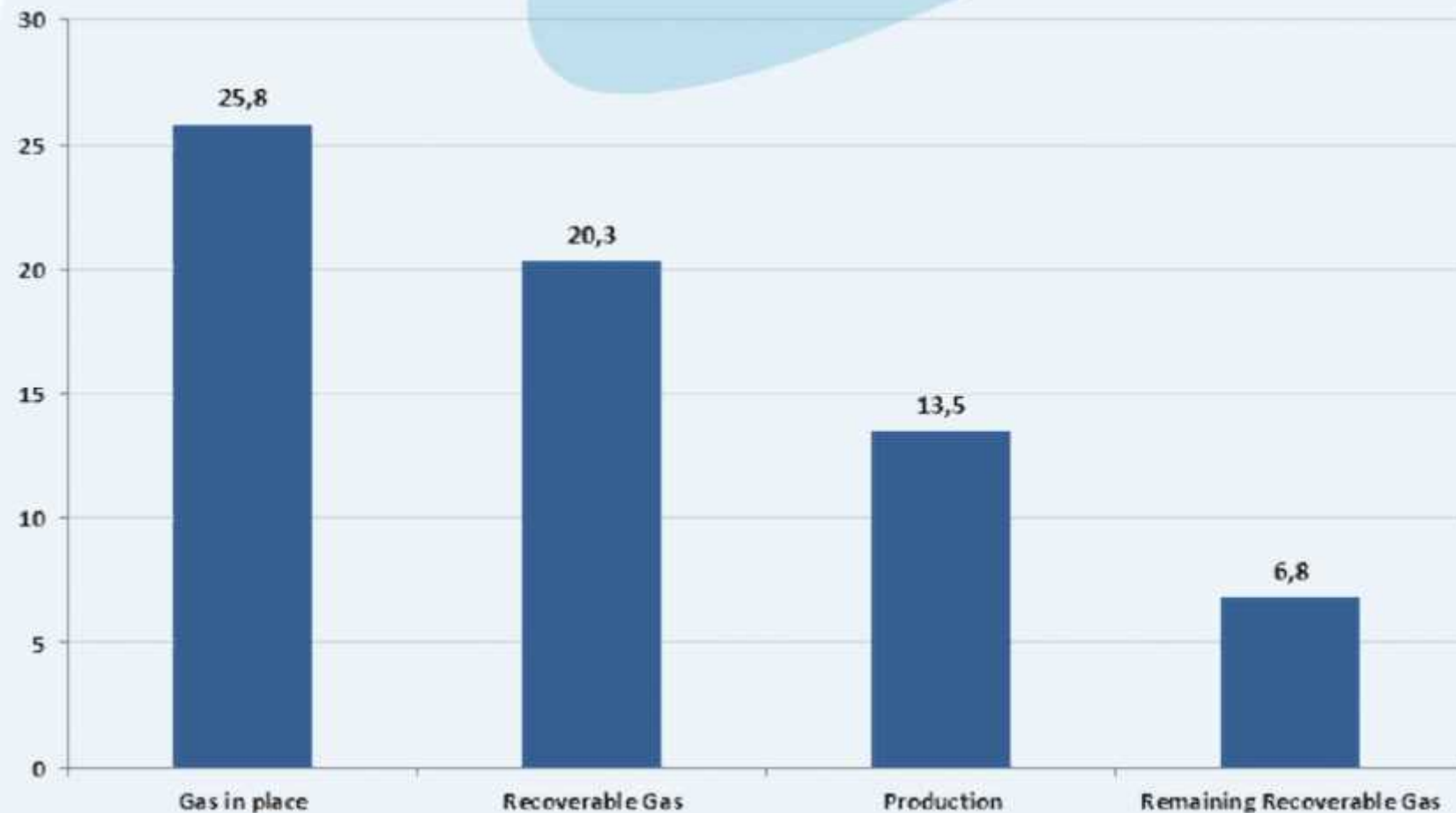
Average daily production is 44 thousand barrels. The rate of production's meeting consumption is **8 %**.



Natural Gas Reserves (2012)



The recoverability rate of natural gas in-place has been calculated as **79 %**.

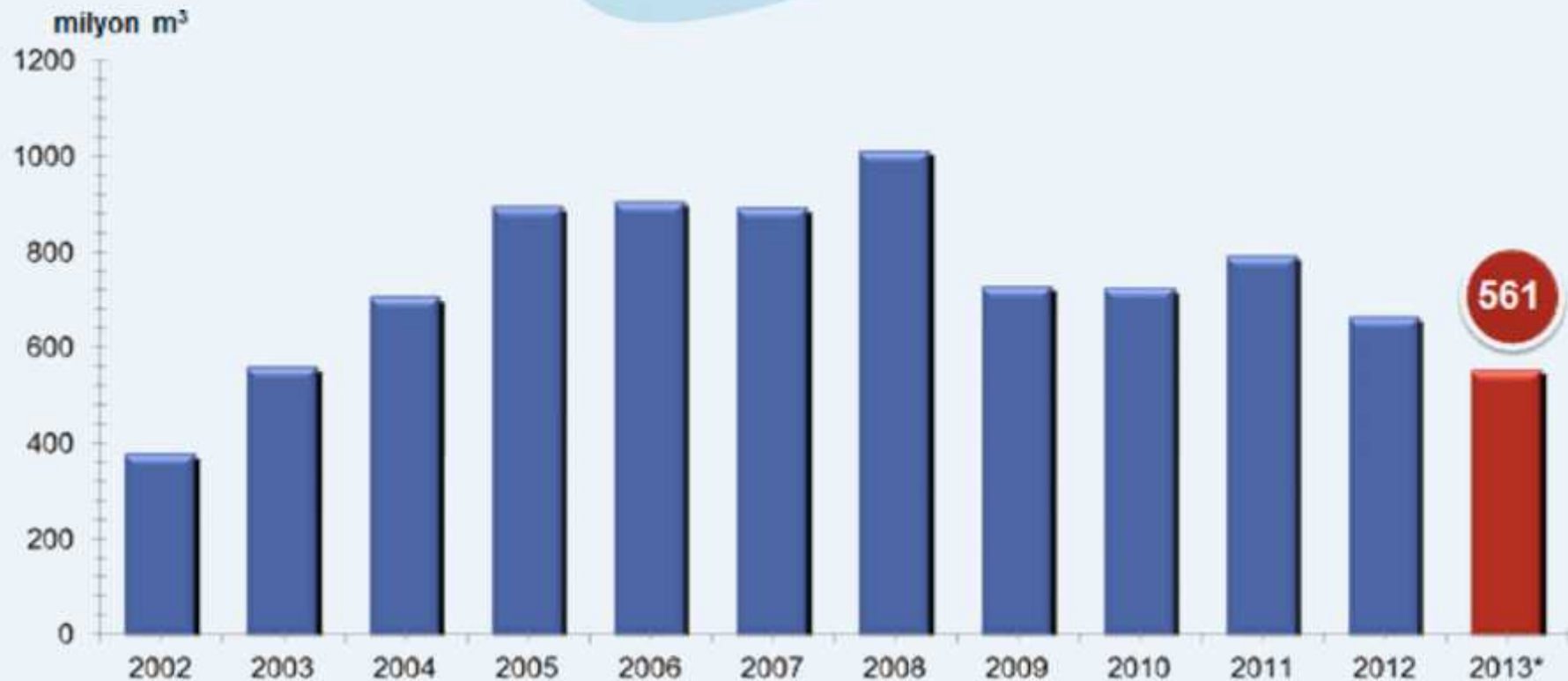


Source: PIGM

Natural Gas Production (2002- 2013)



Average daily production has been realized as **1,82 million m³** in 2013



Source: PİGM

Technical Capacity of the Sector

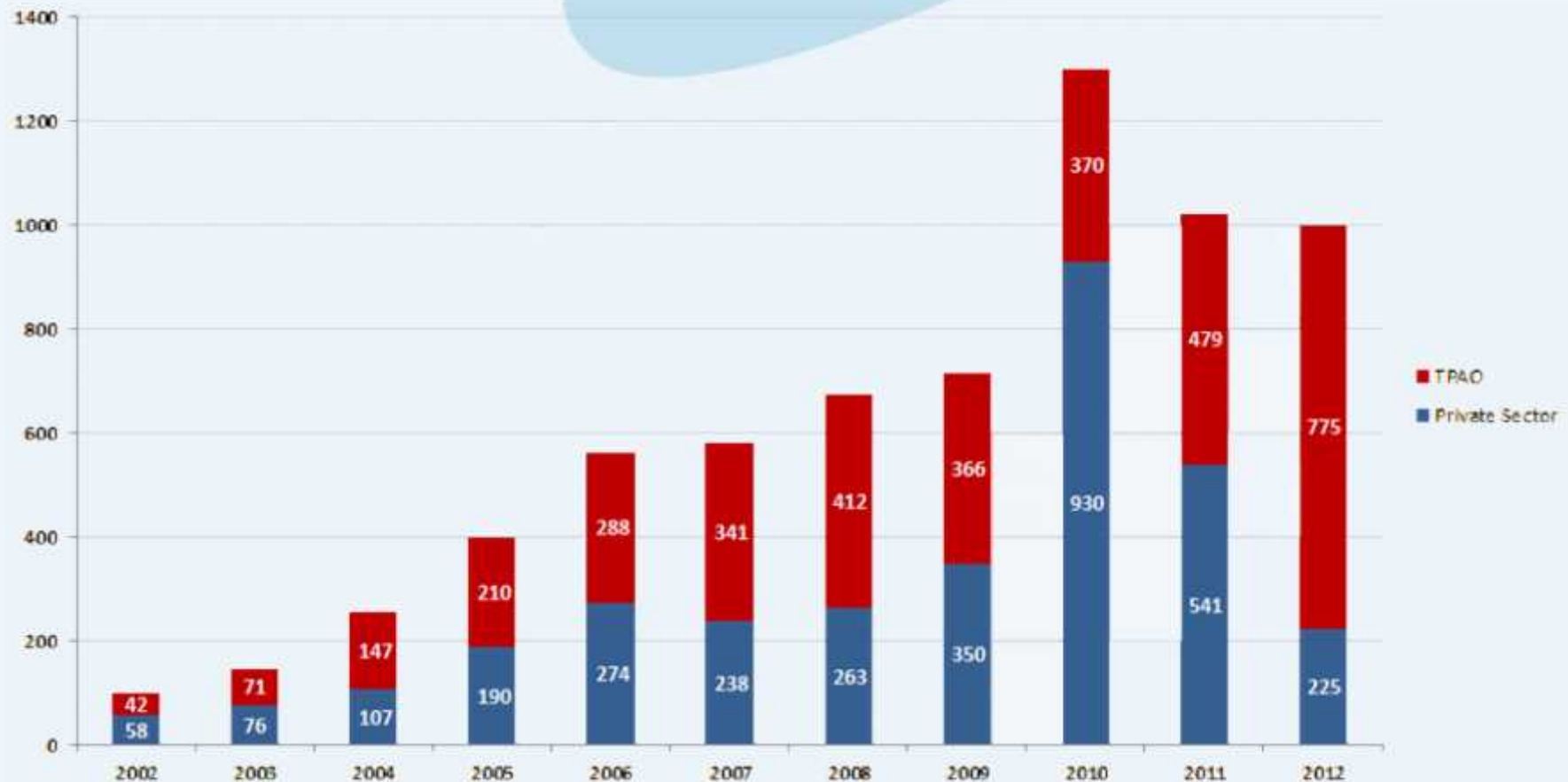


Drilling Capacity	
Number of the Companies	17
Number of the Drilling Rigs	74
Total Drilling Capacity	500,000 Meters /year
Percentage of Capacity Usage	50 %

Exploration-Production Investments (2002 – 2012)

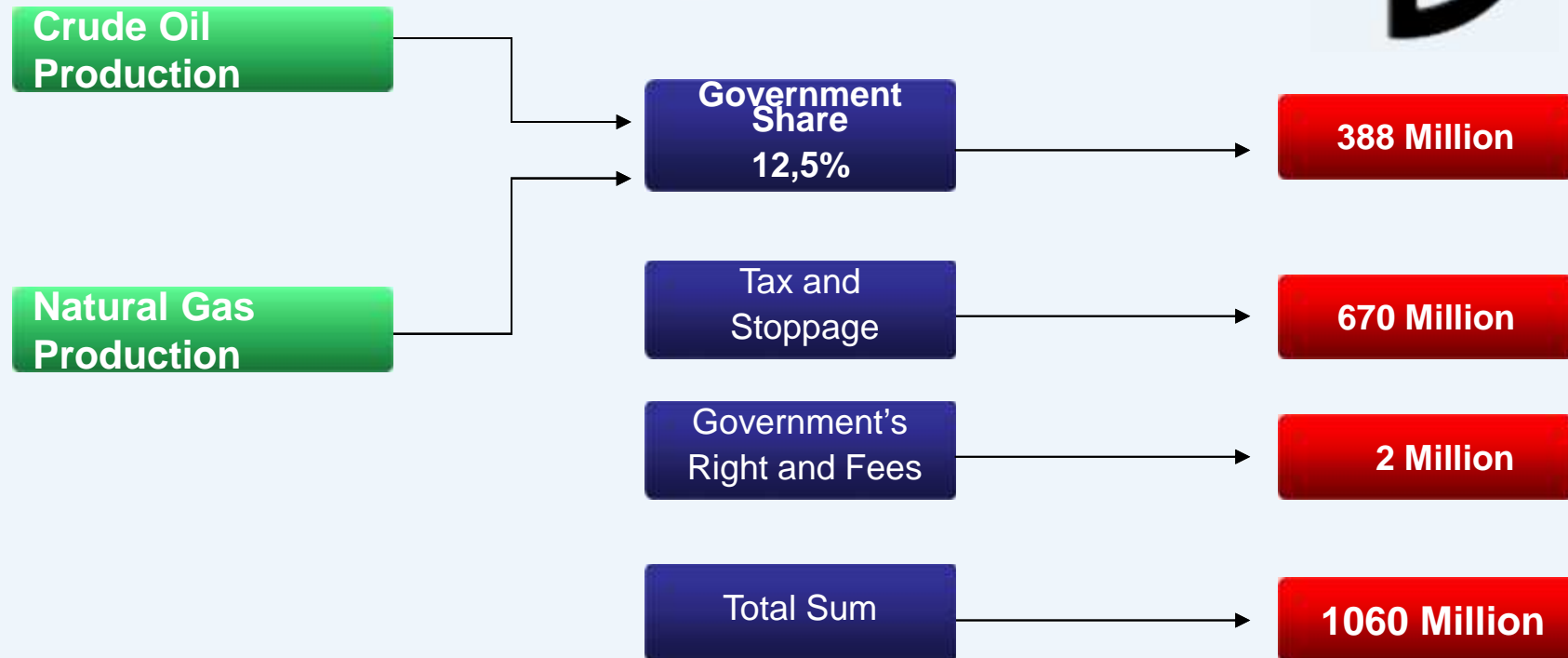


Million \$

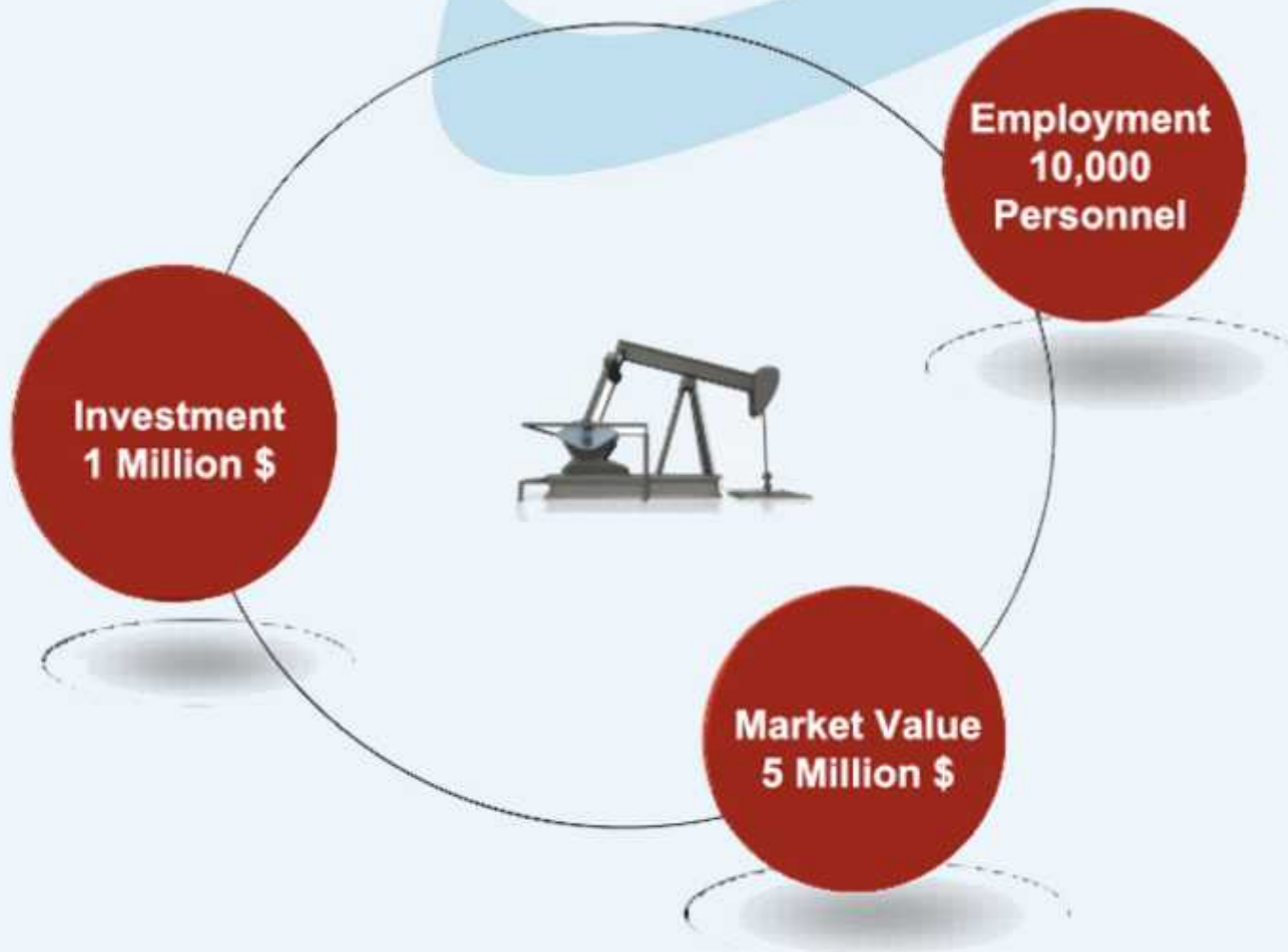


Source: PIGM

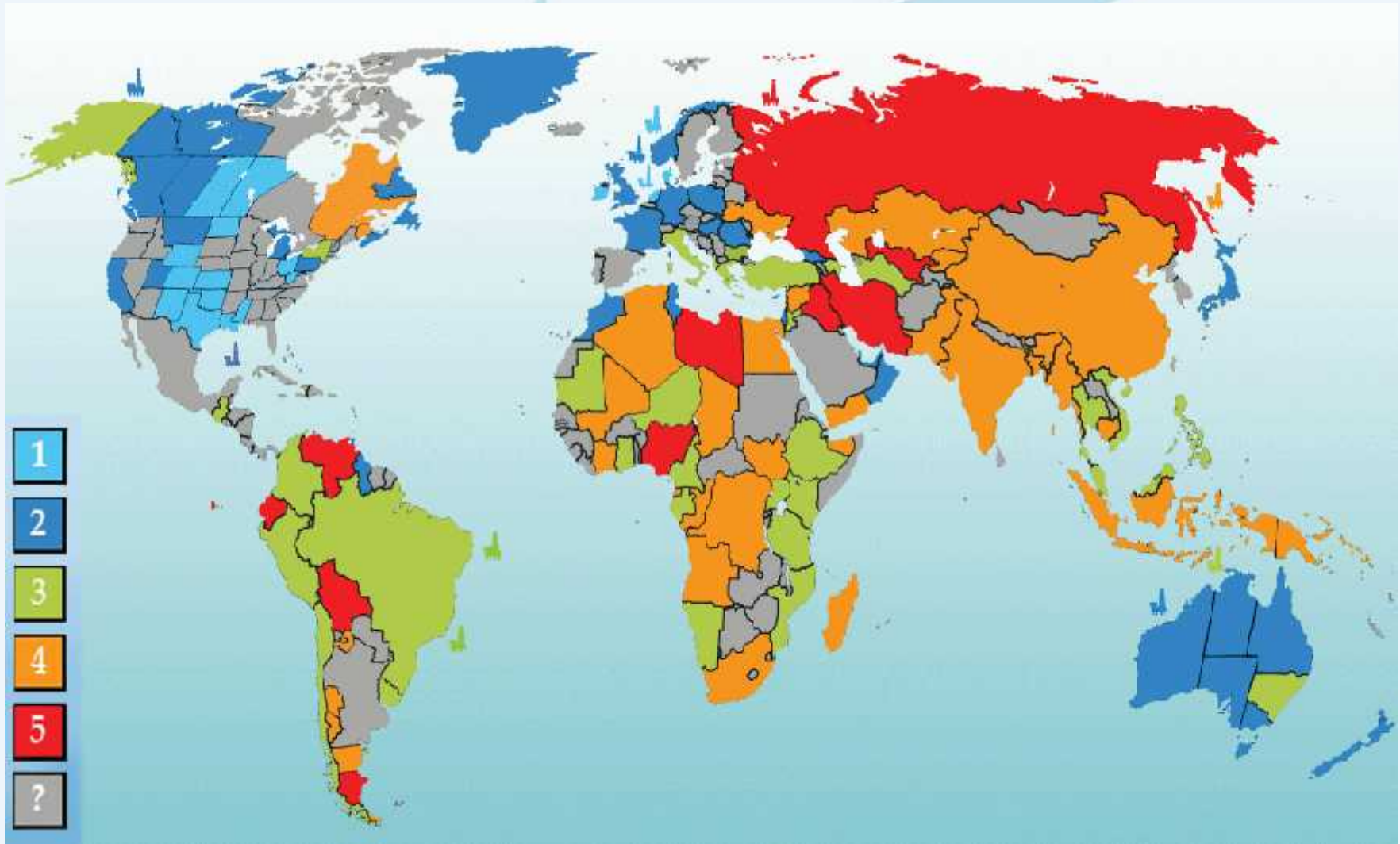
Government Income (2012)



Economic Size of the Sector



Fraser Institute's Global Petroleum Survey



Source: Fraser Institute

Favourable & Unfavourable Regions for E&P Investments



Most Favourable Regions

1. Oklahoma (USA)
2. Mississippi (USA)
3. Texas (USA)
4. North Dakota (USA)
5. Manitoba (Canada)
6. The Netherlands
7. New Mexico (USA)
8. Kansas (USA)
9. Denmark
10. West Virginia (USA)

Most Unfavourable Regions

138. Russia
139. Iraq
140. Santa Cruz (Argentina)
141. Uzbekistan
142. Ecuador
143. Libya
144. East Siberia (Russia)
145. Iran
146. Venezuela
147. Bolivia

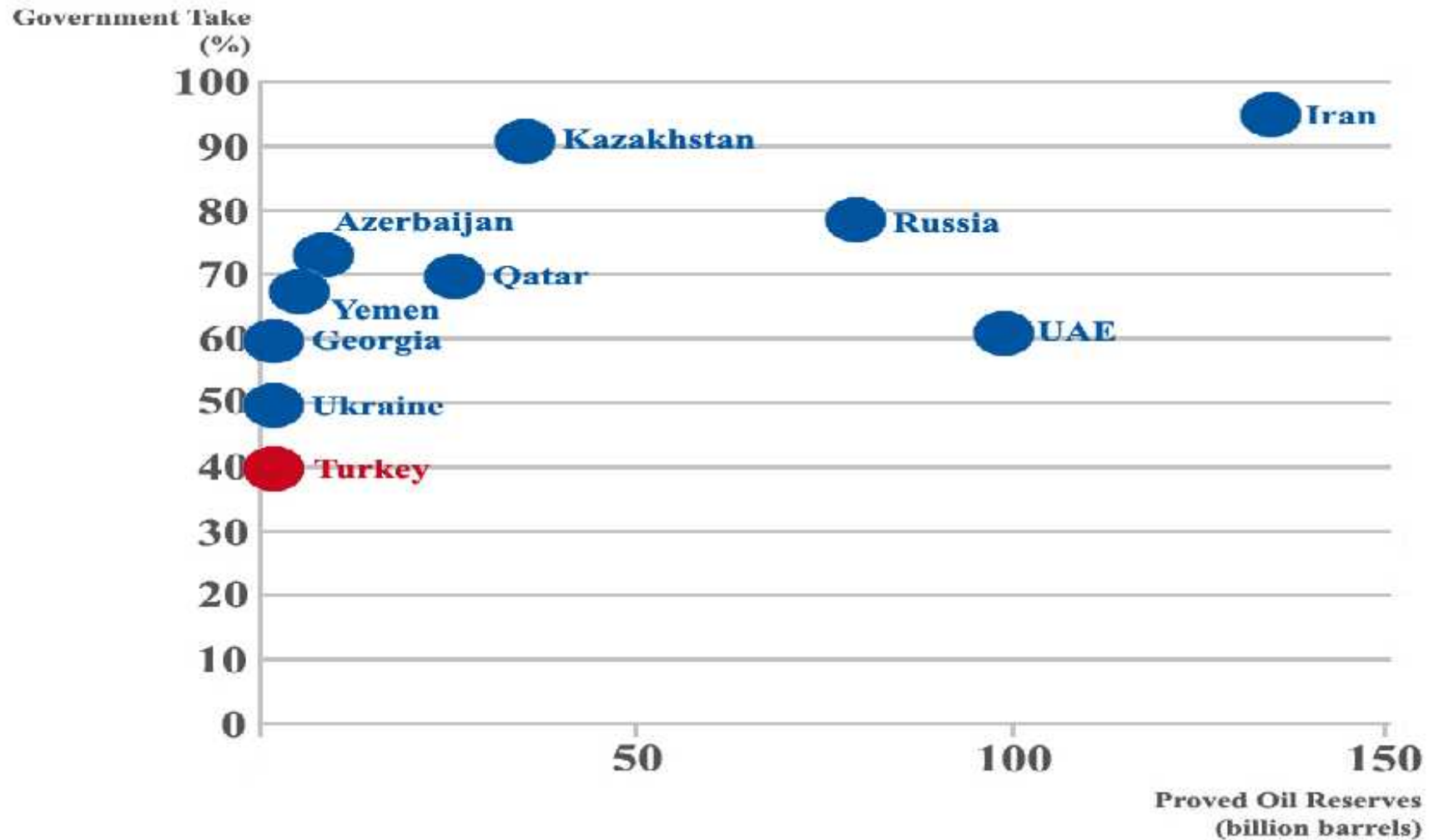
Turkey's Position in Global Ranking for E&P Investments



<u>Country</u>	<u>Ranking Among 147 Region</u>	<u>Country</u>	<u>Ranking Among 147 Region</u>
Faroe Islands	18	Colombia	65
Greek Cyprus	27	Turkey	66
Hungary	28	Namibia	67
Poland	41	Ethiopia	72
Guyana	48	Guatemala	77
Romania	53	Ghana	80
Israel	54	Mozambique	90
Morocco	57	Gabon	100
Bulgaria	62		

Source: Fraser Institute

Government Take vs. Proven Oil Reserves



Source: GDPA & TPIC

Several Reasons Drive Investment in the Turkish Energy Sector



- A growing economy that drives energy consumption and thus demand
- Competitive incentive packages
- Transparent market rules and structure with well functioning government agencies
- Availability of various trading opportunities (especially for electricity)
- Availability of interconnections with neighboring countries
- Strong political focus on liberalization and for establishing a competitive and transparent market
- Strong political focus on promoting investments
- Availability of skilled human resources at cost competitive rates

Turkey is at the Crossroads of Consumption and Production: a Natural Bridge



Gas Production



Source: BP Statistical Review 2013

Petroleum Production



Source: BP Statistical Review 2013

Strengths and Weaknesses of Turkish E&P Sector



Strengths

- High oil prices
- Appetite domestic market
- Potential in offshore, unconventional resources, Paleozoic structures and central basins
- Qualified labour force

Weaknesses

- Despite the high risk in central basins, low well productivity
- High cost due to the production of limited oil from various fields
- Waste of time for bureaucratic barriers
- Lack of transparent and credible database



Former Petroleum Law

VS.

New Turkish Petroleum Law

Scope & Definitions



- The clause regarding the ‘compliance with national interests’, one of the four articles vetoed in 2007, was literally preserved.
- The clause regarding the ‘country needs’, one of the four articles vetoed in 2007, and ‘rental’, which is paid in very low amounts, have been removed from the law. However, in Article 22, in case of a supply security problem, the Council of Ministers is authorized to decide to purchase the domestic production partially or completely from the market price.

Petroleum Districts & Exploration Licences



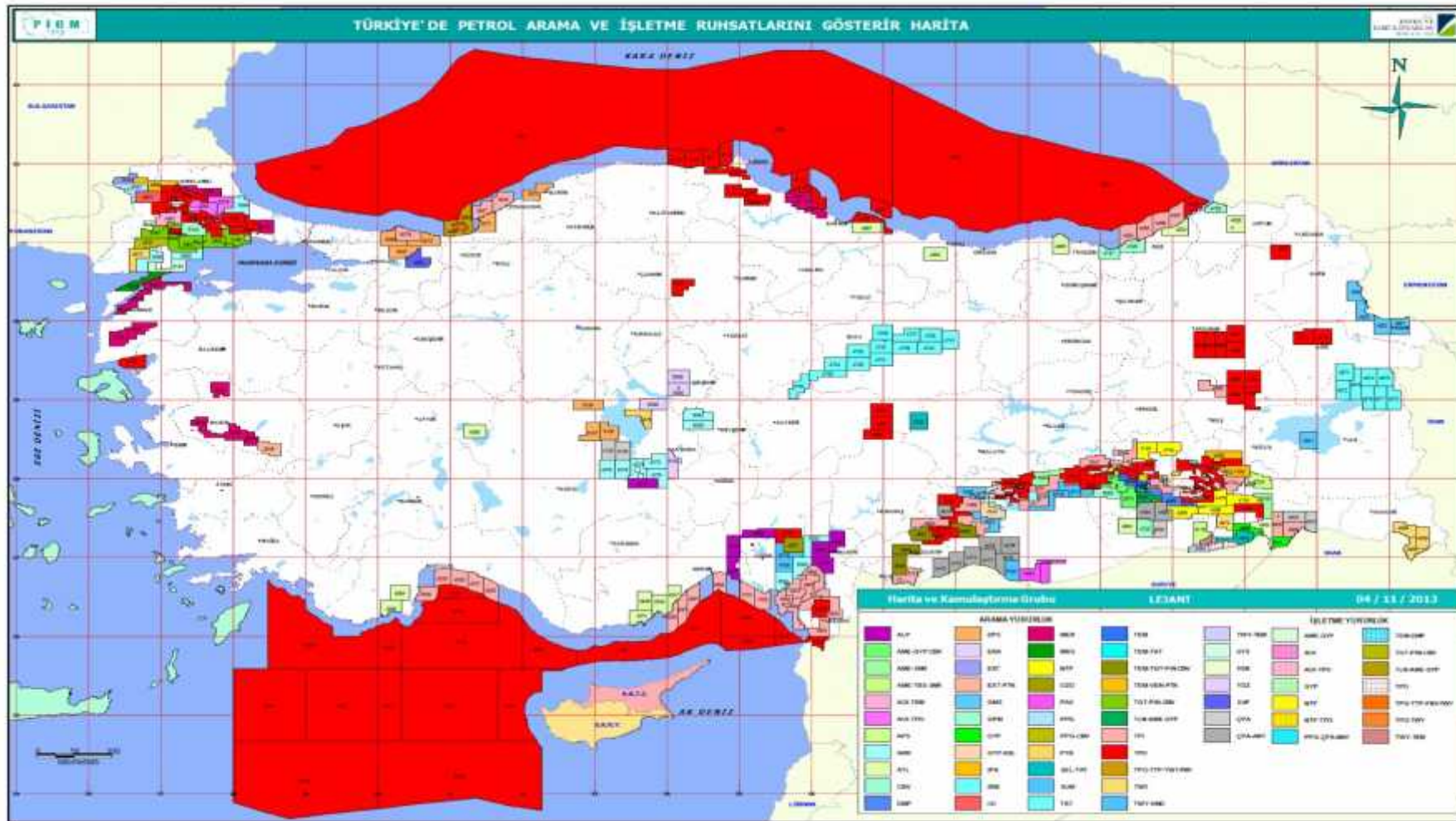
- **Limitations within each and every petroleum districts, which brings delimitation for TPAO in particular, has been removed.**
- **While exploration licences are defined on the basis of hectar in the former law, in the new law it is defined based on map sheets for onshore and latitude-longitude lines in offshore licences.**

Licence Adaptations



F18A1	F18A2	F18B1	F18B2
F18A4	F18A3	F18B4	F18B3
F18D1	F18D2	F18C1	F18C2
F18D4	F18D3	F18C4	F18C3

Turkey Concession Map 04-11-2013



Exploration Licence Periods & Evaluation Criteria



- While any company was able to hold a licence for eight years without any real investment under the former law, in accordance with the new law, an investment plan and warranty are taken each time while granting or extending the validity of the licence.
- The evaluation criteria of exploration licences have been made more concrete. All bids for any field will be evaluated more objectively and properly.

Warranties & Incentives



- In the new law, each investment commitment is bounded to a warranty of 2%. If the company realizes its' commitments, it will receive its warranty back in proportion to its' total commitments. If the company does not realize, it will loss all it's warranty and it's licence will be terminated.
- In order to encourage the investments in underexplored regions or production with unconventional methods, the government is able to offer some discounts in warranties.
- Council of Ministers shall determine to the invesments to be given petroleum right owners

Production Licences & Royalties



- Production time periods (20+10+10) are literally preserved. Evaluations will be based on production programmes. As for the extension decisions, Ministry of Energy has been indicated as the authorized body instead of Council of the Ministers.
- Gradual Royalty Model, one of the four articles vetoed in 2007, has been removed from the law. 12.5% royalty rate has been literally preserved.
- Transfer of 50% of royalty revenues to provincial administrations, one of the four articles vetoed in 2007, has been removed from the law.
- While royalty had been paid on wellhead prices as per the former law, it is being paid on market prices in accordance with the new law.

Storage & Taxation



- There was no clause regarding the storage in the former law which is a key issue for the security of supply. In accordance with the new law, operators are granted with priority for any possible storage investment in their licence area.
- In accordance with the existing taxation legislation, taxes paid by a petroleum right owner are as follows: 20% Corporate Tax + 15% Withholding Tax + 2.5% Income Tax = 37.5%. It means that tax cap (from 55%) does not cause any loss in government's tax revenues.

Incentives for Geothermal & Capital Transfers



- In order to encourage E&P companies to make geothermal investments, E&P companies are allowed to use all drilling equipments for geothermal operations as well.
- In accordance with the new law, E&P companies are allowed for capital transfers each and every quarter.

Foreign Employees & Marketing of GDPA Archives



- Foreign employees, who are going to work up to 6 months, will be exempt from all bureaucratic processes.
- Archives of the General Directorate of Petroleum Affairs will be classified, digitalized and marketed.

Transition Period & TPAO's Privileges



- In order to encourage existing licence holders to subject to the new law, the government will offer them brand new licences within the transition period in return for investment programs and warranties.
- TPAO's production licences, which were given in accordance with the existing law, will last until the end of the production.
- Fields time of production has expired are asked to TPAO by the Ministry before auction. On the request of TPAO these fields are not auctioned and given to TPAO
- All other articles which grant privileges to TPAO have been removed from the new law.



Forward Plan & Policy Recommendations

PETFORM's Recommendations E&P Sector in Particular



- 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. GDPA's human resources should be strengthened.**
- 6. Technical data on sedimentary basins should be classified for each basin and digitalized.**

PETFORM's Recommendations

Energy Sector in General



- 1. New policies should be implemented in order to increase the share of domestic resources in total energy consumption and to promote energy efficiency.**
- 2. A comprehensive plan should be prepared in order to examine the shale oil/gas potential of Turkey.**
- 3. Alternative resources, nuclear energy in particular, should be promoted.**
- 4. Environment-friendly energy strategies should be implemented.**