



Turkish Exploration and Production Sector

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AND ENVIRONMENTAL ACTIVITIES

IENE 3RD SEE EUROPE HYDROCARBONS UPSTREAM WORKSHOP

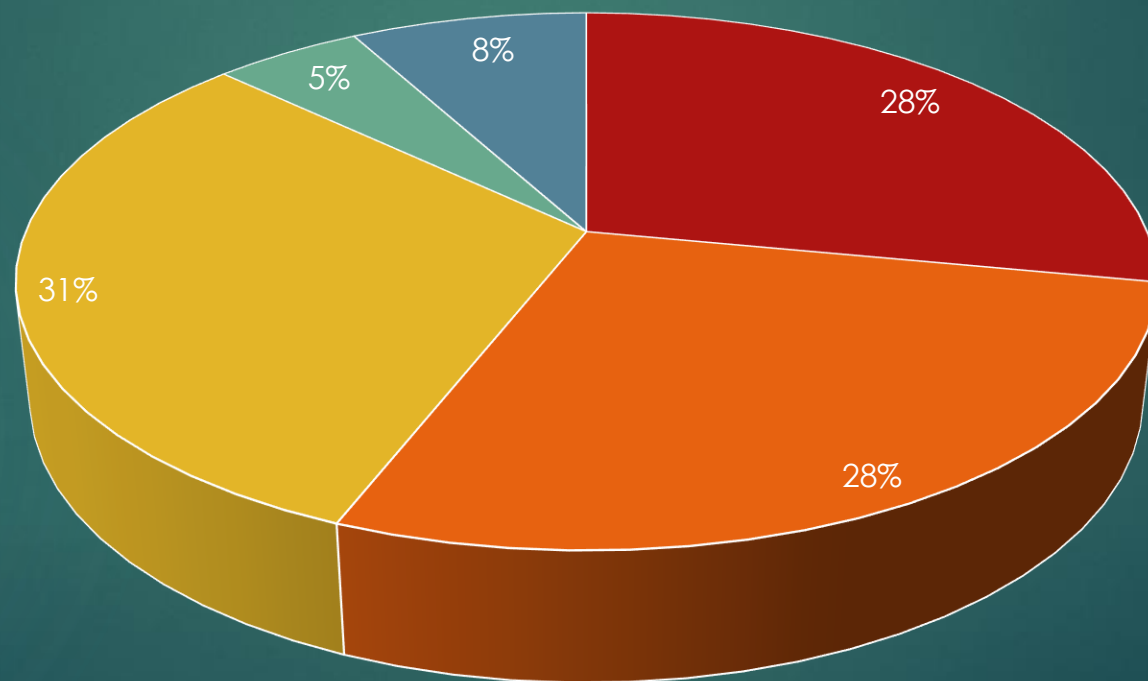
ROYAL OLYMPIC HOTEL, ATHENS, 30-31 OCTOBER 2018

Primary Energy Mix of Turkey

(2016: 136.2 Mil. toe)

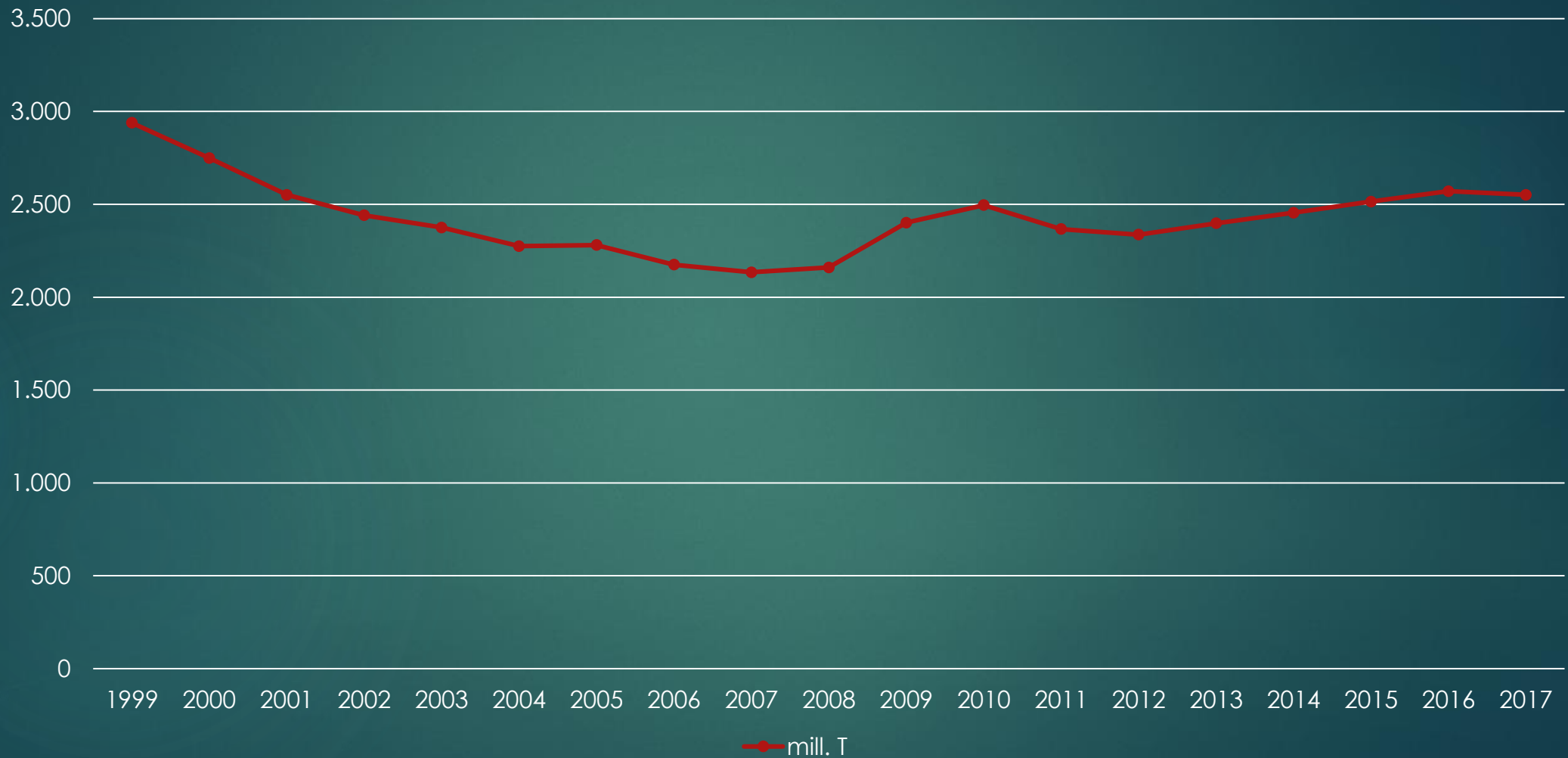
Source: MENR

Resources



■ Nat. Gas ■ Coal ■ oil ■ Hydrolik ■ Other Renewables

Crude Oil Production of Turkey



Source: PIGM

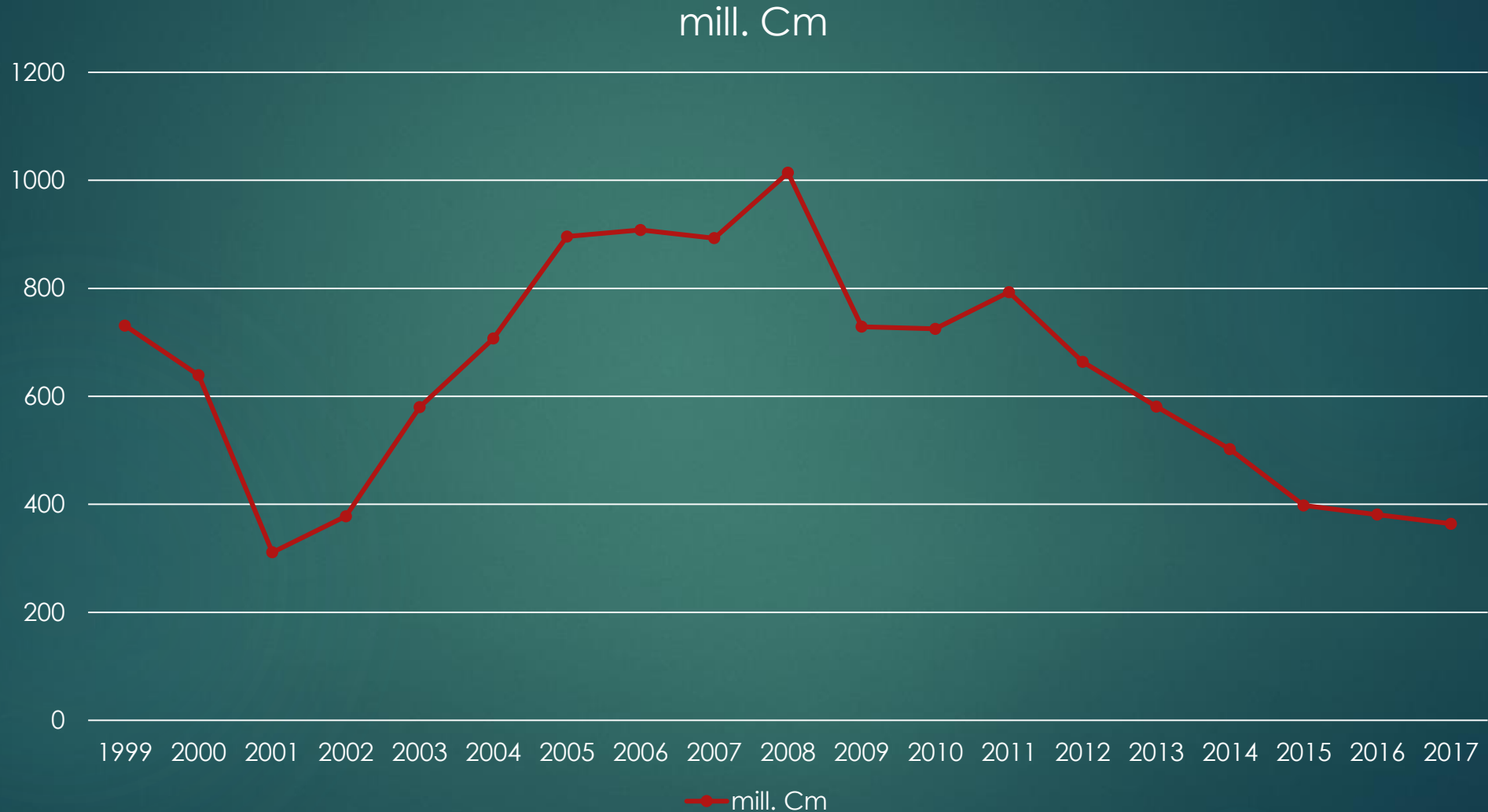
Petroleum Imports of Turkey in 2017 by Country (t)

Source: EMRA

Country	Crude Oil	Diesel Types	Fuel Oil Types	Aviation Fuels	Marine Fuels	Others	Total	Share (%)
Iran	11.492.823,954	0,000	0,000	0,000	0,000	0,000	11.492.823,954	26,94
Russian Federation	2.074.127,732	3.783.663,271	0,000	0,000	0,000	2.189.694,391	8.047.485,394	18,87
Iraq	7.057.601,615	0,000	0,000	0,000	0,000	0,000	7.057.601,615	16,55
India	0,000	3.488.846,668	0,000	21.954,300	0,000	0,000	3.510.800,968	8,23
Saudi Arabia	1.820.281,937	358.956,517	0,000	900,000	0,000	95.573,571	2.275.712,025	5,34
Kuwait	1.724.535,731	0,000	0,000	0,000	0,000	0,000	1.724.535,731	4,04
Greece	162.830,324	1.237.485,161	0,000	43.744,505	0,000	0,000	1.444.059,990	3,39
Bulgaria	0,000	1.315.872,667	0,000	0,000	0,000	0,000	1.315.872,667	3,09
Israel	0,000	1.175.160,041	5.416,000	0,000	1.040,000	0,000	1.181.616,041	2,77
Italy	126.491,038	971.543,348	48.768,122	0,000	0,000	0,000	1.146.802,508	2,69
Kazakhstan	470.428,318	0,000	0,000	0,000	0,000	0,000	470.428,318	1,10
Belgium	0,000	117.711,774	292.841,302	0,000	0,000	22.899,515	433.452,591	1,02
Netherlands	0,000	249.506,615	59.888,612	2.162,515	0,000	42.627,572	354.185,314	0,83
Spain	0,000	104.023,325	248.071,733	0,000	0,000	0,000	352.095,058	0,83
Egypt	205.757,688	22.486,022	0,000	39.774,491	0,000	0,000	268.018,201	0,63
Colombia	254.582,707	0,000	0,000	0,000	0,000	0,000	254.582,707	0,60
Canada	74.388,715	144.844,944	0,000	0,000	0,000	0,000	219.233,659	0,51
Libya	168.370,482	0,000	0,000	35.966,542	0,000	0,000	204.337,024	0,48
U.S.A.	0,000	196.920,089	0,000	0,000	0,000	0,000	196.920,089	0,46
Romania	0,000	194.571,286	0,000	0,000	0,000	0,000	194.571,286	0,46
Nigeria	134.328,967	0,000	0,000	0,000	0,000	0,000	134.328,967	0,31
United Arab Emirates	0,000	40.259,503	0,000	51.562,596	0,000	0,000	91.822,099	0,22
Sweden	0,000	0,000	81.508,359	0,000	0,000	0,000	81.508,359	0,19
France	0,000	0,000	38.237,318	0,000	0,000	30.812,352	69.049,670	0,16
England	0,000	1.620,000	39.284,966	0,000	0,000	0,000	40.904,966	0,10
Germany	0,000	0,000	0,000	0,000	0,000	22.675,792	22.675,792	0,05
Bahrein	0,000	21.710,098	0,000	0,000	0,000	0,000	21.710,098	0,05
Oman	0,000	17.120,769	0,000	0,000	0,000	0,000	17.120,769	0,04
Denmark	0,000	0,000	14.702,484	0,000	0,000	0,000	14.702,484	0,03
Portugal	0,000	13.420,766	0,000	0,000	0,000	0,000	13.420,766	0,03
Poland	0,000	0,000	0,000	795,815	0,000	0,000	795,815	0,00
Azerbaijan	0,000	0,000	0,000	0,000	170,888	0,000	170,888	0,00
Malta	0,000	0,000	39,390	0,000	0,000	0,000	39,390	0,00
Estonia	0,000	0,000	0,000	35,390	0,000	0,000	35,390	0,00
Total	25.766.549,208	13.455.722,864	828.758,286	196.896,154	1.210,888	2.404.283,193	42.653.420,593	100

Total Petroleum Exports of Turkey in 2017: 10.081.991,5 t, Domestic Production: 2.551.929 t

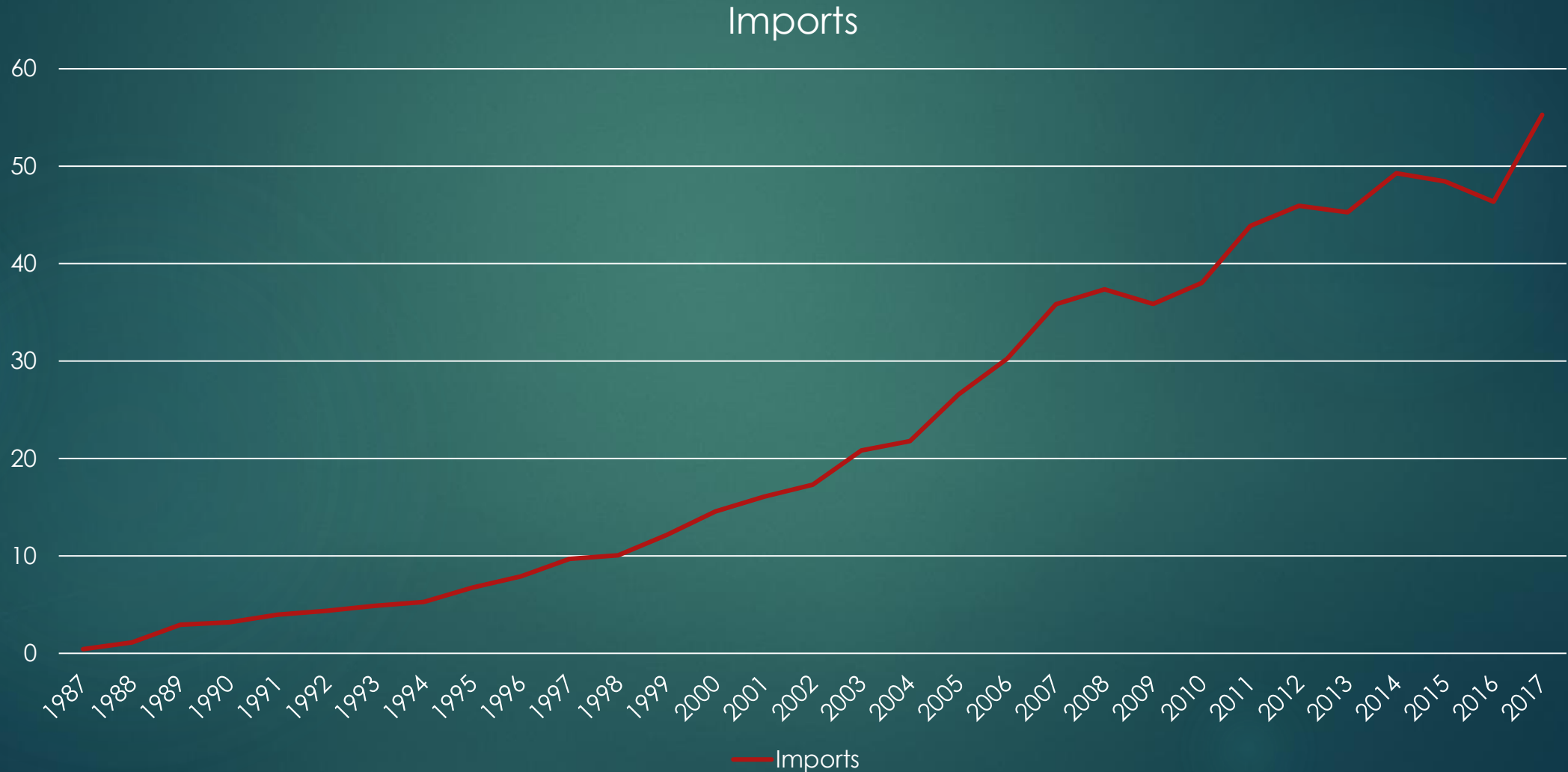
Natural Gas Production of Turkey



Source: PIGM

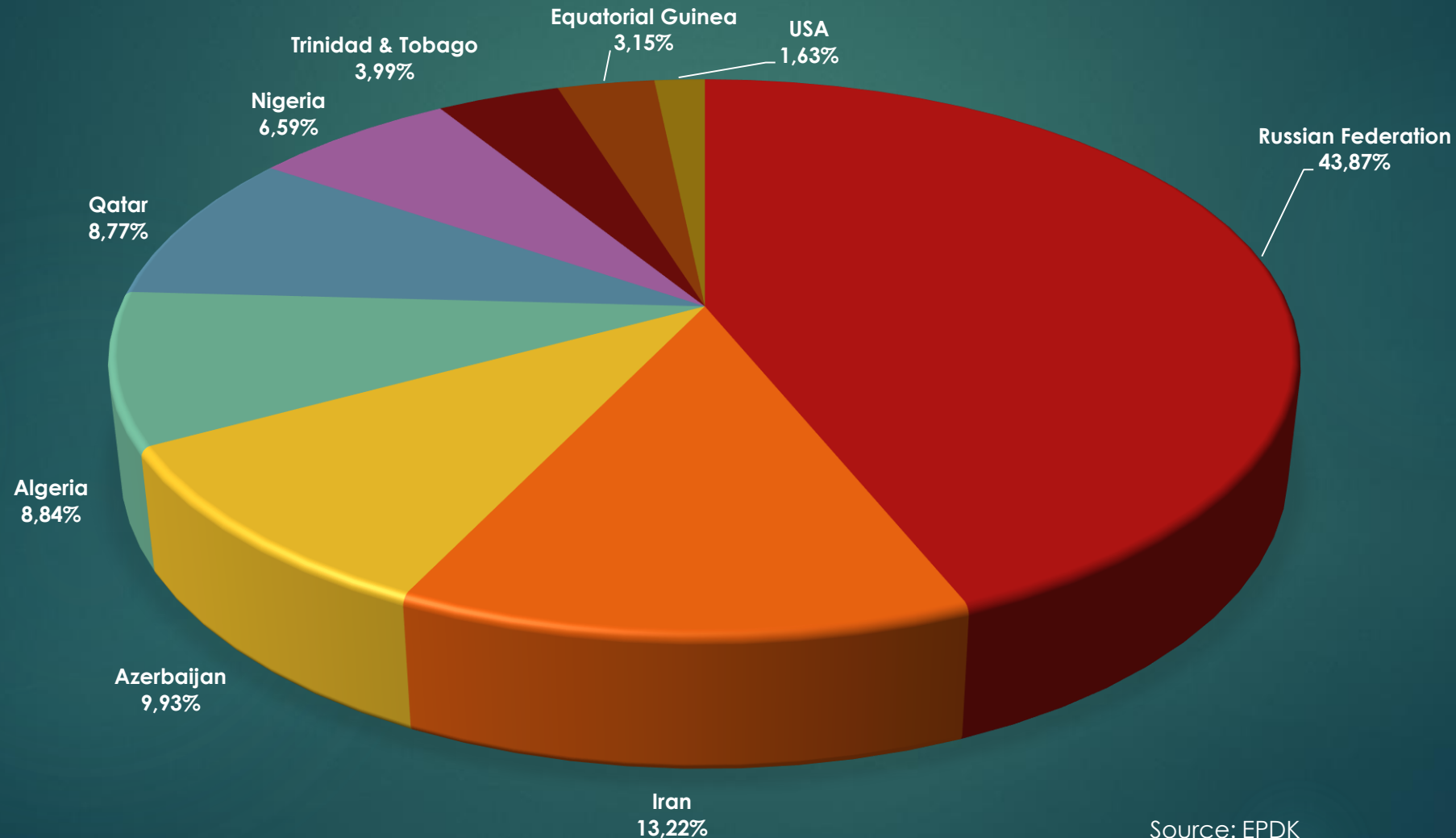
Natural Gas Imports of Turkey

(2017 Import: 55,25 bcm, Export: 0,63 bcm Production: 0,35 bcm)



DISTRIBUTION OF Natural Gas IMPORTS

December 2017 (Total~6 bcm, LNG~2 BCM, Source: EPDK)



Source: EPDK

Oil and gas reserves of Turkey

2017 YIL SONU İTİBARIYLA TÜRKİYE HAM PETROL REZERVLERİ CRUDE OİL RESERVES OF TÜRKİYE BY THE END OF 2017

	Rezervardaki Petrol (*) Original Oil In Place		Üretilebilir Petrol Recoverable Oil		Kümülatif Üretim		Kalan Üretilebilir Petrol	
	Varil Bbls	M.Ton M.Tons	Varil Bbls	M.Ton M.Tons	Varil Bbls	M.Ton M.Tons	Varil Bbls	M.Ton M.Tons
Toplam	7 260 402 311	1 058 063 633	1 440 593 487	205 420 341	1 075 375 837	152 766 661	365 217 650	52 653 680

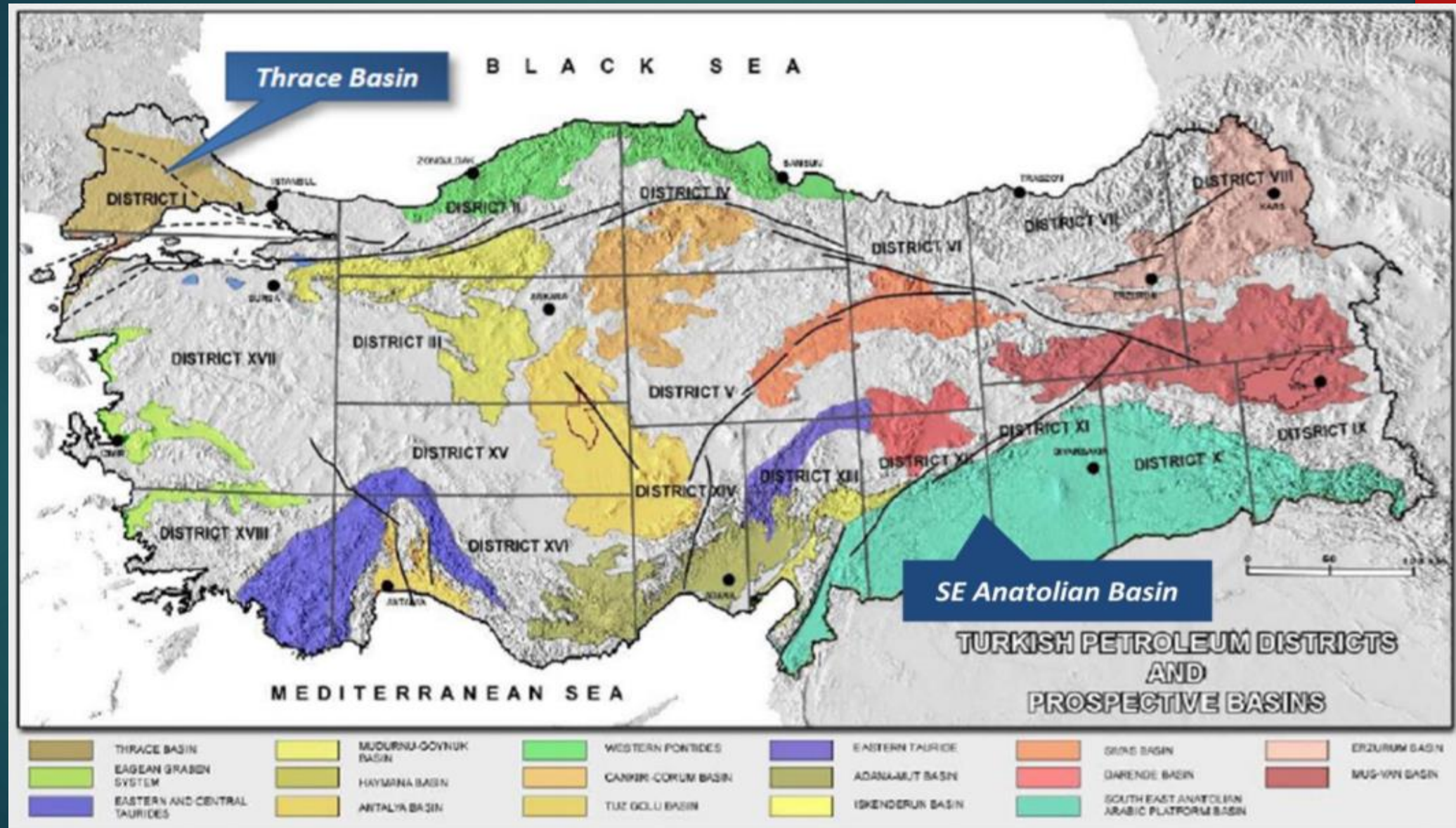
(*) İspatlanmış, muhtemel ve mümkün rezervler toplamıdır.

2017 YILI SONU İTİBARIYLA TÜRKİYE DOĞALGAZ REZERVLERİ NATURAL GAS RESERVES OF TÜRKİYE BY THE END OF 2017

	Rezervardaki Gaz (*) Original Gas In Place	Üretilebilir Gaz Recoverable Gas	Kümülatif Üretim Cumulative Production	Kalan Üretilebilir Gaz Remaining Recoverable Gas
	M³	M³	M³	M³
Toplam	25 987 376 299	19 950 561 587	15 695 916 079	4 254 645 508

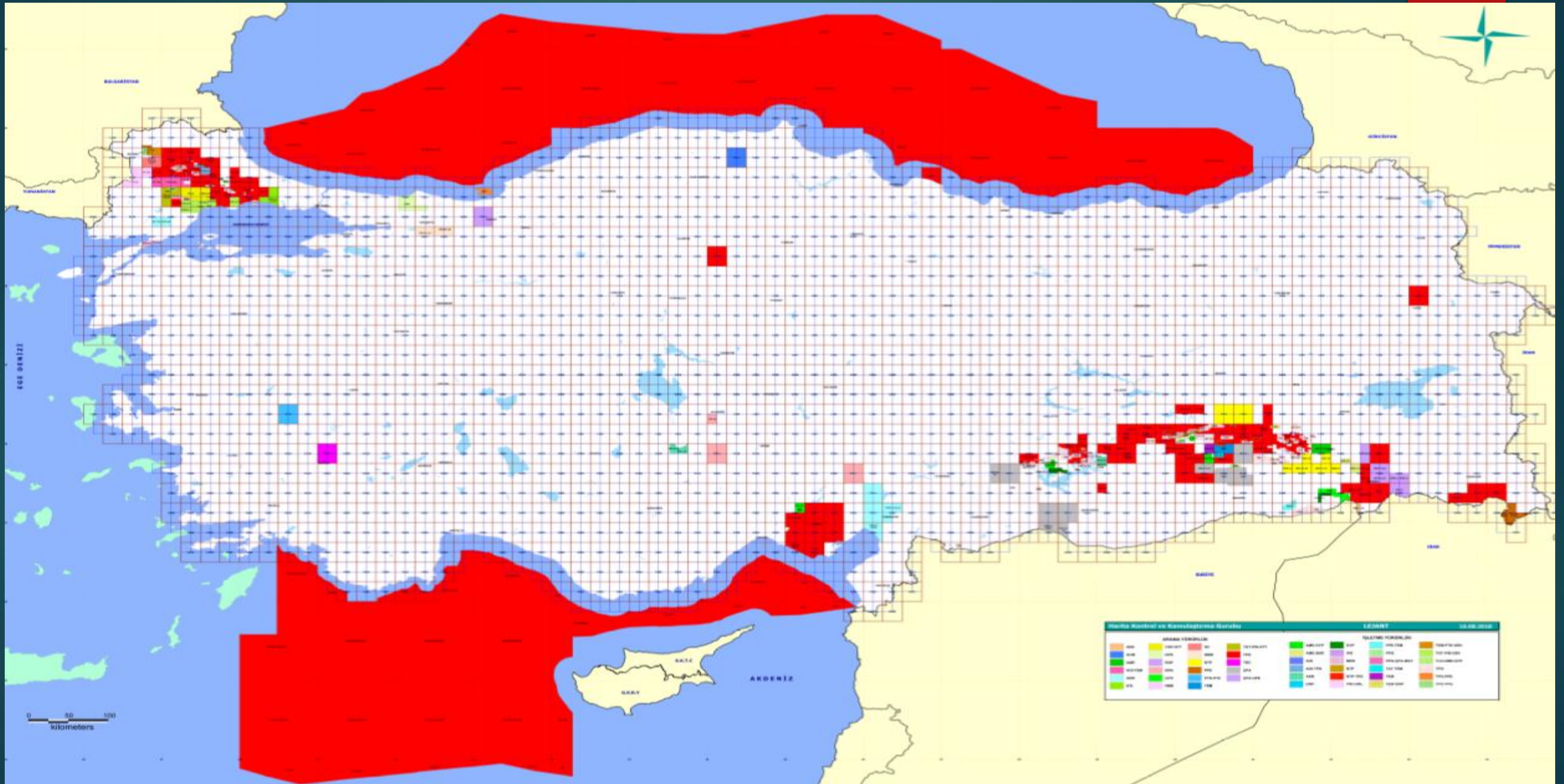
(*) İspatlanmış, muhtemel ve mümkün rezervler toplamıdır.

Petroleum Districts and Prospective Basins



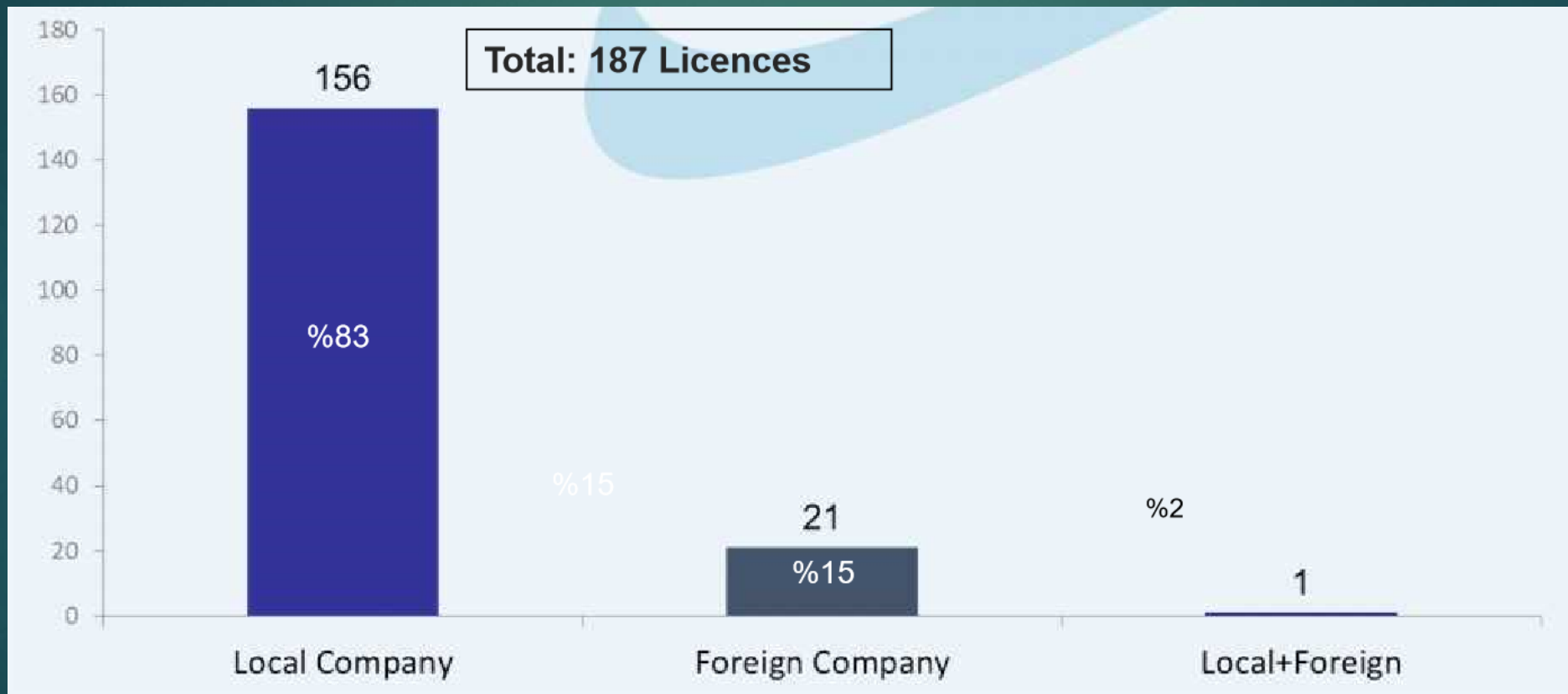
Source: Ozer Balkaş, 2016)

Licences



Source: PIGM

Licences

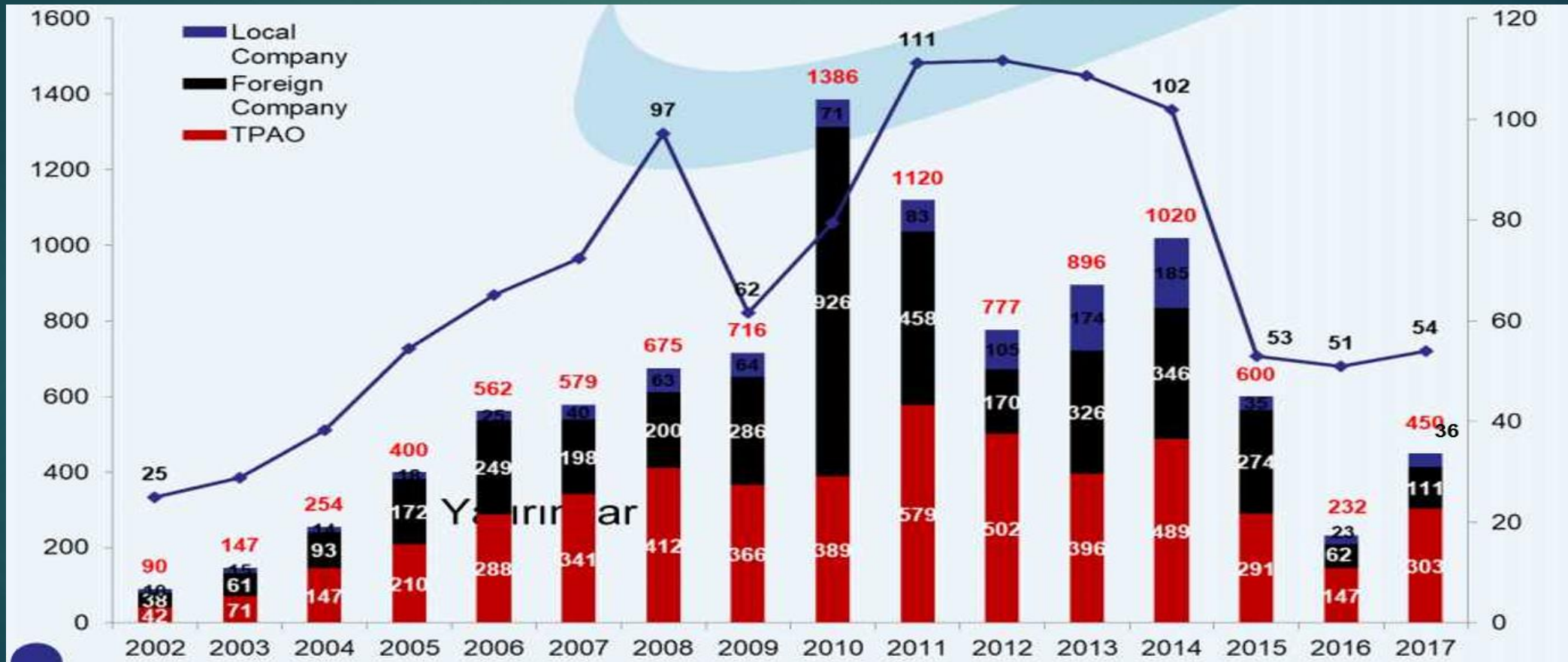


Source:
Petform

Oil Prices and E&P Investments

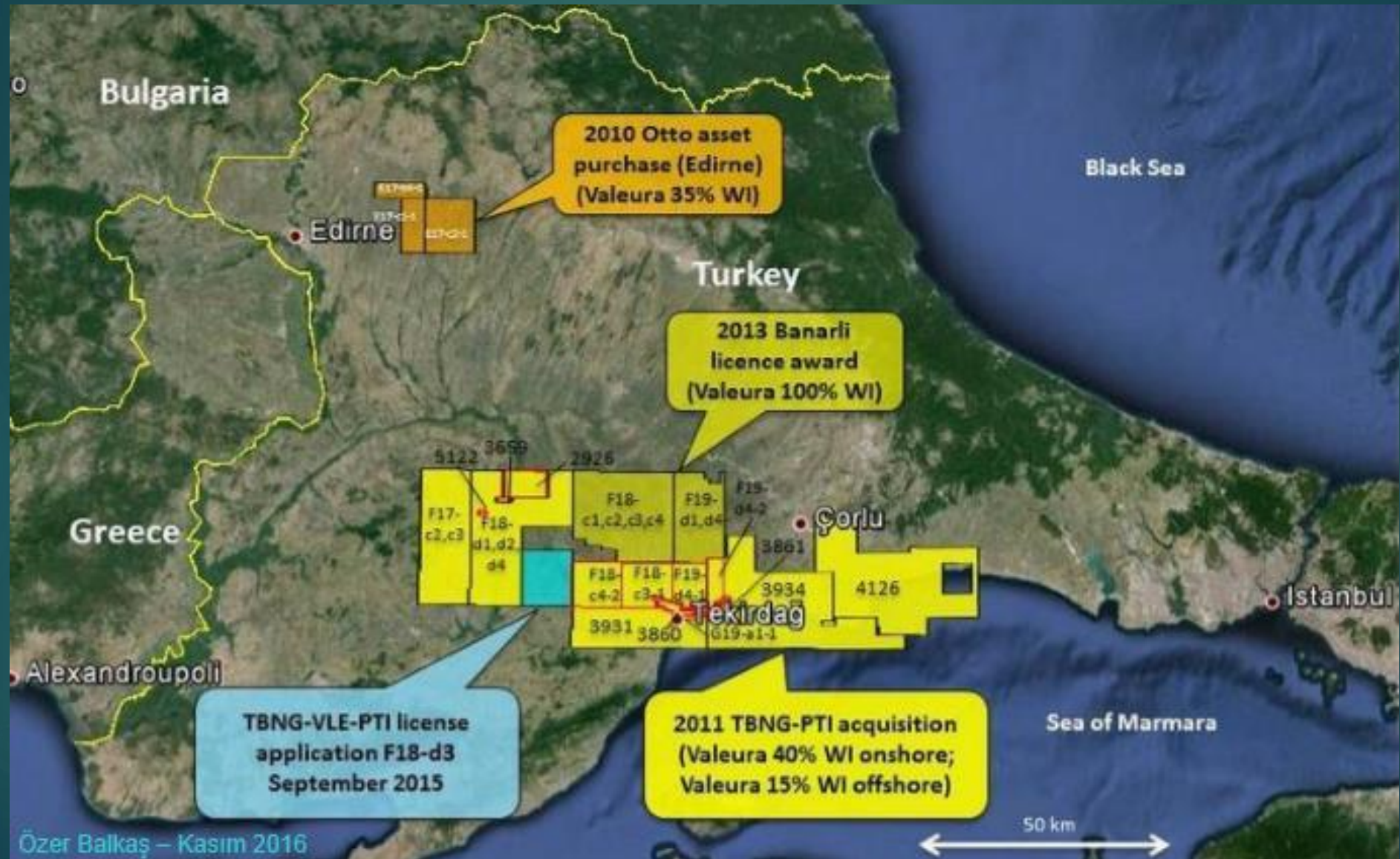
Mill \$

Brent \$/bl

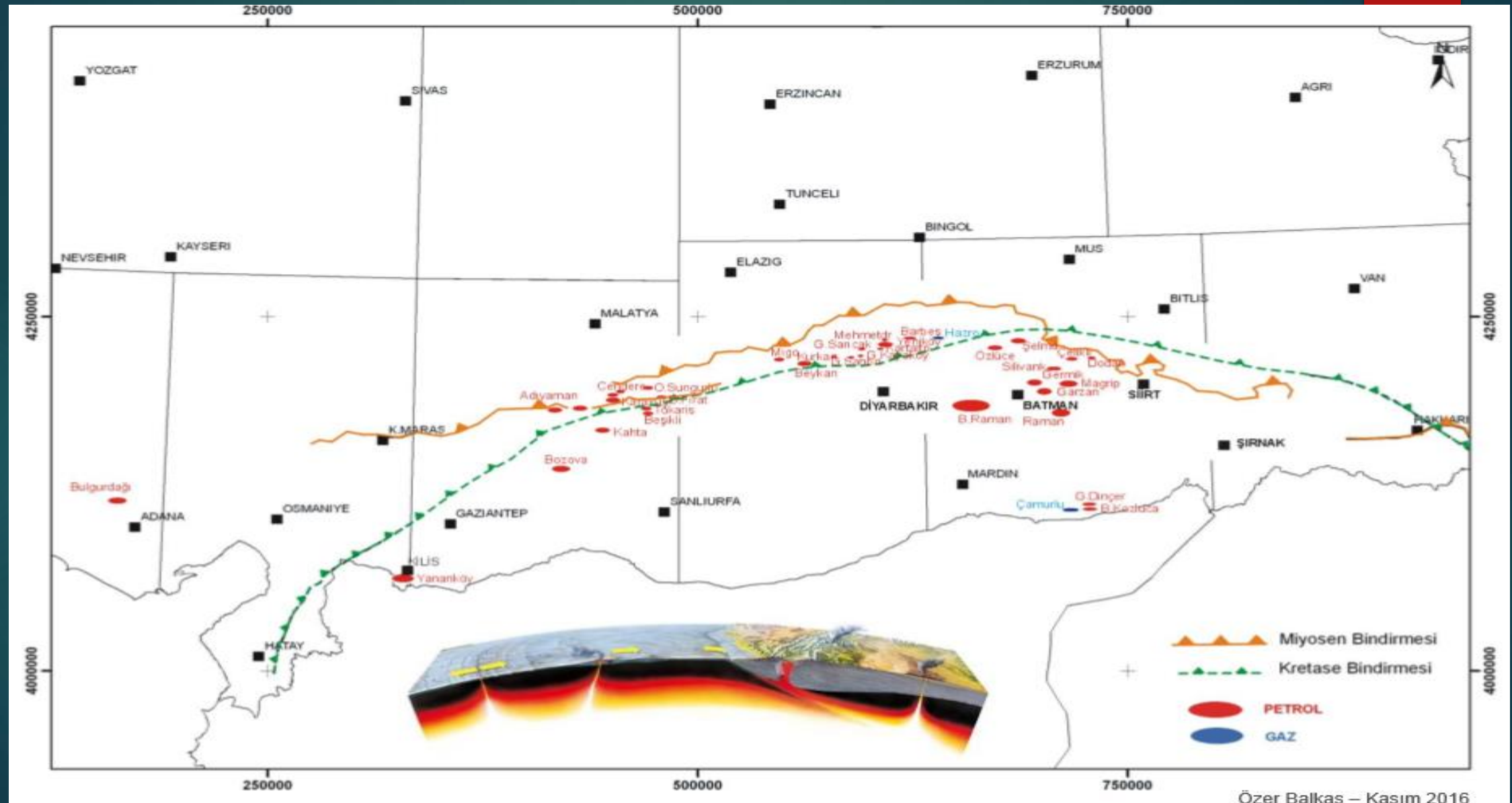


Source: Petform

Eastern Thrace Basin



Oil and Gas Fields in SE Anatolia

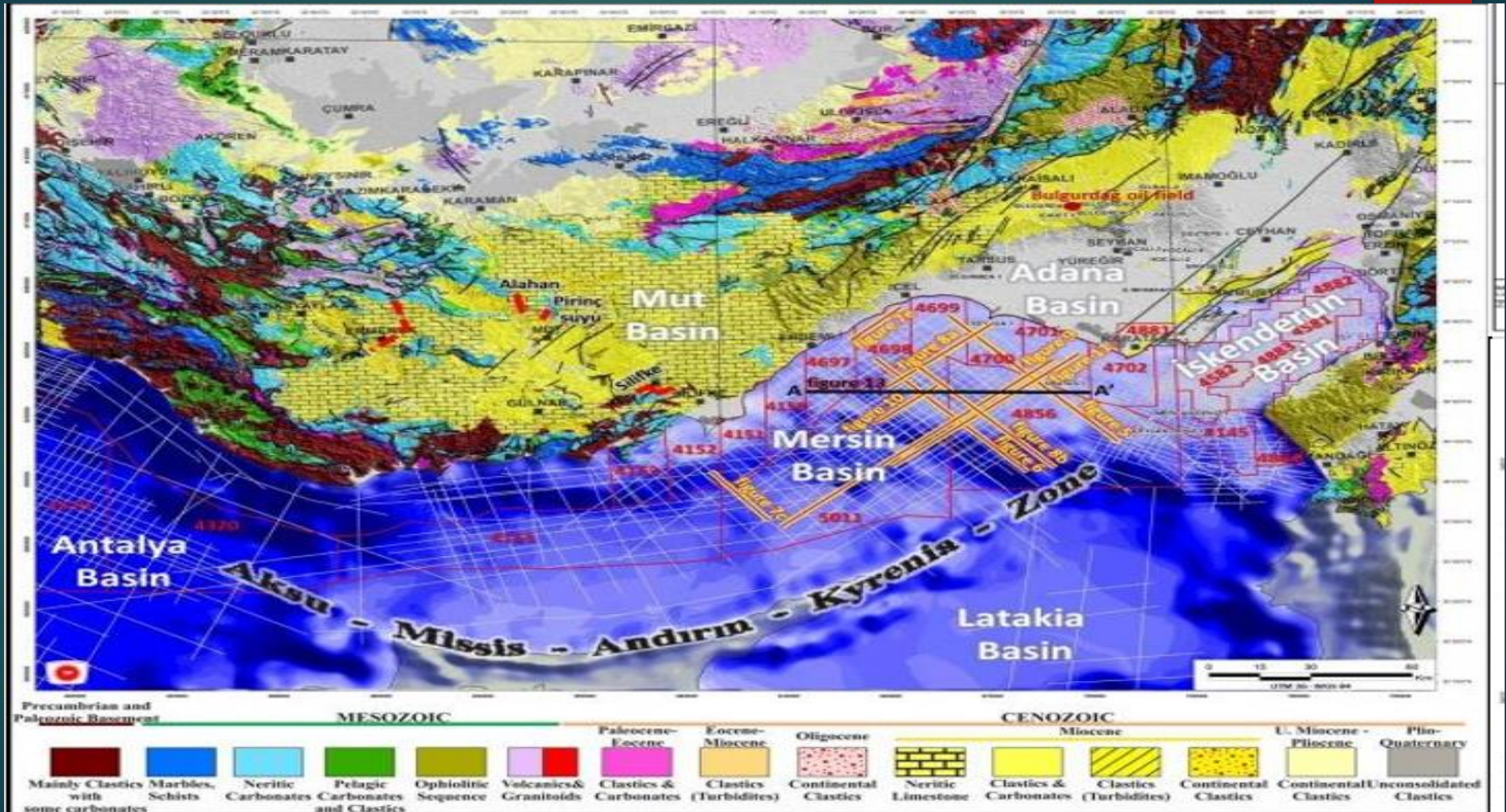


Potential Basins for Unconventional Oil and Gas



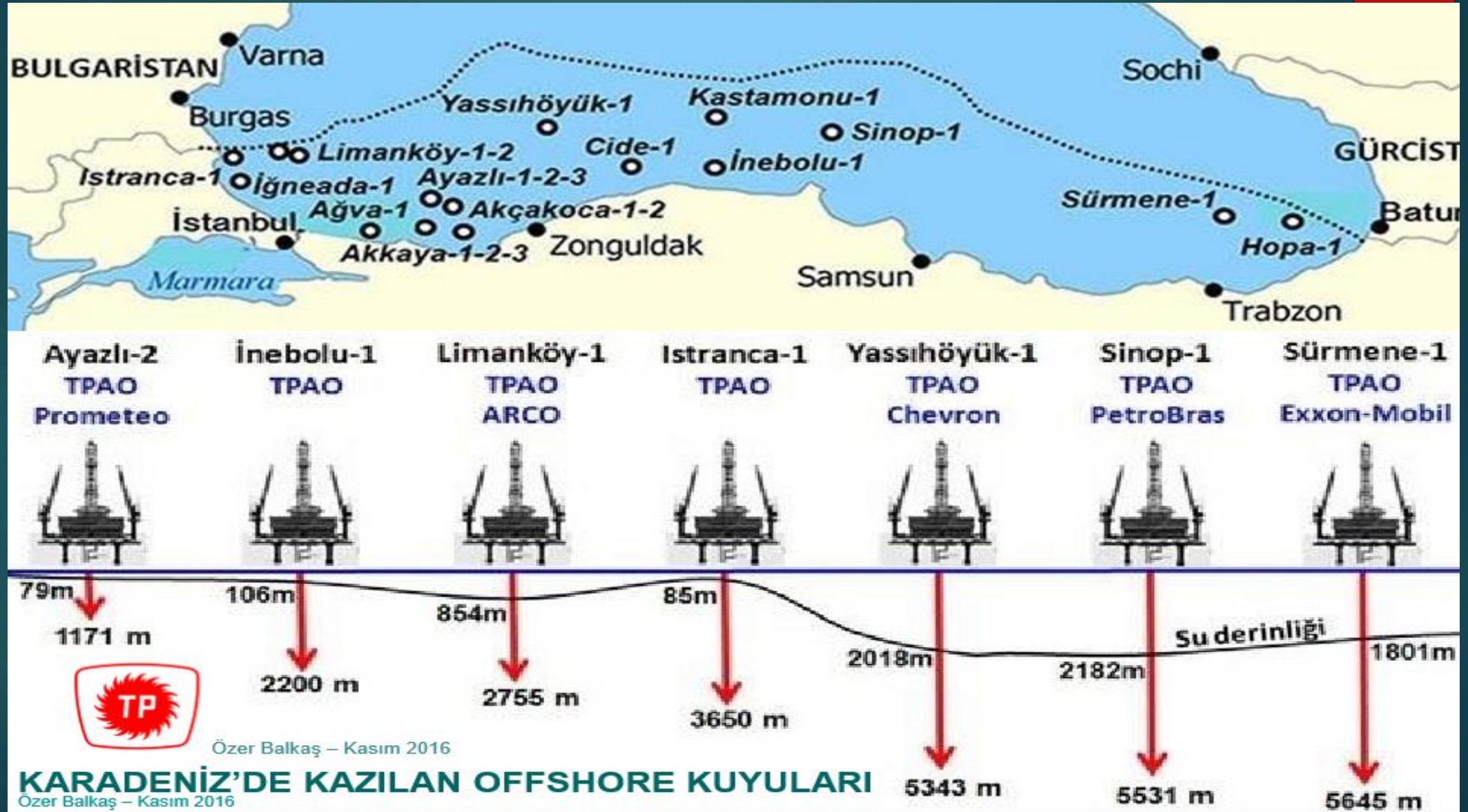
Source: US Energy Information Administration, 2013

Exploration Plays along the Mediterranean



Source: Çiftçi, Hacıköylü, Kalanyuva, & Aktepe, TPAO, July 2012

Offshore Drillings in Black Sea



Conclusions

- ▶ Domestic Production is stagnating and oil&gas imports are growing
- ▶ Proven reserves are diminishing
- ▶ Low well production (in average 43 bl/d)
- ▶ There is still potential for new discoveries of conventional and unconventional oil&gas fields



Thank you

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