“Trends & Dynamics of Turkish Natural Gas Market & Its Affects to Transit Projects via Turkey”

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Chairman of the Board

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
50 Energy Companies

- AKENERJİ
- AKSA DOĞALGAZ
- ALADDIN MIDDLE EAST
- ANATOLIA ENERGY
- ANGORAGAZ
- ATTİLA DOĞAN İNŞAAT
- AVRASYA GAZ
- AYGAZ DOĞAL GAZ
- BM HOLDİNG
- BOSPHORUSGAZ
- BP
- ÇALIK ENERJİ
- DEMİRÖREN EGL
- DOĞAL ENERJİ
- EDISON
- EGE GAZ
- ENEL
- ENERCO ENERJİ
- ENERJİSA
- ENI
- E.ON TURKEY ENERJİ
- ERDGAZ
- EWE ENERJİ
- EXXONMOBIL
- GDF SUEZ
- GENEL ENERGY
- GÜNEY YILDIZI PETROL
- HATTUŞA ENERJİ
- HONEYWELL
- IBS RESEARCH
- MARSA ENERGY
- MEDGAZ
- NATURGAZ
- N.V.TURKSE PERENCO
- OMV
- PALMET ENERJİ
- POZİTİF DOĞALGAZ
- SHELL ENERJİ
- SOCAR TURKEY ENERJİ
- STATOIL
- TEKFEN İNŞAAT
- TEMI
- THRACE BASIN
- TIWAY TURKEY
- TOTAL
- TURCAS
- VALEURA ENERGY
- VALVITALIA
- ZMB GAZ DEPO
- ZORLU ENERJİ

PETFORM Members in Turkish Economy (2011)

Total Turnover : **63.7 billion TL**

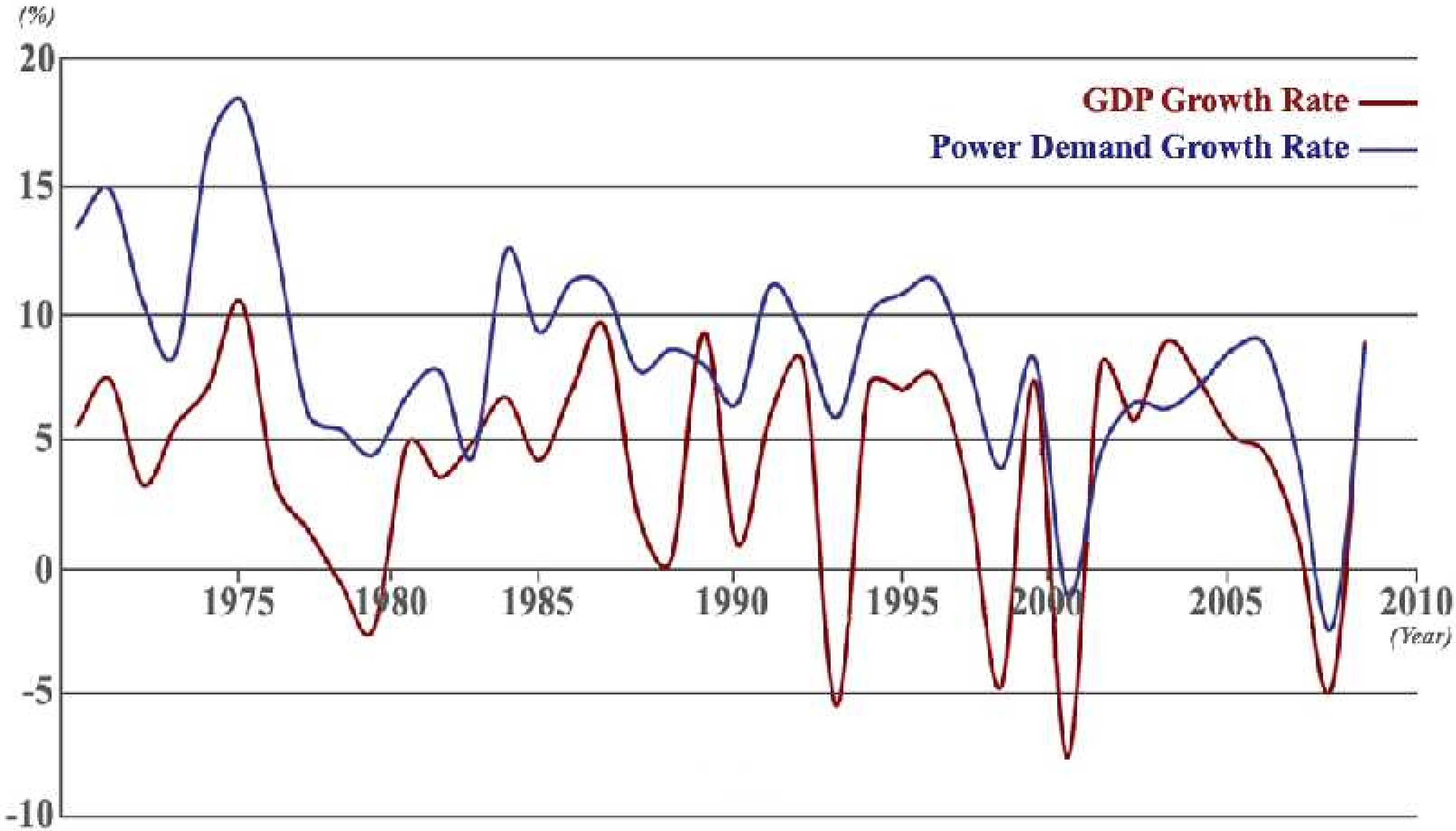
(~ 35.2 billion USD = 5% of GDP)

Total Tax : **4.3 billion TL**

(~ 2.4 billion USD)

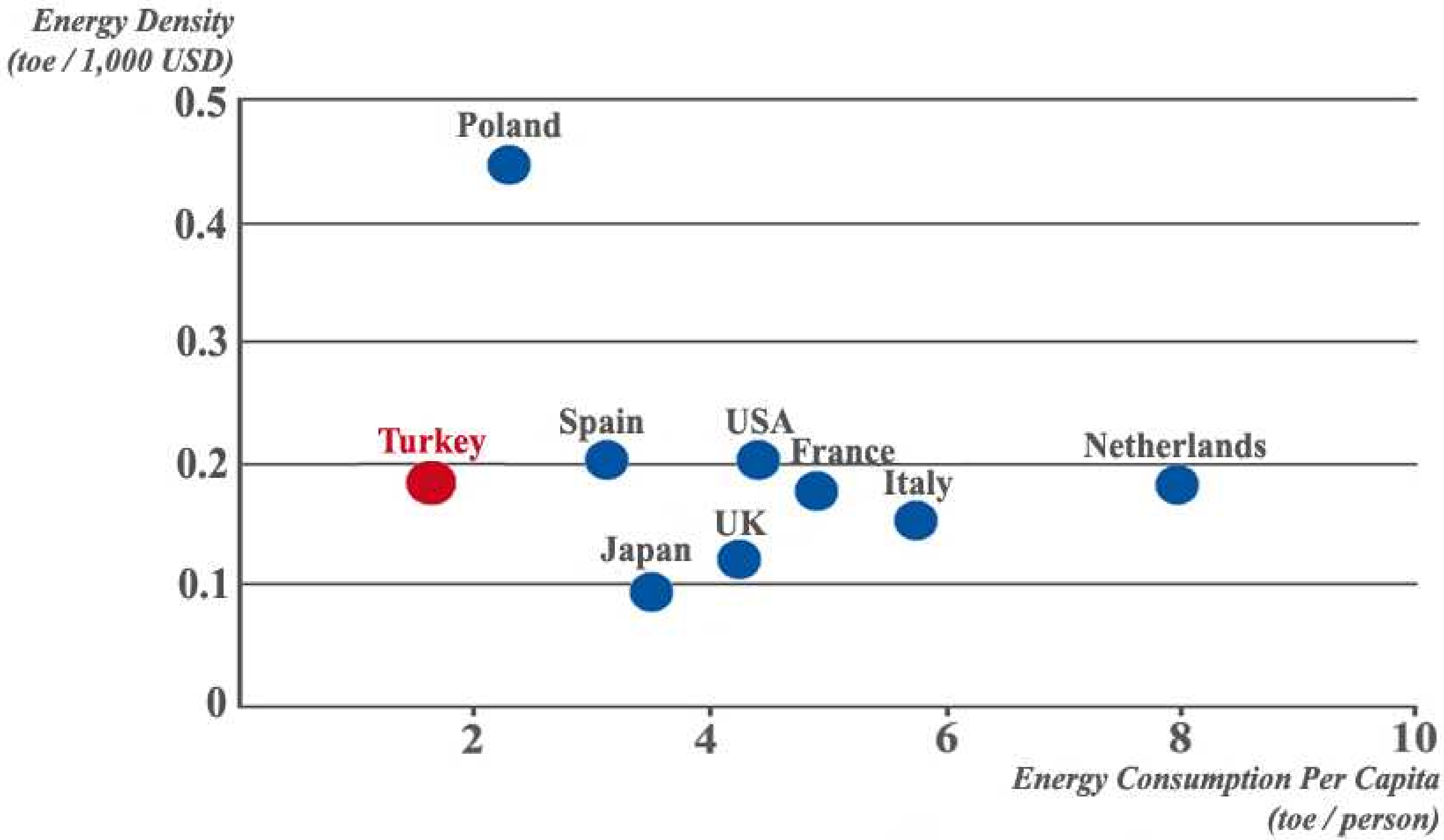
Total Employment : **31,500**

GDP vs. Power Demand Growth (1970 – 2010)



Source: Energy Market Regulatory Authority

Energy Density vs. Energy Consumption Per Capita (2010)



Source: Turkey Energy Efficiency Report (2010)

Change in Energy Balance (1990 – 2010)

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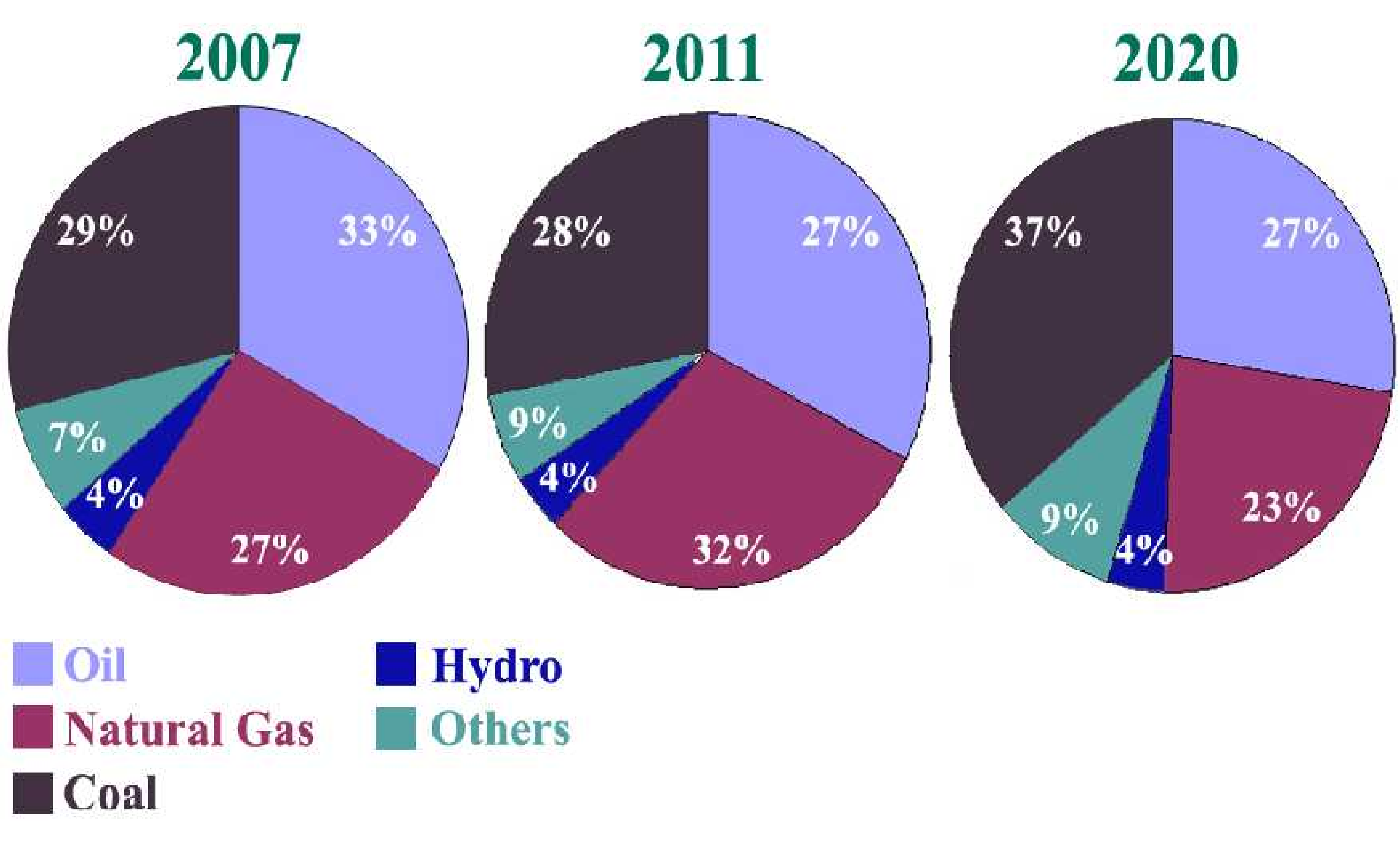
	1990	2010	Change
Total Energy Demand *(million toe)*	52.9	109.2	↑ 106% ↑
Total Domestic Production *(million toe)*	25.6	32.4	↑ 26% ↑
Total Energy Imports *(million toe)*	30.9	87.4	↑ 182% ↑
Coverage of Domestic Production to Total Consumption	48%	29%	↓ - 40% ↓

Source: Ministry of Energy and Natural Resources

Energy Consumption by Source (2007 – 2011 – 2020)



Source: Ministry of Energy and Natural Resources

Share of Energy in Turkey's Total Imports

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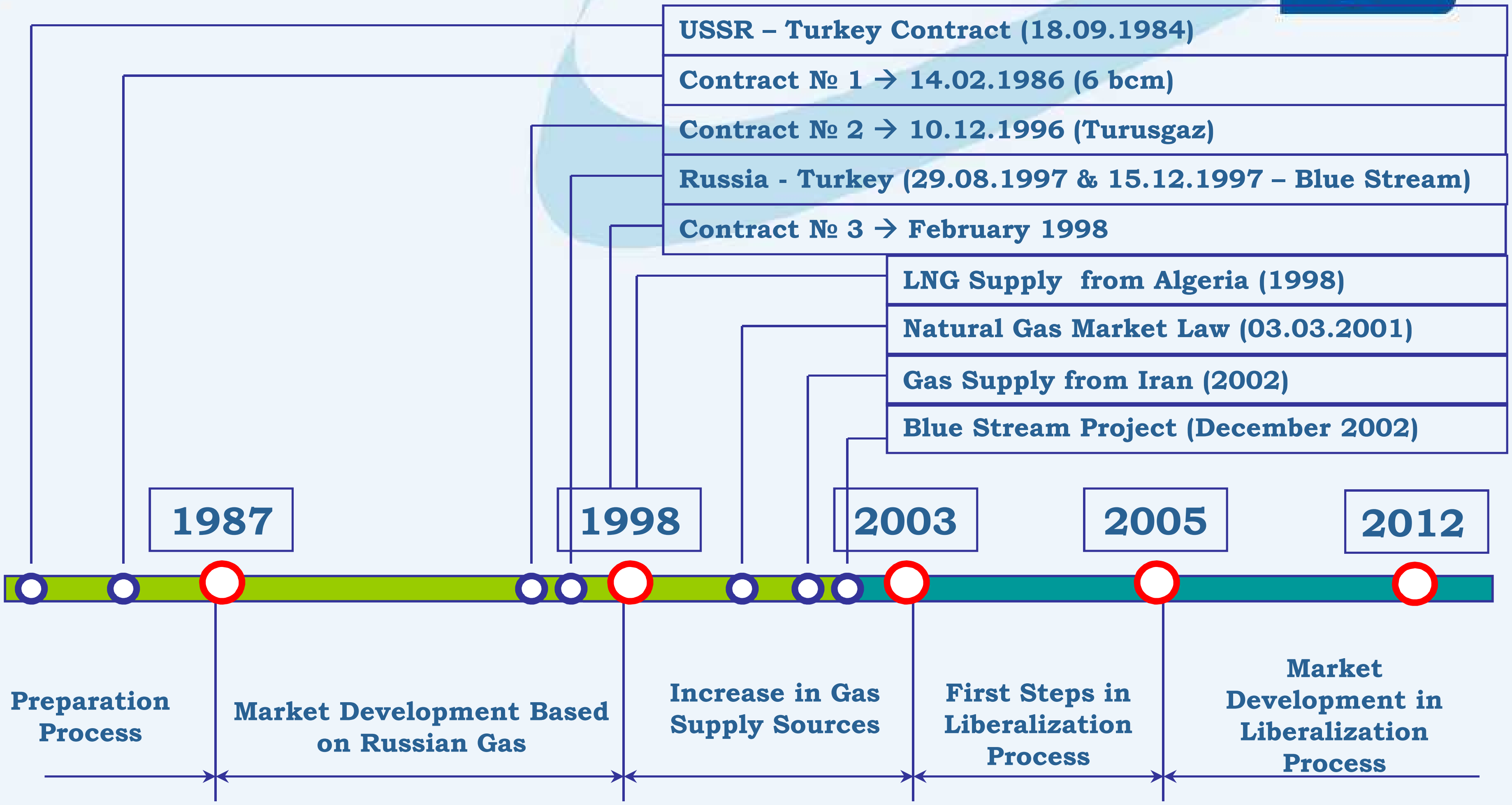
(billion USD)	2009	2010	2011
Crude Oil & Petroleum Products	14.9	20.6	29.2
Natural Gas	11.6	14.1	20.2
Coal	3.1	3.2	4.1
Total Energy Imports	29.9	38.5	54.1
Turkey's Total Imports	140.9	185.5	240.8
Share of Oil & Gas in Turkey's Total Imports	18.8%	18.7%	20.5%

Source: Ministry of Economy

Development Process of Turkish Natural Gas Market



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

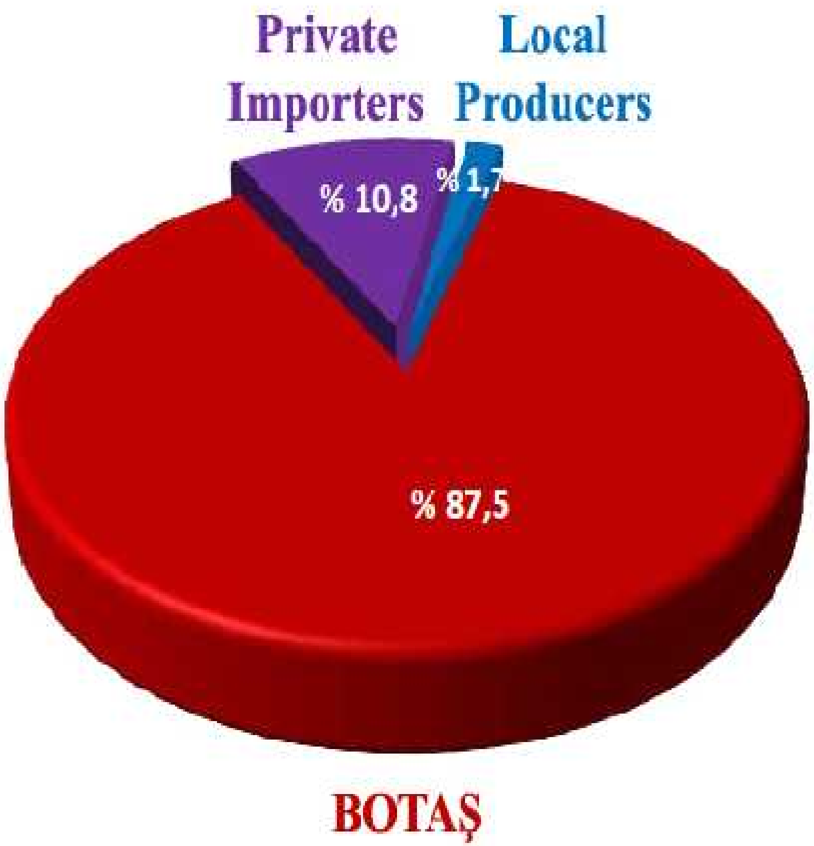
Source: Energy Market Regulatory Authority

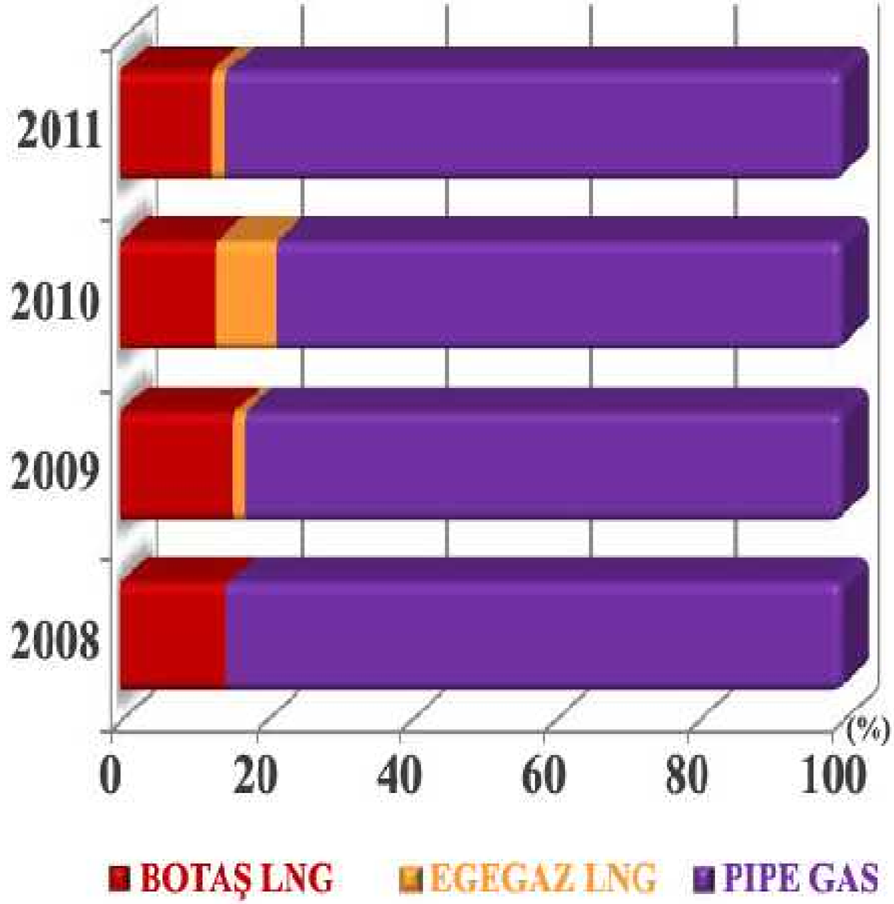
Gas Imports by Source Country (2009 – 2010 – 2011)

(bcm)	2009	2010	2011	Share in Total (2011)
Russia	19.473	17.576	25.406	57.9%
Iran	5.252	7.765	8.190	18.7%
Azerbaijan	4.960	4.521	3.806	8.6%
Algeria (LNG)	4.487	3.906	4.156	9.5%
Nigeria (LNG)	0.903	1.189	1.248	2.8%
Spot LNG	0.781	3.079	1.069	2.5%
Total	35.856	38.036	43.874	

Source: Energy Market Regulatory Authority

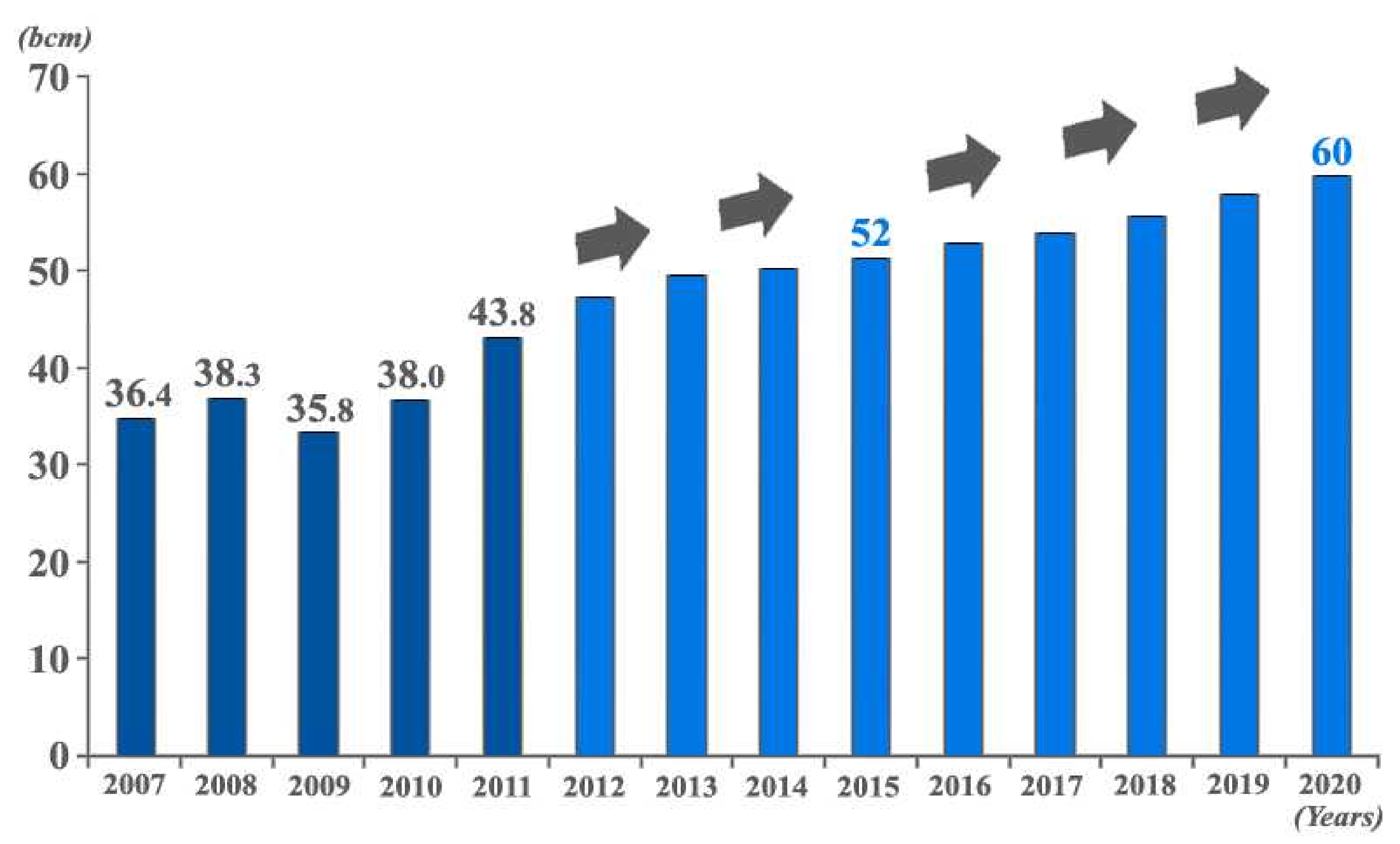
BOTAŞ vs. Private Importers LNG vs. Pipe Gas





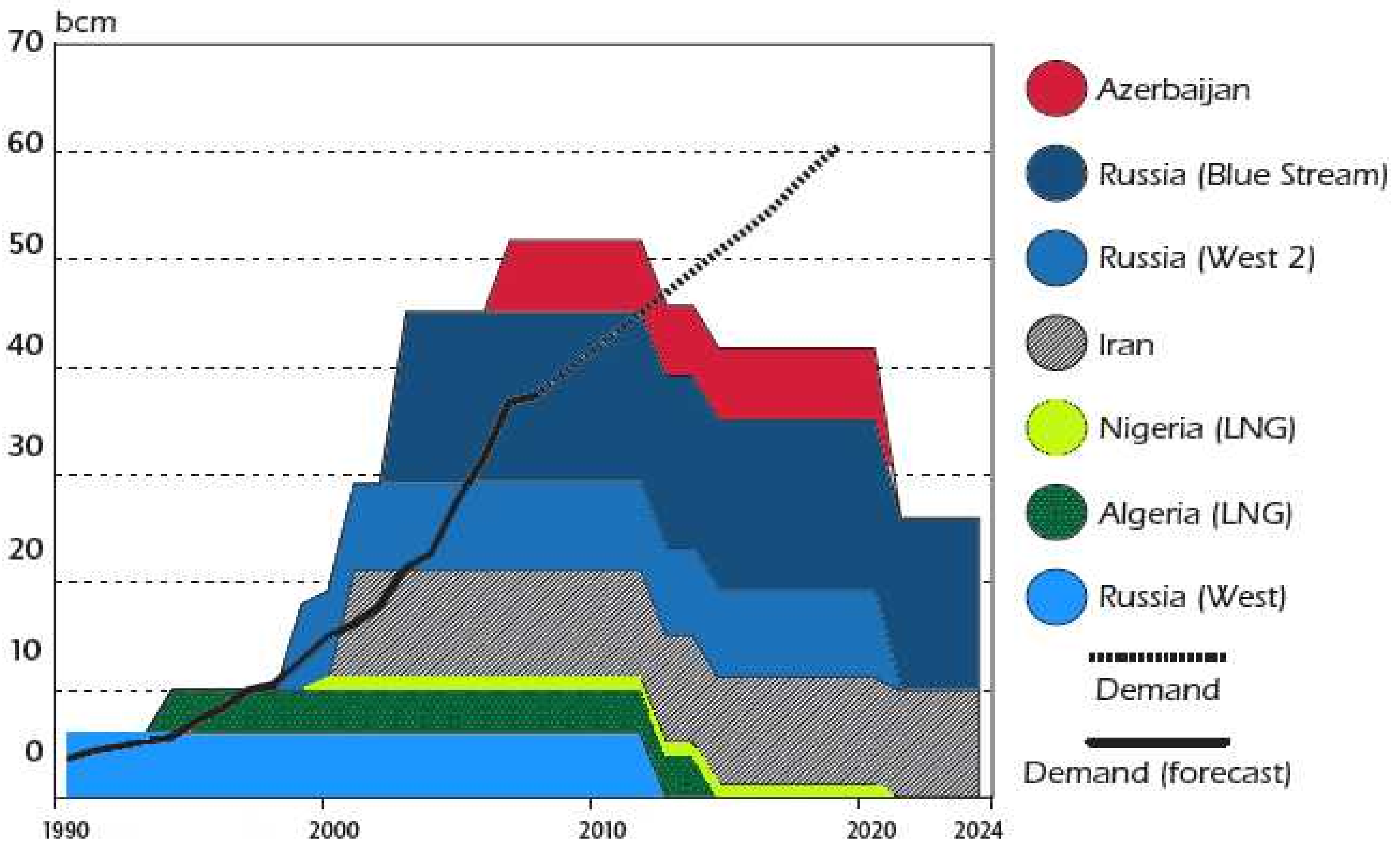
Source: Energy Market Regulatory Authority

Gas Imports Realizations & Projection (2007 – 2020)



Source: BOTAŞ & EMRA

Gas Supply – Demand Balance (1990 – 2024)



Source: : IEA Turkey 2009 Review

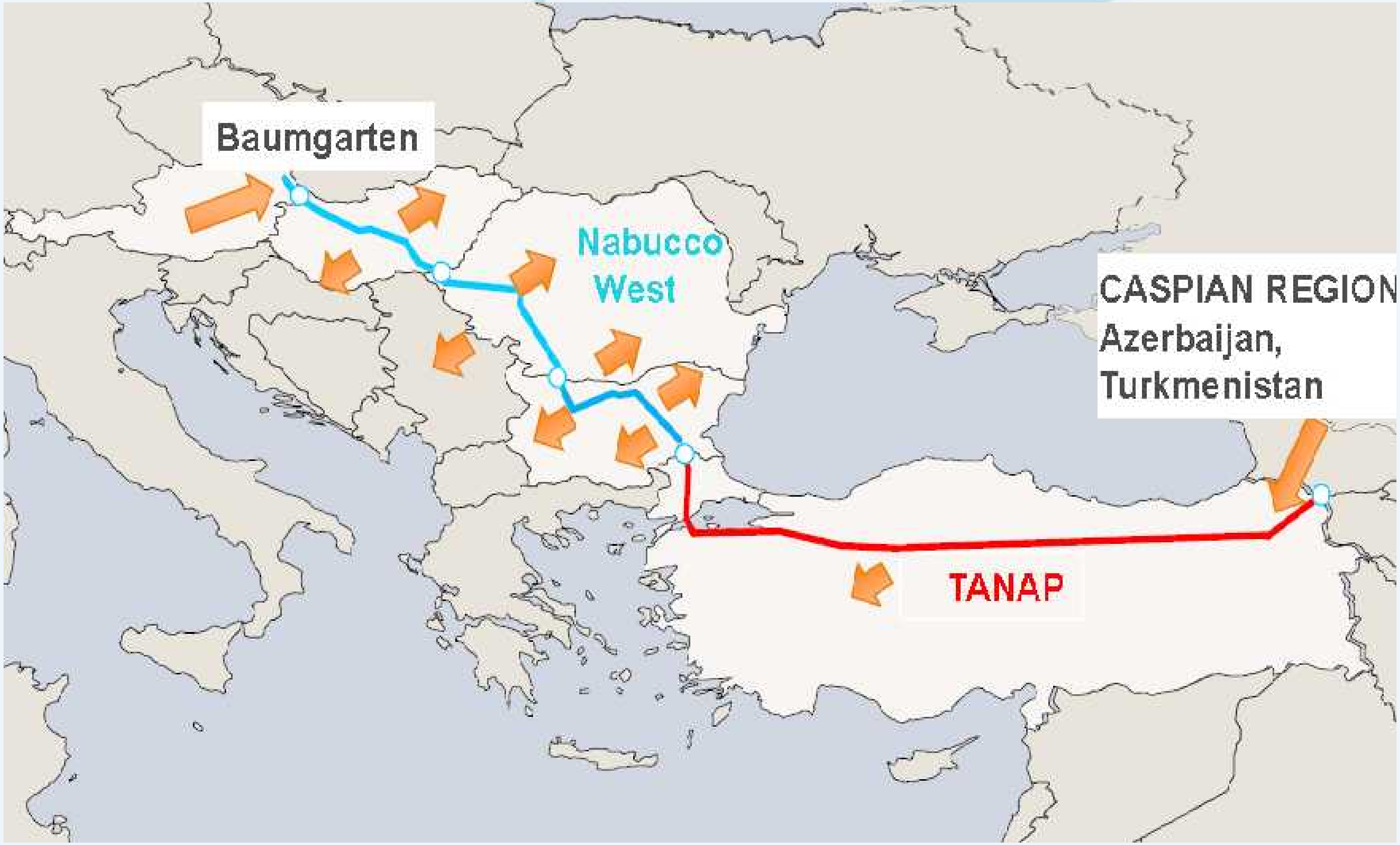
PETFORM's Suggestions for a Competitive Gas Market

1. Cost-Based Pricing Mechanism
2. No restrictions for private sector's imports
3. Legal unbundling of BOTAŞ
4. Clear Roadmap for Gas Release
5. Legal and Commercial Ground for Gas Hub

Gas Pipelines via Turkey & Alternative Gas Suppliers

Source: BOTAŞ

TANAP + ...?



Source: Nabucco

Main Principles for Transit Regulations

1. Long term gas cooperation

- ✓ Sustainable gas production
- ✓ Further gas potential in the region
- ✓ Commercial arrangements to underpin gas supply to other markets

2. Non discrimination

- ✓ Provisions of access to third parties and capacity allocation in the transportation system
- ✓ Provision of well defined rules and procedures about non discrimination on transit tariffs and transit operations
- ✓ Provision of specific responsibilities to the regulatory body to ensure non discrimination

Main Principles for Transit Regulations

3. Transparency

- ✓ Posting and publishing transit tariffs and the related methodology of calculation
- ✓ Preparing and putting in place well defined procedures for accessing the existing or future transit capacity either through regulated or negotiated access (such as open season procedures)
- ✓ Providing specific roles and responsibilities of a regulatory body

4. Cost reflective and objective tariff mechanism

- ✓ Allowed revenue requirement for the Transit System Operator (TSO) shall include depreciation of the investments (new and existing assets), reasonable and fair return on the asset value, annual operating costs
- ✓ All the relevant costs (depreciation of the investment + operational costs + reasonable revenue) should be shared evenly across all shippers in the system

THANK YOU…