



Natural Gas Sector in Turkey



OBJECTIVE

- Establishment of a financially sound, stable, transparent and competitive natural gas market
- Supplying natural gas to the consumers in good quality and in an economical, reliable and environment friendly way
- Expansion of natural gas transmission and distribution networks
- Increasing participation to exploration & production activities in national and international areas
- Diversifying supply resources and routes for security of supply
- Developing stable and confidential transit projects between Caspian Region, Middle East, The Caucasus and Europe / World market



- **Law on Natural Gas Market No.4646**
(Official Gazette 2 May 2001, no 24390)
 - By-law on License
 - By-law on Tariffs
 - By-law on Internal Installations
 - By-law on Certificate
 - By-law on Transmission Network Operation
 - By-law on Distribution and Consumer Services
 - By-law on Facilities
 - Communications and Board Decisions
 - By-law on Access to LNG Terminals
 - By-law on Access to Natural Gas Storage Facilities



Market Activities

- ✓ Licenses are required in order to engage in any natural gas market activity,
- ✓ Separate licenses are required for each market activity and each facility,
- ✓ Types of Licenses
 - a) Import License
 - b) Import License (Spot LNG)
 - c) Transmission License
 - d) Storage License
 - e) Distribution License
 - f) Wholesale License
 - g) CNG License
 - h) Export License

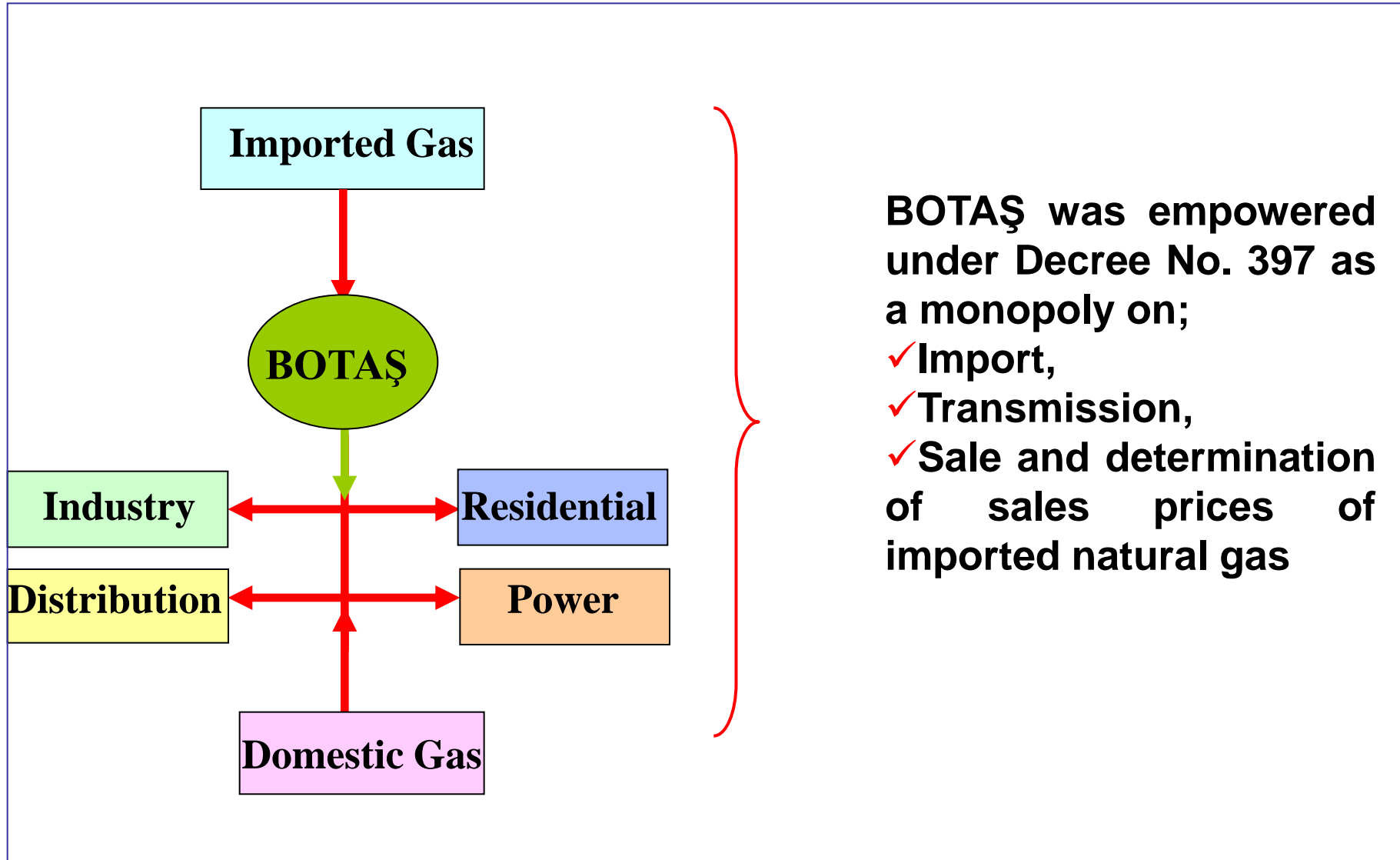


Licenses Issued by EMRA (October 2011)

Type of License	Number of Licenses
Import (Spot LNG)	12 26
Wholesale	33
Transmission	1 (PIPELINE) 18 (LNG)
Distribution	61
CNG	71
Storage	4
Export	4
Total	230

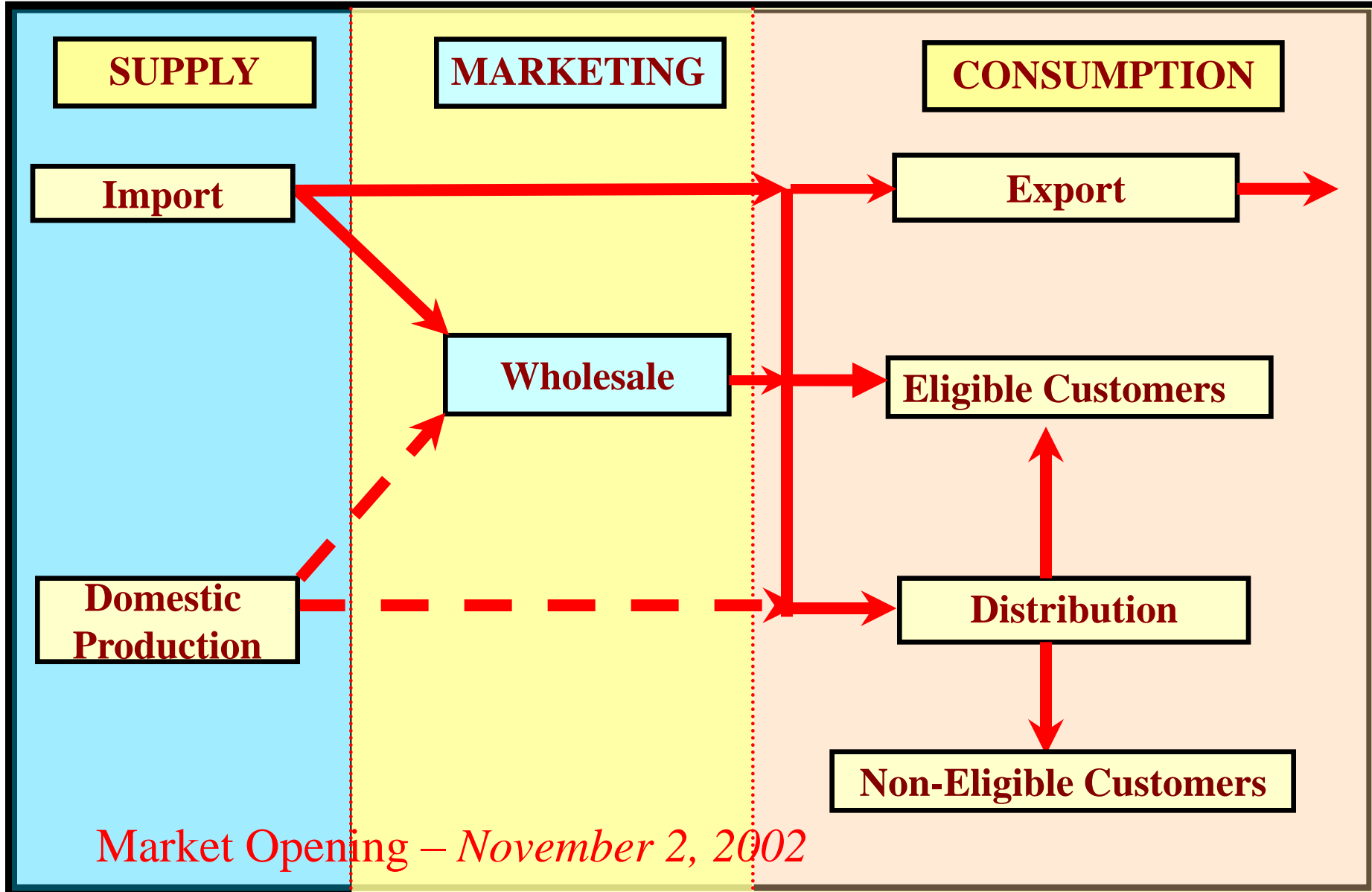


Market Structure Before the Law No 4646





Market Structure After the Law No 4646



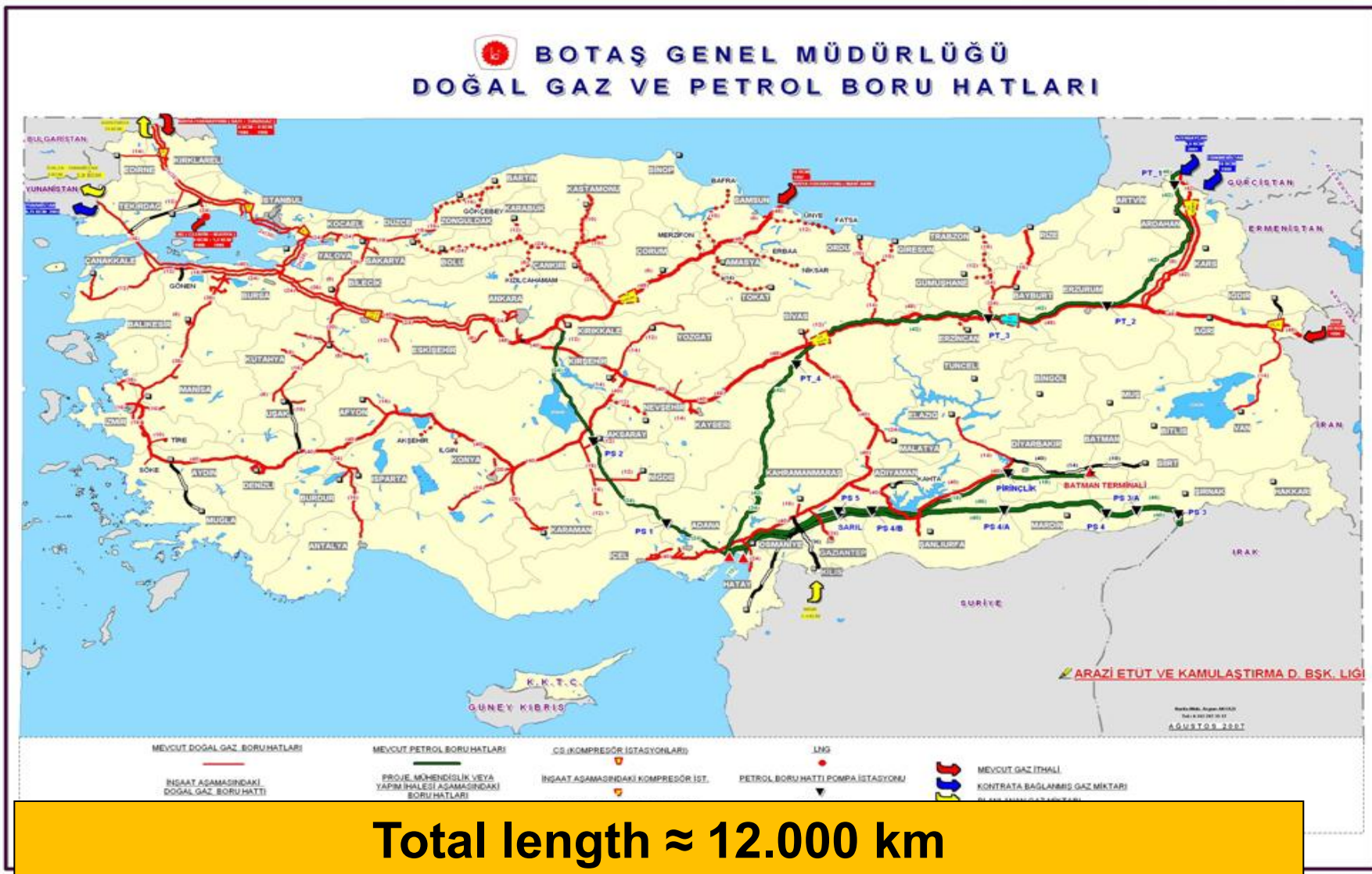


Natural Gas Transmission System before the Law





Natural Gas Transmission System before the Law



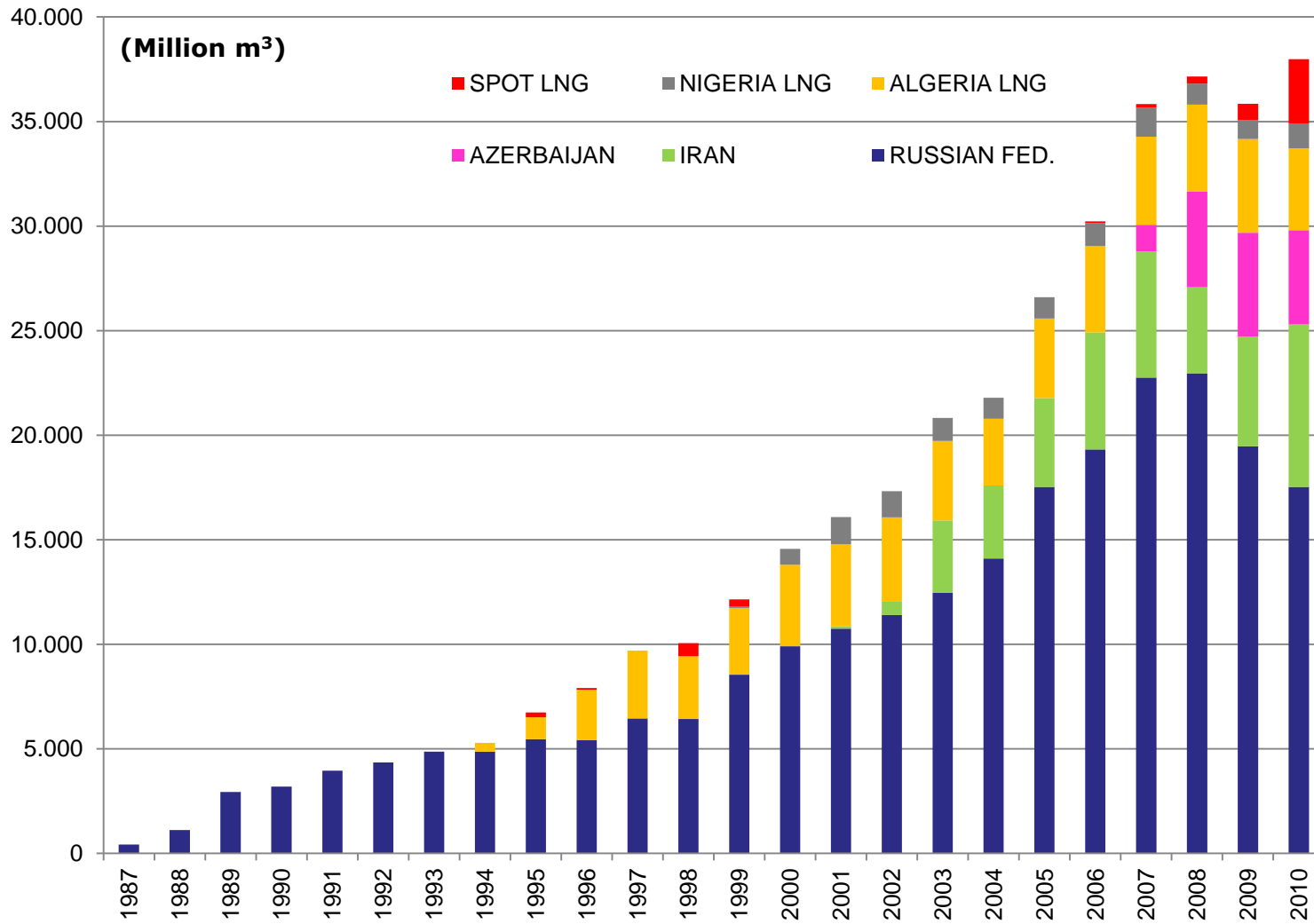


Natural Gas Sale & Purchase Agreements

Agreements	Volume bcma (during the plateau period) (billion m³/year)	Date of Signature	Duration (years)	Status
Russian Fed. (Westward)	6	14 February 1986	25	In Operation
Algeria (LNG)	4	14 April 1988	20	In Operation
Nigeria (LNG)	1.2	9 November 1995	22	In Operation
Iran	10	8 August 1996	25	In Operation
Russian Fed. (Black Sea)	16	15 December 1997	25	In Operation
Russian Fed.(Westward)	8	18 February 1998	23	In Operation
Azerbaijan	6.6	12 March 2001	15	In Operation



Natural Gas Purchases by Years





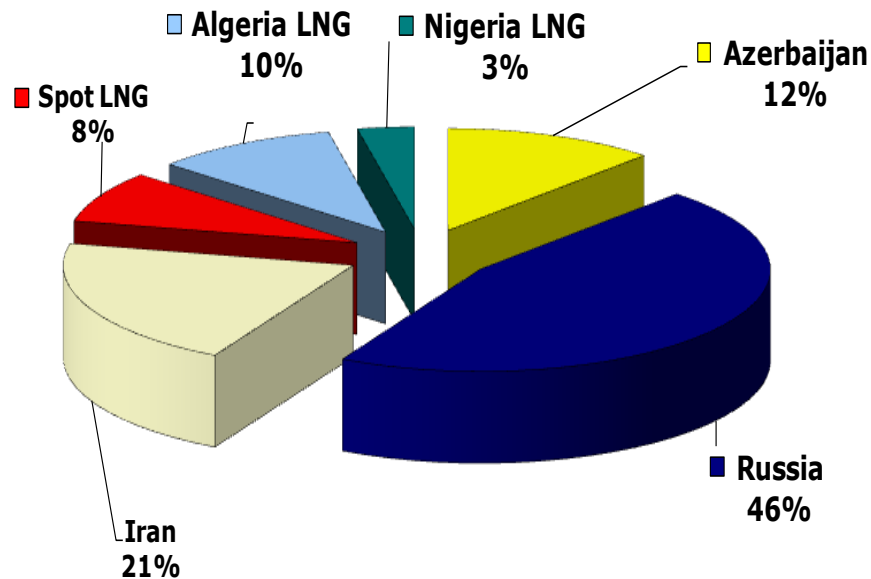
Contract Transfer

COMPANY	TRANSFERRED AMOUNT (million m ³)	INITIATION DATE OF ACTIVITY
SHELL ENERJİ A.Ş.	250	19/12/2007
BOSPHORUS GAZ A.Ş.	750	03/01/2009
ENERCO ENERJİ SAN. VE TİC. A.Ş.	2.500	01/04/2009
AVRASYA GAZ A.Ş.	500	01/04/2009
TOTAL	4.000	

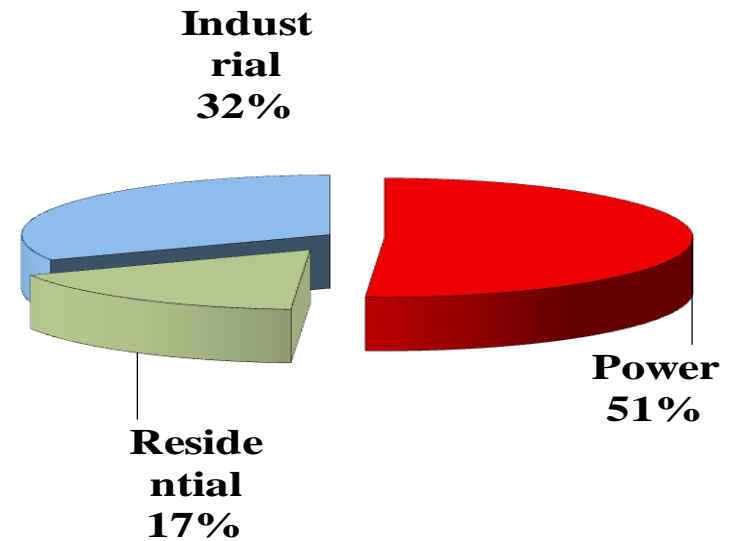


Sectoral Gas Consumption

Consumption by Sources (2010)



Sectoral Consumption (2010)



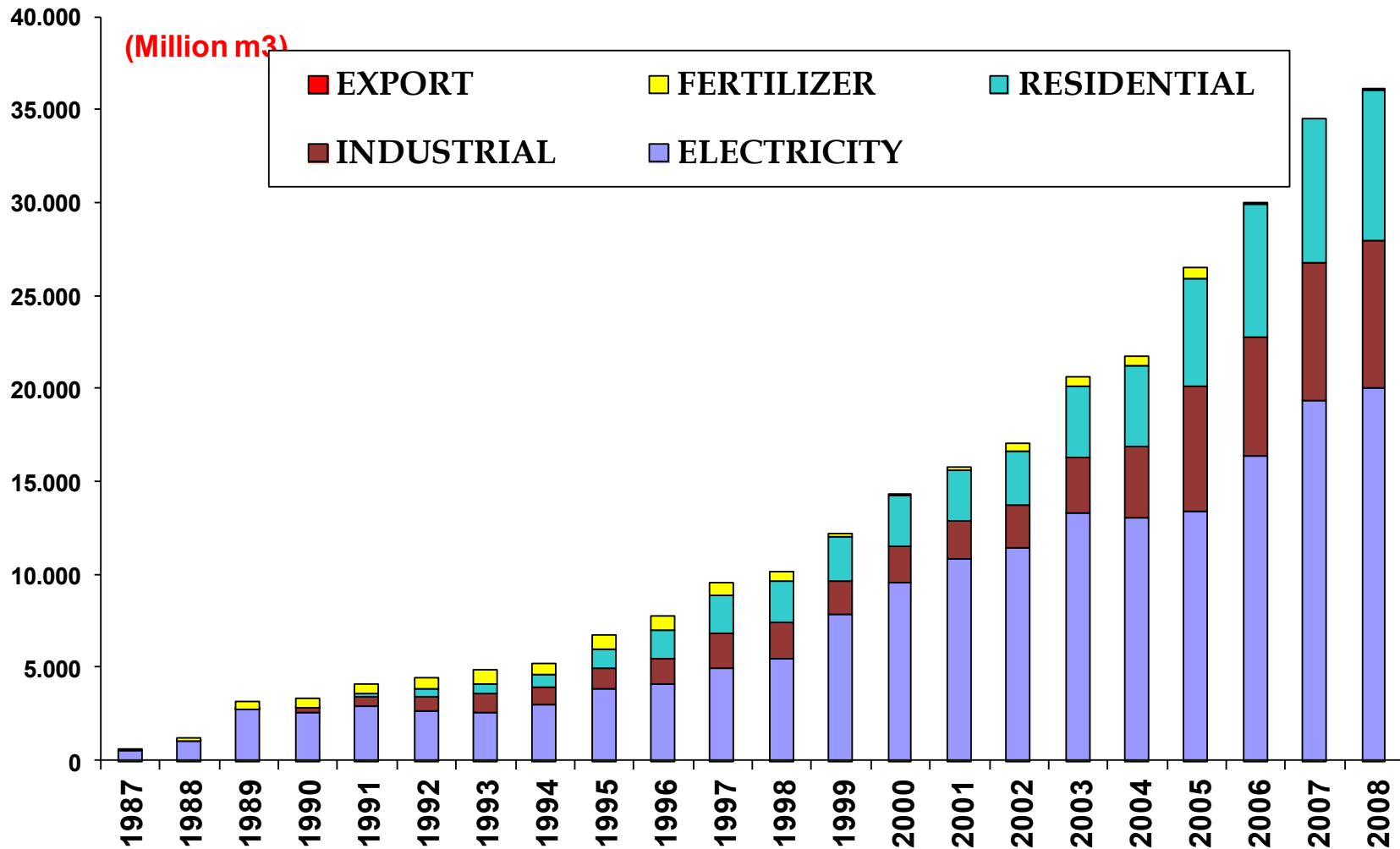
17 bcma
(2002)



37 bcma
(2010)



Natural Gas Consumption by Sector



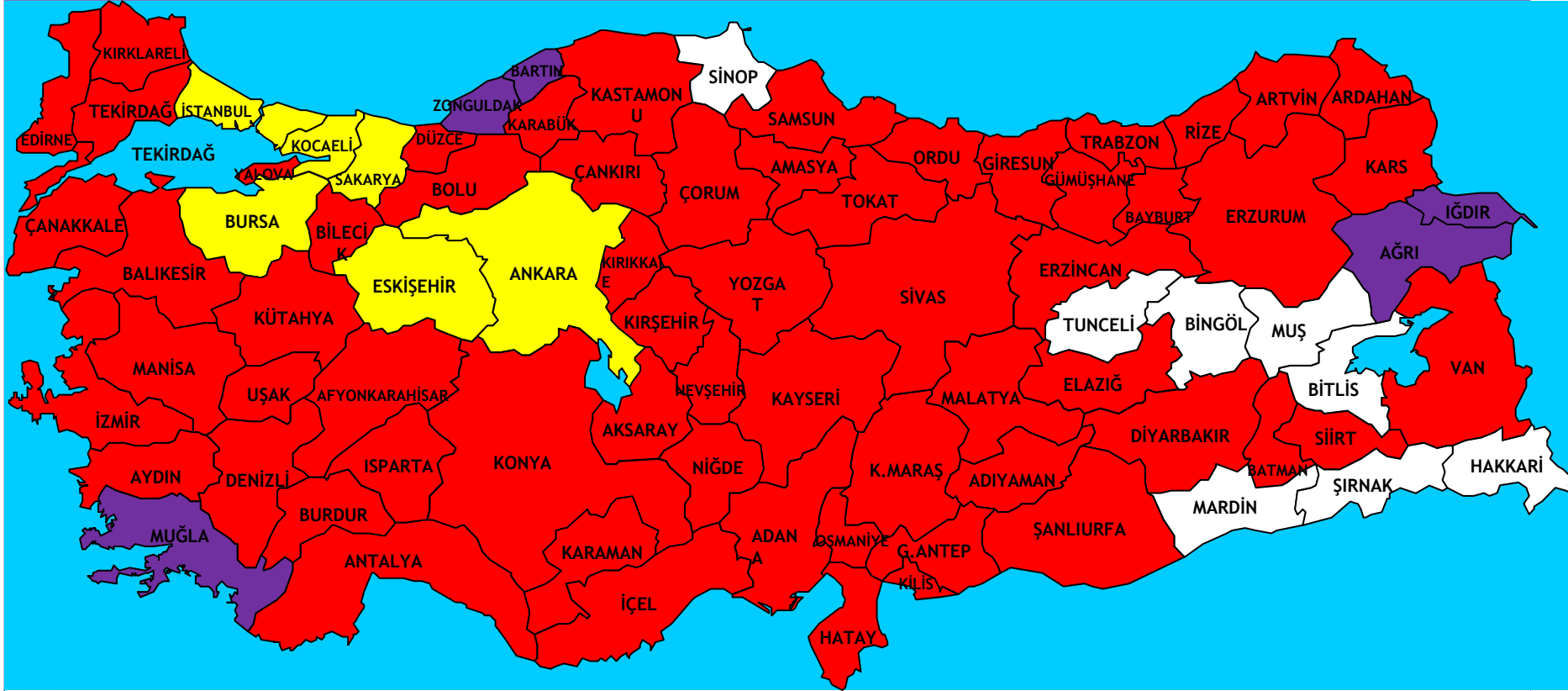


Underground Storage Facilities

- Northern Marmara & Degirmenkoy
 - Capacity → 2,1 bcm
- Salt Lake Natural Gas Underground Storage Project - under construction → will have 1 bcm storage capacity



Natural Gas Distribution Regions



The cities where natural gas was being used BEFORE the Natural Gas Market Law No. 4646



The cities of which natural gas distribution license tenders have been performed AFTER the Law No. 4646



The cities that are planned to perform natural gas distribution license tenders

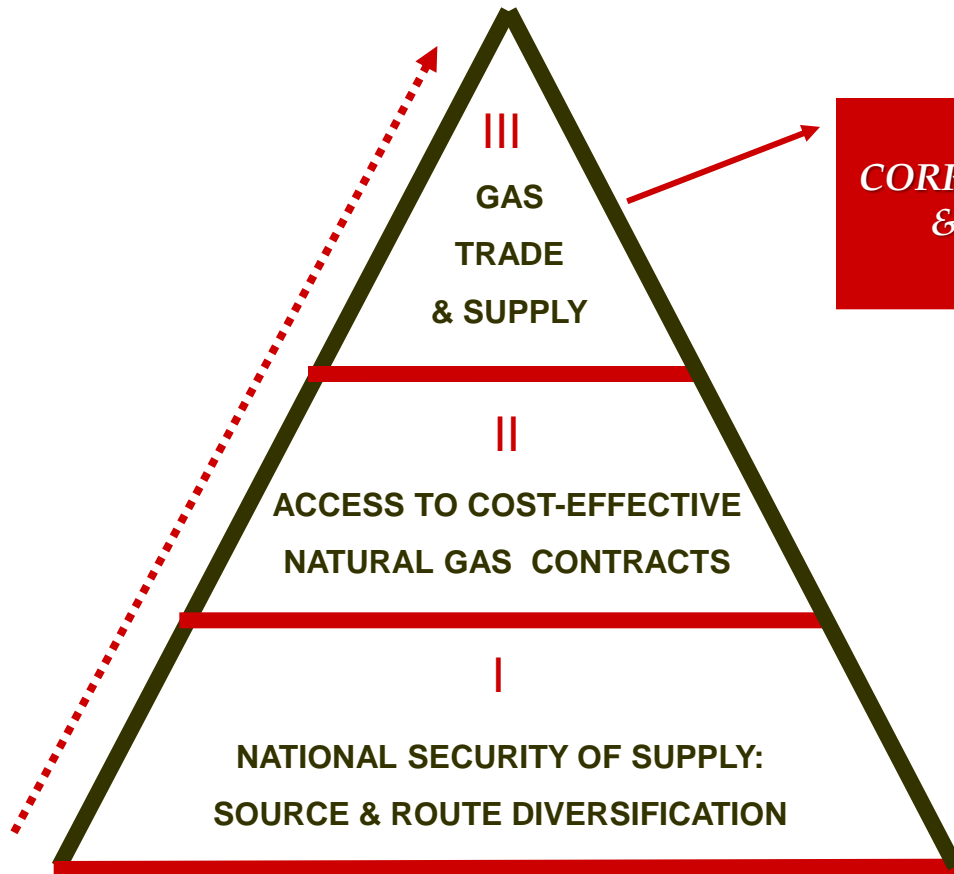


Studies to draft Natural Gas Market Law

- Restructuring BOTAS
 - Trading Company
 - Transmission Company (including storage activity)
- Removing barriers to import gas
- Monitoring and reporting mechanism for security of supply



Natural Gas Geostrategy of TURKEY



**TURKISH 4TH
CORRIDOR for WORLD
& EU MARKETS**





INTERNATIONAL OIL PIPELINES AND PROJECTS



IRAQ – TURKEY CRUDE OIL PIPELINE



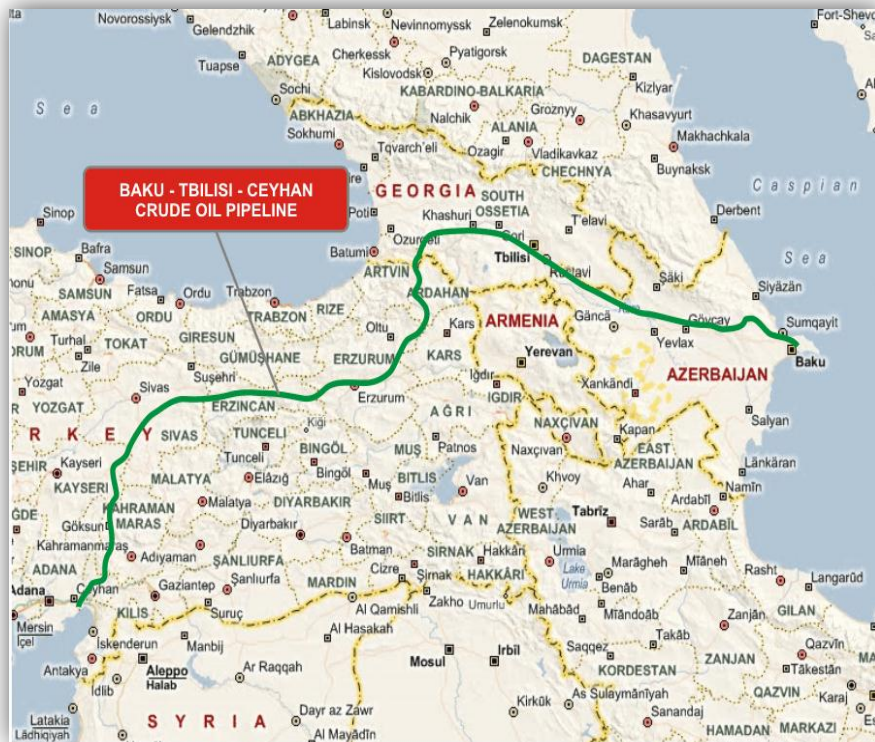
TECHNICAL FEATURES

Total Length	986 Km
Diameter	40-46 Inch
Max. Capacity	70,9 Mta

- Operation started in 1976 and first tanker loaded on 25th of May, 1977.
- Time to time oil interrupted due to the situation of Iraq.
- On 19th of September, 2010, an amendment to the existing crude oil pipeline agreement was signed extending the duration for an additional 15 years under new terms and conditions.



BAKU – TBILISI – CEYHAN CRUDE OIL PIPELINE



<u>TECHNICAL FEATURES</u>	
Total Length	1769 Km
Diameter	46-42-34 Inch
Max. Capacity	50 Mta (1mbl/day)

- First tanker loaded on June 4, 2006 in Ceyhan.
- Provides app. 1,5% of world oil supply.
- As of June 22, 2008 capacity 1 mbl/day.
- The capacity expanded to 1,2 mbl/day, soon to 1,6 mbl/day.
- As of end December 2010, app. 1087 mbl oil has been transported by 1387 tankers.



SAMSUN – CEYHAN CRUDE OIL PIPELINE PROJECT



TECHNICAL FEATURES

Total Length	551 Km
Diameter	42-48 Inch
Max. Capacity	50 Mta

- Aims at decreasing the tanker traffic through the Turkish Straits.
- Groundbreaking ceremony: 24 April 2007.
- On August 6, 2009 Turkey and RF signed Protocol committing RF to supply oil.
- Eni, Çalık, Transneft and Rosneft signed an agreement in Milano on October 19, 2009 concerning the realization and using the pipeline. Joint Statement by three governments.
- On May 12, 2010 MoU signed between Turkey and RF.
- IGA negotiations between Turkey and RF are ongoing.



CRUDE OIL PIPELINES – CEYHAN ENERGY HUB



IRAQ – TURKEY CRUDE OIL PIPELINE (71 Mta)

BAKU – TBILISI – CEYHAN CRUDE OIL PIPELINE (50 Mta) (CAPACITY EXPANSION TO 80 Mta)

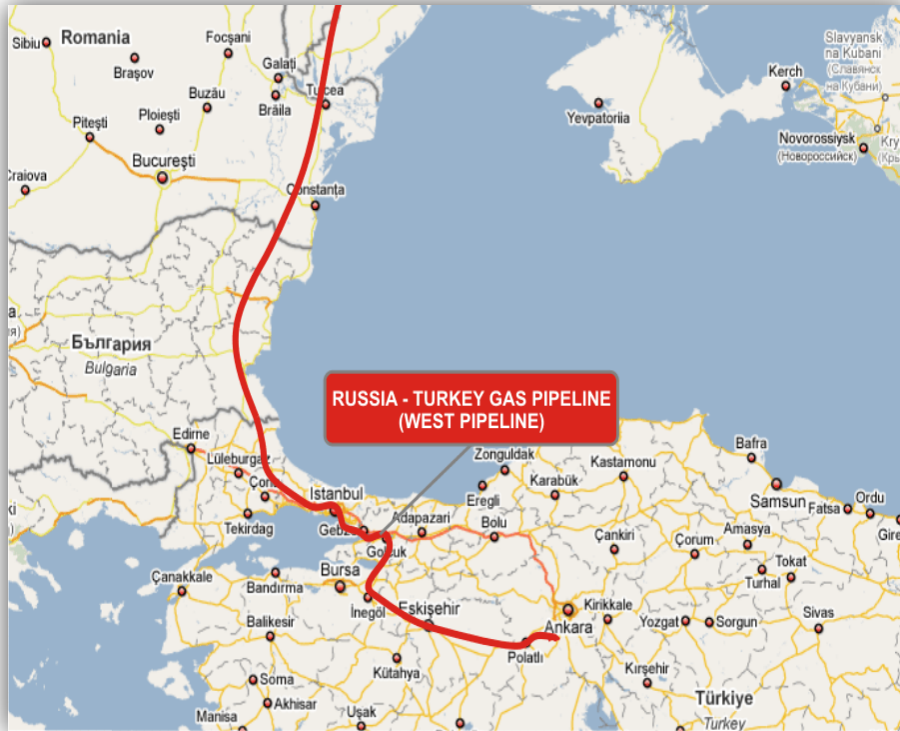
SAMSUN – CEYHAN CRUDE OIL PIPELINE PROJECT (50 Mta)



INTERNATIONAL GAS PIPELINES AND PROJECTS



RUSSIA – TURKEY (WEST) NATURAL GAS PIPELINE



- In 1986, Gas Purchase Agreement for 6 bcma with Soyuzgazexport. As of 1987, gas flows.
- In 1993, capacity increased to 6 bcma.
- Capacity upgraded from 8 bcma to 14 bcma.
- On February 18, 1998 Gas Purchase Agreement for 8 bcm with Turusgaz.

TECHNICAL FEATURES

Total Length	845 Km
Diameter	46-42-34 Inch
Max. Capacity	14 bcma



IRAN – TURKEY NATURAL GAS PIPELINE



- On August 8, 1996 Gas Sale-Purchase Agreement between Turkey and Iran.
- Gas flows since December 10, 2001
- Starting 3 bcm, reaching 10 bcm at plateau.

TECHNICAL FEATURES

Total Length	1491 Km
Diameter	16-48 Inch
Max. Capacity	10 bcm/a



RUSSIA – TURKEY (BLUE STREAM) GAS PIPELINE



TECHNICAL FEATURES	
Samsun – Ankara	501 km
Russia & Black Sea	370 + 390 km
Diameter	56-24-48 Inch
Max. Capacity	16 bcma

- On December 15, 1997 Gas Sale-Purchase Agreement between BOTAŞ and Gazexport for 25 years.
- 16 bcma at plateau.
- Black Sea 390 km, 2 x 24” line.
- Operation started on February 20, 2003.
- Blue Stream 2 is under planning stage.



BAKU – TBILISI – ERZURUM NATURAL GAS PIPELINE



- On March 12, 2001 Gas Sale-Purchase Agreement for 6,6 bcm.
- Operation started in July 2007.
- Gas of Phase II of Shah Deniz is planned to flow as of 2016-2017.
- In 2010, 4.6 bcm imported (total ~15 bcm).

TECHNICAL FEATURES

Total Length	915 Km
Diameter	42 Inch
Max. Capacity	20 bcma



TURKEY – GREECE – ITALY GAS INTERCONNECTION



- On November 18, 2007 gas supply started on ITG.
- In 2010, ~659 mcm exported (total 1.85 bcm)
- MoU is signed in Ankara on June 17, 2010 by BOTAŞ, DEPA and EDISON.
- IGI is to operate by 2017.

TECHNICAL FEATURES

ITG Length	296 Km
Total Length	808 Km
Diameter	36 Inch
Max. Capacity	11,6 bcma



ARAB NATURAL GAS PIPELINE PROJECT



- The Egyptian Gas is currently being supplied to Syria.
- Memoranda of Understanding were signed between Turkey and Syria on August 20, 2009 and December 23, 2009 concerning interconnection of gas networks.
- Turkish and Syrian grid interconnection in late 2011.

TECHNICAL FEATURES

Total Length	1200 Km
Diameter	36 Inch
Max. Capacity	10 bcma



TURKEY – BULGARIA – ROMANIA HUNGARY – AUSTRIA NATURAL GAS PIPELINE PROJECT (NABUCCO PROJECT)



- IGA signed on June 13, 2009 and entered into force as of August 1, 2010.
- PSAs were signed on June 8, 2011.
- NNC Turkey has been established on June 18, 2010.
- Start of construction 2013, start of operation 2017.

TECHNICAL FEATURES

Total Length	3300-4000 Km
Diameter	42-56 Inch
Max. Capacity	31 bcma



IRAQ – TURKEY NATURAL GAS PIPELINE PROJECT



- MoU signed with Iraq on October 15, 2009 foreseeing development of natural gas corridor between Iraq and Turkey.
- Have great potential in enhancing both Turkey's and EU's energy security.
- Joint Declaration signed on September 19, 2010 in Baghdad to constitute Joint Working Group.



THANK YOU
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