



SCREENING CHAPTER 21 TRANS-EUROPEAN NETWORKS

AGENDA ITEM II: ENERGY

**Country Session: The Republic of TURKEY
29 September 2006**

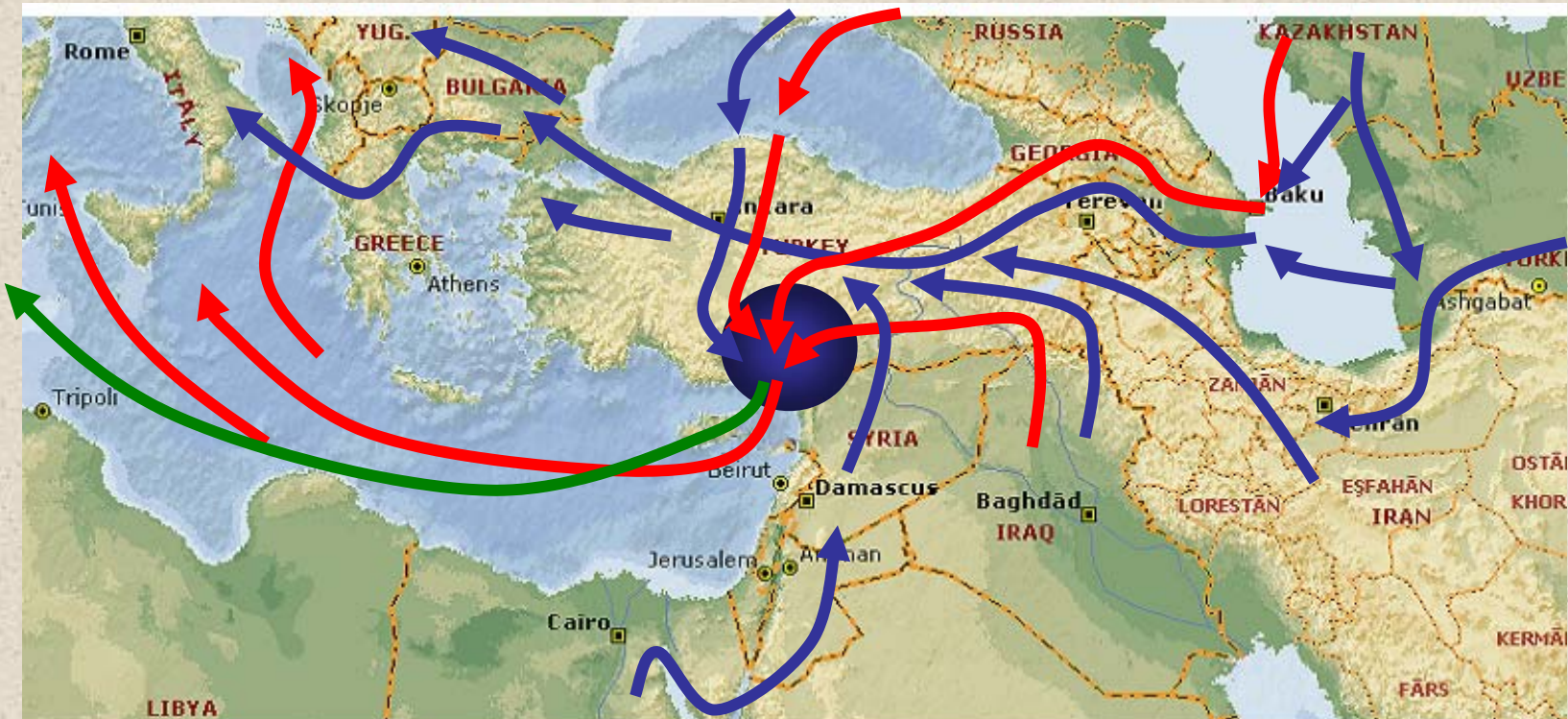


CONTENT

- General Remarks
- Natural Gas Network Interconnections and their relevance to TEN-E Projects
- Electricity Network Interconnections and their relevance to TEN-E Projects



Oil and Gas Transportation Through Turkey



OIL



NATURAL GAS



LNG



GENERAL REMARKS

- Located at a crucial geopolitical region, Turkey lies adjacent to regions possessing some 73 % of the world's proven oil reserves and 72 % of the world's proven gas reserves.
- Turkey aims connecting the petroleum and natural gas producing countries with the markets of consuming countries in a cost-effective and reliable manner.
- Turkey supports realization of the pipeline projects connecting the hydrocarbons in the neighbouring regions with the world markets, as a stable cross-road country in the region.



GENERAL REMARKS (CONT'D)

- Turkey supports several projects to meet its own gas demand and to serve for meeting the increasing gas demand of EU by opening several arteries via Turkey.
- Turkey also attaches great importance to the international electricity interconnection projects with the neighbouring countries and regions to exploit the benefits of electricity interconnections.
- The interconnection of Turkish power system with the European Power Network (UCTE) is an utmost priority and concrete progress has been achieved recently.



GENERAL REMARKS (CONT'D)

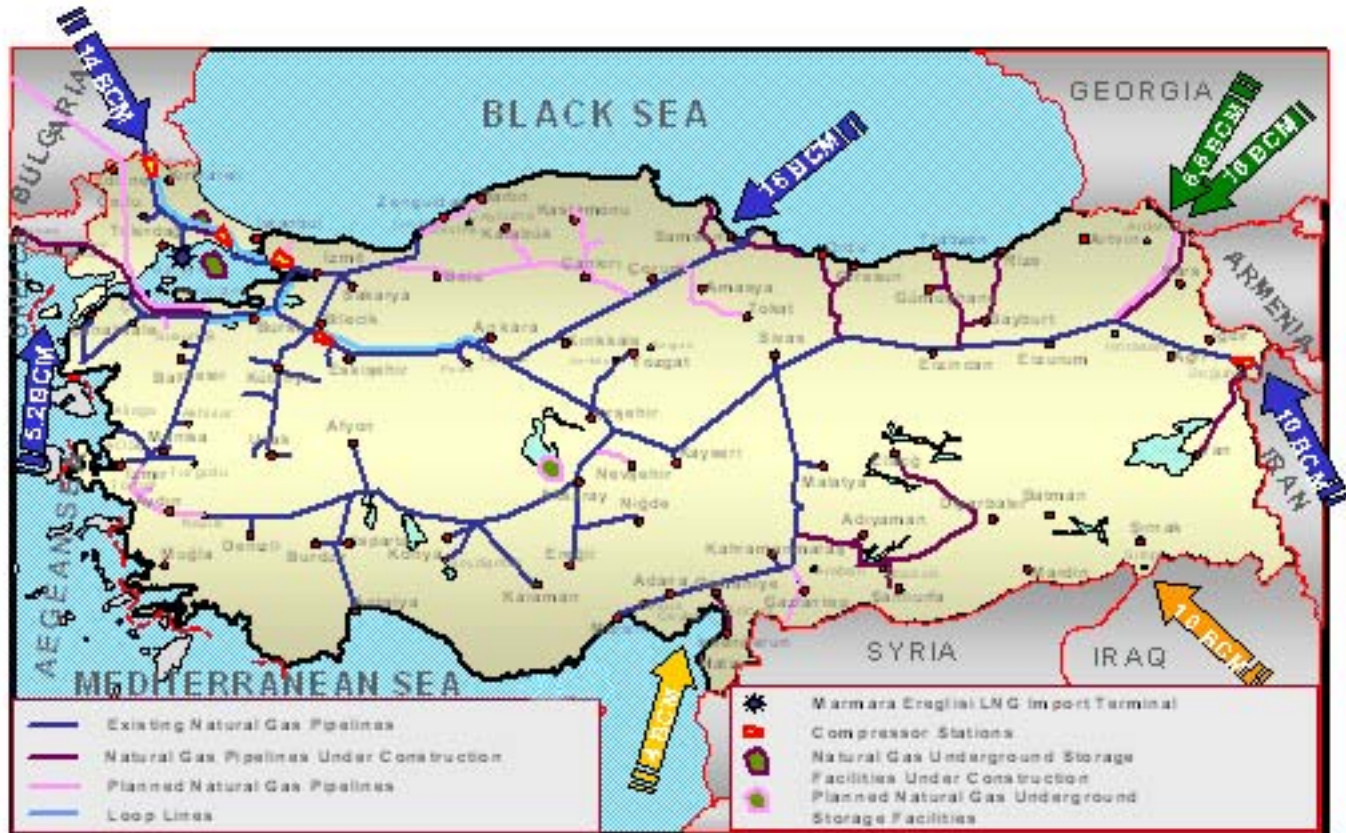
- Turkey's role as an important transit route for EU is also appreciated by EU authorities and Turkey's interconnection projects are identified as priority projects and projects of European interest according to TEN-E guidelines.
- Interconnection of the Turkish electricity grid with that of the UCTE and the ongoing gas projects will enable physical integration of Turkish electricity and gas markets with EU internal market



NATURAL GAS NETWORK INTERCONNECTIONS AND THEIR RELEVANCE TO TEN-E PROJECTS



SCREENING CHAPTER 21
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Natural Gas Network Interconnections and Their Relevance to TEN-E Projects (CONT'D)

Planned International Projects :

- TransCaspian Turkmenistan-Turkey- Europe Natural Gas Pipeline Project,
- Turkey-Greece-Italy Gas Pipeline Project,
- Turkey-Austria (Nabucco) Gas Pipeline Project,
- Baku-Tbilisi-Erzurum (Shah Deniz) Natural Gas Pipeline Project,
- Arab Gas Pipeline (AGP)-Turkey Interconnector Project,
- Iraq-Turkey Natural Gas Pipeline Project.

TRANS-EUROPEAN NETWORKS
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TURKEY - E-W and N-S – Energy Bridge: International Pipe Line Projects



Natural Gas Network Interconnections and Their Relevance to TEN-E Projects (CONT'D)

Turkey's relation with TEN-E Gas Priority Projects

ANNEX I of the Decision of the European Parliament and of the Council laying down guidelines for Trans-European Energy Networks (Axes for Priority Projects): NG.3.: “Turkey-Greece, Greece-Italy, Turkey-Austria, and Greece-Slovenia-Austria (via the western Balkans) Natural Gas Pipelines” has been adopted as a priority project including;

- “Turkey-Greece-Italy Gas Pipeline” and
- “Turkey – Austria Gas Pipeline”

as projects of European interest.

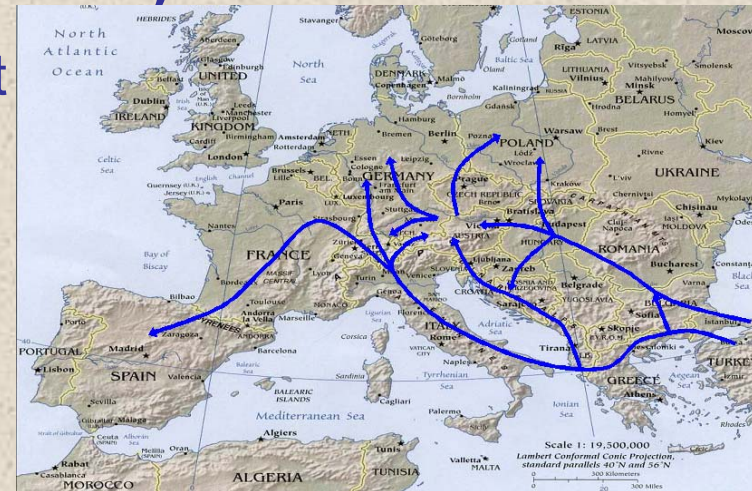
NG.6.: “Establishing and increasing natural gas pipeline capacities between the Mediterranean Member States and Libya – Egypt – Jordan – Syria – Turkey” has been adopted as a priority project.

In this context, Arab Gas Pipeline (AGP) – Turkey Interconnector Project serves the objective of this priority.

Natural Gas Network Interconnections and Their Relevance to TEN-E Projects (CONT'D)

Turkey-Greece-Italy Gas Pipeline Project

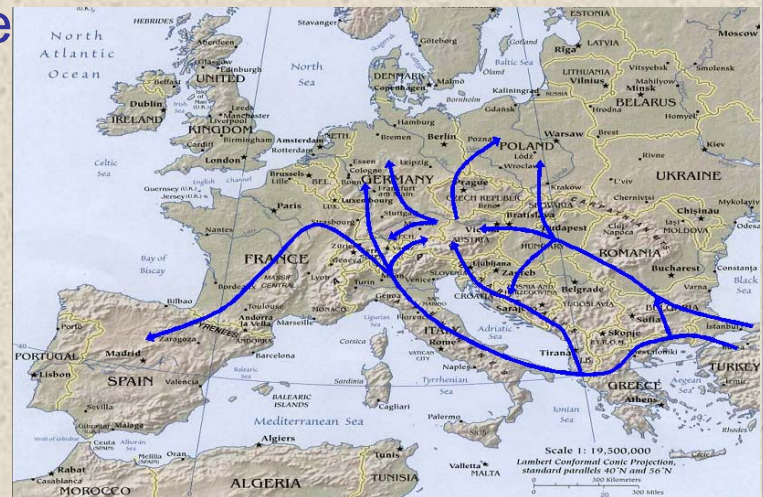
- The aim is to transport natural gas from the producing countries of Caspian and Middle East-North Africa (MENA), to Greece and other European Countries, via Turkey.
- Half cost of engineering and EIA studies received grant from EU TEN funds.
- Basic and Detailed Engineering Studies of the project were completed in 2003.
- The initial delivery volume by the line will be 750 MCM and it is envisaged to increase to 12 BCMA in 2012. 8 BCMA of it is for Italian market and the rest is for Greece market.
- First gas delivery will be realized at the end of 2006.



Natural Gas Network Interconnections and Their Relevance to TEN-E Projects (CONT'D)

Turkey-Austria (NABUCCO) Gas Pipeline Project

- Aim: Transporting Caspian and Middle East gas to Europe
- Technical Feasibility Study of Nabucco Pipeline Project was completed by CB&I John Brown in December 2004.



- TEN Program funded the feasibility studies of the project.
- The project will ultimately transport 25,5 - 31 BCMA.
- Milestones of the Project :

Detailed Technical Design / EIA Study	:2006-2007
Construction Phase Completion	:2010
Start of Operation	:2010-2011

Natural Gas Network Interconnections and Their Relevance to TEN-E Projects (CONT'D)

Arab Gas Pipeline (AGP)-Turkey Interconnector Project:

- Aim: Transporting Egyptian and if possible other Middle East originated gas to Europe via Turkey
- A Frame Agreement was signed in 2004
- MoU was signed in 2006
- The project is envisaged to be completed by the end of 2008





Natural Gas Network Interconnections and Their Relevance to TEN-E Projects (CONT'D)

Other Planned/Ongoing Gas Interconnection Projects of Turkey interrelated to Priority Projects of TEN-E Policies

- Baku-Tbilisi-Erzurum (Shah Deniz) Natural Gas Pipeline Project:
 - It will be operational by the end of 2006
 - Infrastructure will be ready for the future flow of Caspian gas to Europe
- Trans-Caspian Turkmenistan-Turkey-Europe Natural Gas Pipeline Project: The Project is still pending, but if realised, will contribute to energy security of Europe. For this reason, it deserves more EU interest and stake.
- Iraq-Turkey Natural Gas Pipeline Project The Project is still being evaluated, but if realised, will be very beneficial in economic and geopolitical perspectives



ELECTRICITY NETWORK INTERCONNECTIONS AND THEIR RELEVANCE TO TEN-E PROJECTS

ELECTRICITY INTERCONNECTIONS OF TURKEY





ELECTRICITY INTERCONNECTIONS OF TURKEY (CONT'D)

Turkey has interconnections with:

- Bulgaria (two 400 kV links),
- Azerbaijan (154 kV),
- Iran (154 kV and 400 kV links-operates at 154 kV),
- Georgia (220 kV),
- Syria (400 kV),
- Iraq (400 kV link but operated at 154 kV).

In addition:

- Greece (Babaeski–Filippi 400 kV)
-will be completed by the end of 2007.



ELECTRICITY INTERCONNECTIONS OF TURKEY (CONT'D)

ANNEX I (Axes for Priority Projects):

- EL.4. “Greece-Balkan Countries-UCTE System” electricity network including “Philippi (GR) – Hamidabad (TR) line as a project of European interest. **The connection point Hamitabad in Turkish section is changed as Babaeski.**

Babaeski-Philippi line was also included in the Quick-start projects in Energy Networks specified in the Communication “European Initiative for Growth”.

- EL.9. “Mediterranean Member States – Mediterranean Electricity Ring” “Increasing electricity interconnection capacities between Mediterranean Member States and Morocco – Algeria – Tunisia – Libya – Egypt – Near-East countries – Turkey” has also been adopted as a priority project.



ELECTRICITY INTERCONNECTIONS OF TURKEY (CONT'D)

Annex II, 4th additional criteria (more particularly with the candidate countries) for identifying Projects of common interest:

- “Mediterranean Electricity Ring: France- Spain-Morocco-Algeria-Tunisia-Libya-Egypt-Near Eastern countries-Turkey-Greece-Italy”
- “Black Sea Electricity Ring: Russia-Ukraine-Romania-Bulgaria-Turkey-Georgia”



ELECTRICITY INTERCONNECTIONS OF TURKEY (CONT'D)

Annex I, E.L.4

UCTE Interconnection

On the agenda since 1975, Turkey's priority with respect to electricity Interconnections

Technical studies are ongoing within the scope of Pre-Accession Financial Cooperation Programme between Turkey and EU:

1. Complementary Studies for the Synchronisation of Turkish Power System with UCTE System (2003 Programming)
2. Improvement of the Frequency Performance of the Turkish Power System in Accordance with the UCTE Criteria (2004 Programming)
3. "Improvement of the Conditions for Cross Border Electricity Trade in Turkey in Compliance with the Best Practice in EU" (2006 Programming)



ELECTRICITY INTERCONNECTIONS OF TURKEY (CONT'D)

Annex II, 4th Additional Criterion

Black Sea Regional Transmission Planning Project (BSRTPP)

Under BSRTPP initiative, interconnection of Black Sea Countries Power Systems is on the agenda.

- In the frame of US-AID financed Project, in addition to existing 220 kV line with Georgia, construction of a new 400 kV transmission line and back-to-back station is under consideration.
- This project is also in line with the objective of Annex II, 4th Additional Criterion



ELECTRICITY INTERCONNECTIONS OF TURKEY (CONT'D)

- New Connections in the Mediterranean Electricity Ring (France-Spain- Morocco- Algeria- Turkey- Greece- Italy)
- With the financial support of the EU; studies are being carried out by a consortium formed by the participation of above-mentioned countries and Libya.
- Seven Countries (Egypt, Iraq, Jordan, Lebanon, Libya, Syria and Turkey) Interconnection (EIJLLST Project)
- Turkey also has taken part in EIJLLST Interconnection Project.
- Turkey's priority is the realisation of UCTE synchronised parallel interconnection.

ELECTRICITY INTERCONNECTIONS OF TURKEY (CONT'D)

Economic Cooperation Organisation Interconnection (ECO Project)

- Economic Cooperation Organisation is founded by Turkey, Iran and Pakistan and extended to 10 countries by the participation of the Central Asian countries (Azerbaijan, Kyrgyzstan, Kazakhstan, Turkmenistan, Tajikistan, Uzbekistan, Afghanistan).
- A pre-feasibility study for the parallel functioning of the power networks of the ECO member states is currently being performed by a consultant firm.