North America switches from being a net importer of energy to a net exporter this year
The Dynamic Energy Landscape:
Geopolitical Implications of the Changing Energy Economy

Lower 48 states shale plays

Source: US Energy Information Administration, April 2015
The United States is ranked second globally after Russia in shale oil resources and is ranked fourth globally after China, Argentina and Algeria in shale gas resources.
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Source: US Energy Information Administration, October 2015
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Data Source: US Energy Information Administration EIA
Comparison of natural gas prices worldwide

Source: BP Statistical Review of World Energy 2015
## Geopolitical Implications: The Case of Turkey

### Long-term Natural Gas Agreements in Operation

<table>
<thead>
<tr>
<th></th>
<th>Volume (bcm p.a.)</th>
<th>Signed</th>
<th>End</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria (LNG)</td>
<td>4.4</td>
<td>1988</td>
<td>2024</td>
</tr>
<tr>
<td>Nigeria (LNG)</td>
<td>1.3</td>
<td>1995</td>
<td>2021</td>
</tr>
<tr>
<td>Iran</td>
<td>9.6</td>
<td>1996</td>
<td>2026</td>
</tr>
<tr>
<td>Rus. Fed. (Black Sea)</td>
<td>16</td>
<td>1997</td>
<td>2025</td>
</tr>
<tr>
<td>Rus. Fed. (West)</td>
<td>4</td>
<td>1998</td>
<td>2021</td>
</tr>
<tr>
<td>Azerbaijan (Phase-I)</td>
<td>6.6</td>
<td>2001</td>
<td>2021</td>
</tr>
</tbody>
</table>

- Over the last 10 years **gas consumption doubled** in Turkey
- Turkey is **Gazprom's second largest sales market** behind Germany
- **Long-term agreements unfavourable** for Turkey
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Serious Challenges to overcome

- **Negotiations** between Russia and Turkey on the Turkish Stream pipeline project have been **suspended**, following disagreement over pricing and permit allocations. (July 30, 2015)

- Turkish authorities clear permits for only one section of the TS pipeline project, **negotiating on discount** for existing long-term contract deliveries.

- **Political uncertainty** in Turkey and **upcoming elections** slow down communication and bureaucracy.

- **Environmental challenges** as Black Sea coast landing point of TS is a First Degree Natural Protected Area.

- Pipeline infrastructure in **Southeastern Europe** needs to be constructed.

- **Turkey takes Russia to arbitration** over gas price dispute. (October 27, 2015)
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Southeastern Europe

high-cost countries

Non-EU Eastern Europe

Albania, Bosnia
Herzegovina, Kosovo,
Macedonia, Montenegro,
Serbia

Southern Corridor Needed
CESEC Central Eastern and South Eastern Europe Gas Connectivity – A European Commission initiative

**Aim:** to build a single internal energy market, in which energy flows freely and in which prices are affordable, without any fragmentation of Europe.

*July 10, 2015 – Thirteen countries from Central Eastern Europe (CEE) and Southeastern Europe (SEE) sign a MoU on creating an integrated gas market*

Formally launches a process of accelerating the building of **missing gas infrastructure links** and tackling the remaining technical and regulatory issues which hamper **security of supply** and the development of a **fully integrated and competitive energy market** in the region.
CESEC priority projects:

Trans-Adriatic Pipeline
Interconnector Greece-Bulgaria
Interconnector Bulgaria-Serbia
Bulgaria & Romania System Reinforcement
LNG terminal in Croatia and evacuation system towards Hungary

On-going discussions between Ministries, National Regulatory Authorities and TSOs in Bulgaria and Greece with the stated intention to sign an interconnection agreement with the objective of enabling reverse flows from Greece to Bulgaria.
August 19, 2015: Bulgarian Energy Minister Temenuzhka Petkova: Bulgaria didn't quit the South Stream gas pipeline project. The project still remains a major goal for the country.

Former Energy Minister Dragomir Stoyne: No other country lying on the proposed route of the pipeline from Russia to central Europe is better prepared than Bulgaria in technical and organizational terms to start the construction works immediately.

Head of the Confederation of Employers and Industrialists Kiril Domuschiev: Pipework for South Stream could also be used for Turkish Stream or any other project involving both Bulgaria and Gazprom - no one can stop Bulgaria from doing business with Russia.

*Would EU ever back down from its Third Energy Package?*
Nord Stream-2: 55 bcm

Like SS: does not conform to EU’s Third Energy Package!

Would EU treat member states differently? Make Bulgaria conform to the Third Energy Package but work out an exemption for Germany?
EUROPEAN COMMISSION JOINT STATEMENT
Malta, 11 July 2014
Security of gas supply: the role of gas developments in the Mediterranean region

Mediterranean gas - Another corridor?
The European Commission recommended developing a Mediterranean gas hub as part of efforts to improve the EU's energy security by diversifying gas routes and suppliers.
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- If sufficient volumes are attained, the pipeline option offers economies of scale and **lower cost**
- Turkey offers the only pipeline route option for Med gas
- With the latest discovery off its coast, estimated to be 850 bcm, Egypt could turn into a major export hub for LNG towards Europe
- Challenge: regional conflicts, no stability in the Middle East
Western Europe: Increased supply from North Africa?

Algeria – the world’s seventh largest gas producer: pipelines to Spain and Italy underutilized

- Political concern, terrorist attack on gas facilities
Gas from the Caspian
The Dynamic Energy Landscape: What’s coming up?

Source: BP Statistical Review of World Energy 2015
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USA: LNG Exports will start very soon

IRAN: Disembargo will make the World’s second largest gas reserves available

✓ Most economic route for Iranian gas to Europe would be via Turkey

✓ Iran is Turkey’s second largest natural gas supplier, but the existing pipeline would not support major exports

✓ Iran could bring gas to Europe by shipping LNG to Spain

Challenges:

- lack of pipeline links to other European countries from Spain
- lack of export infrastructure in Iran
- current gas production in Iran barely sufficient to meet domestic needs and growing needs in Asia
Spain and Portugal account for about 45% of all LNG imports into Europe
Project officially launched in March 2011 with the creation of the Sociedad Promotora Bilbao Gas Hub, S.L (now Sociedad Bilbao Gas Hub, S.A.).

**Aim:** developing a natural gas hub in the Iberian Peninsula

**Purpose:** carry out activities aimed at the promotion of market, logistic and financial services required to facilitate natural gas and LNG transactions.

*In May 2013, Iberian Gas Hub started to provide brokering services in the OTC natural gas and LNG markets in Spain and Portugal.*
Next key milestone: launching an electronic trading platform and offering tracking, matching and clearing services for market transactions.

- bringing together demand and supply and facilitates transactions of natural gas and LNG products.
- closing deals by finding the right counterparties, the right products and the right prices.
- establishing a competitive, fair reference price
US shale revolution: shifting geopolitics of energy in Europe and Asia

- Increased shale gas production in the US affects geopolitics worldwide
- Iberian Peninsula: a prospective hub for shale gas from US
- Growing importance of iberian gas HUB
East and West ends of Europe, Turkey and Spain emerge as strategically important locations as European gas hubs
Concluding Remarks

✓ The US shale revolution affects energy economics and geopolitics globally

✓ New opportunities with new gas supply from the US (short-term) and from IRAN (long-term)

✓ Turkey is ideally located to serve as a hub for gas supply headed to European consumer markets from Russia, the Caspian region, the Mediterranean and the Middle East

✓ Spain is ideally located to serve as a hub for gas supply headed to European consumer markets from North Africa and the US

✓ The Iberian gas hub, mechanisms and institutions being set up in the Iberian Peninsula are needed in Turkey as well
✓ Infrastructure investments needed in Spain, Turkey, SW and SE Europe

✓ Iberian and Turkish gas hubs would contribute to competitive pricing in a spot-based setting and to supply security in Europe

✓ Good prospects for gas from the Mediterranean and North Africa if stability can be attained

✓ Bad prospects for Nord Stream 2 as EU as it does not conform to the Third Energy Package

✓ Serious Challenges with Turkish Stream that need to be overcome
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Iran after the Embargo: New Business, New Energy, New Opportunities

January 22-23, 2016
Antalya, Turkey

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