

Natural Gas and Geopolitics

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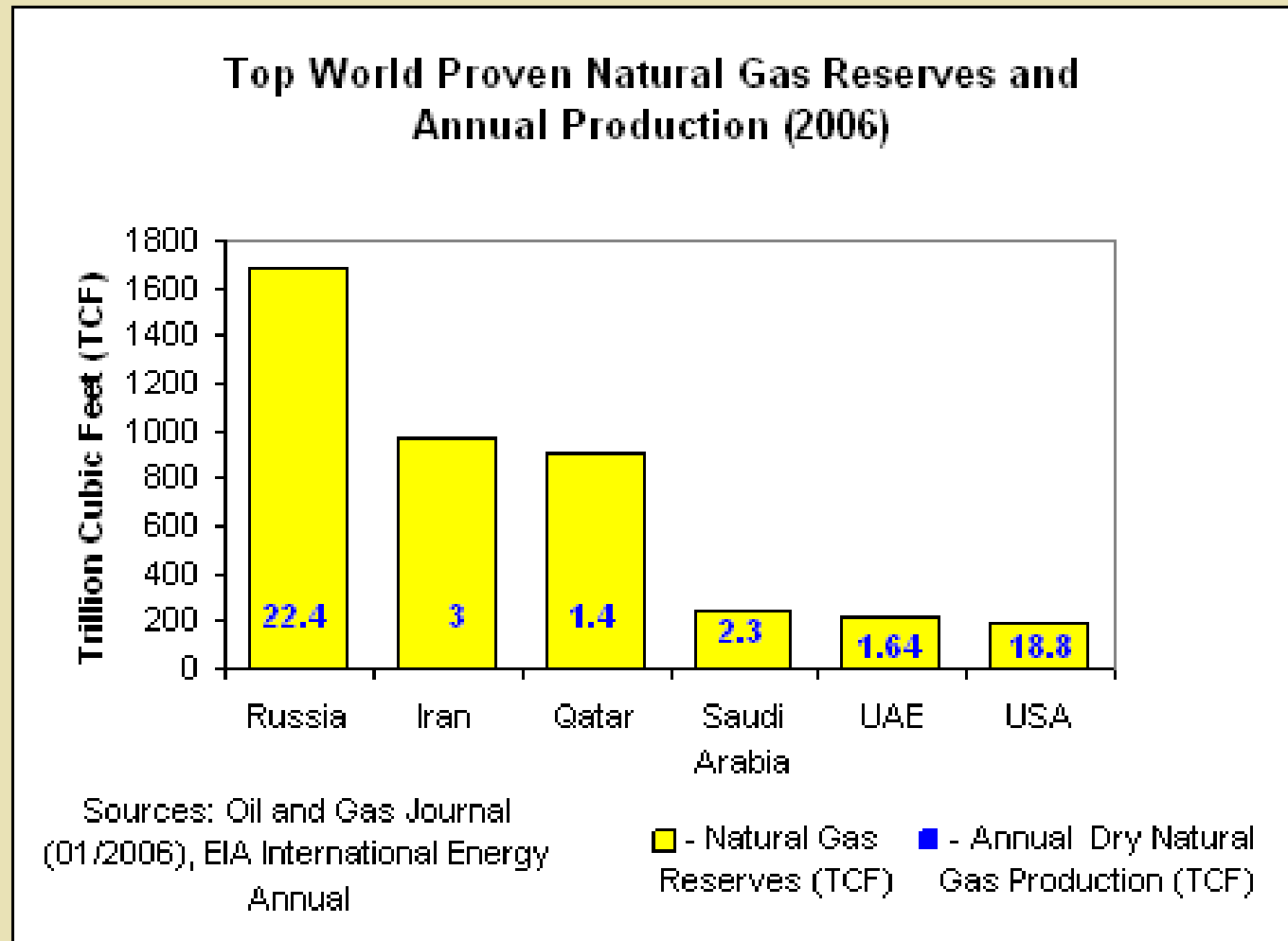


World Reserves

- ◆ Heavily concentrated
- ◆ Top ten producers hold 76% of proven reserves
- ◆ Top five hold 67%: Russia, Iran, Qatar, Saudi Arabia and the United Arab Emirates
- ◆ Vast pipelines in North America, Europe, and former Soviet Union



World Reserves and Production





Russia

- ◆ Owns 26.7% of world proven reserves
 - World's largest reserve
- ◆ No LNG capacity, all reserves flow through pipelines
- ◆ Germany, Ukraine, Italy, Turkey, and France largest importers
- ◆ The Northern European Gas Line will deliver Russian gas to Europe under the Baltic Sea into Germany

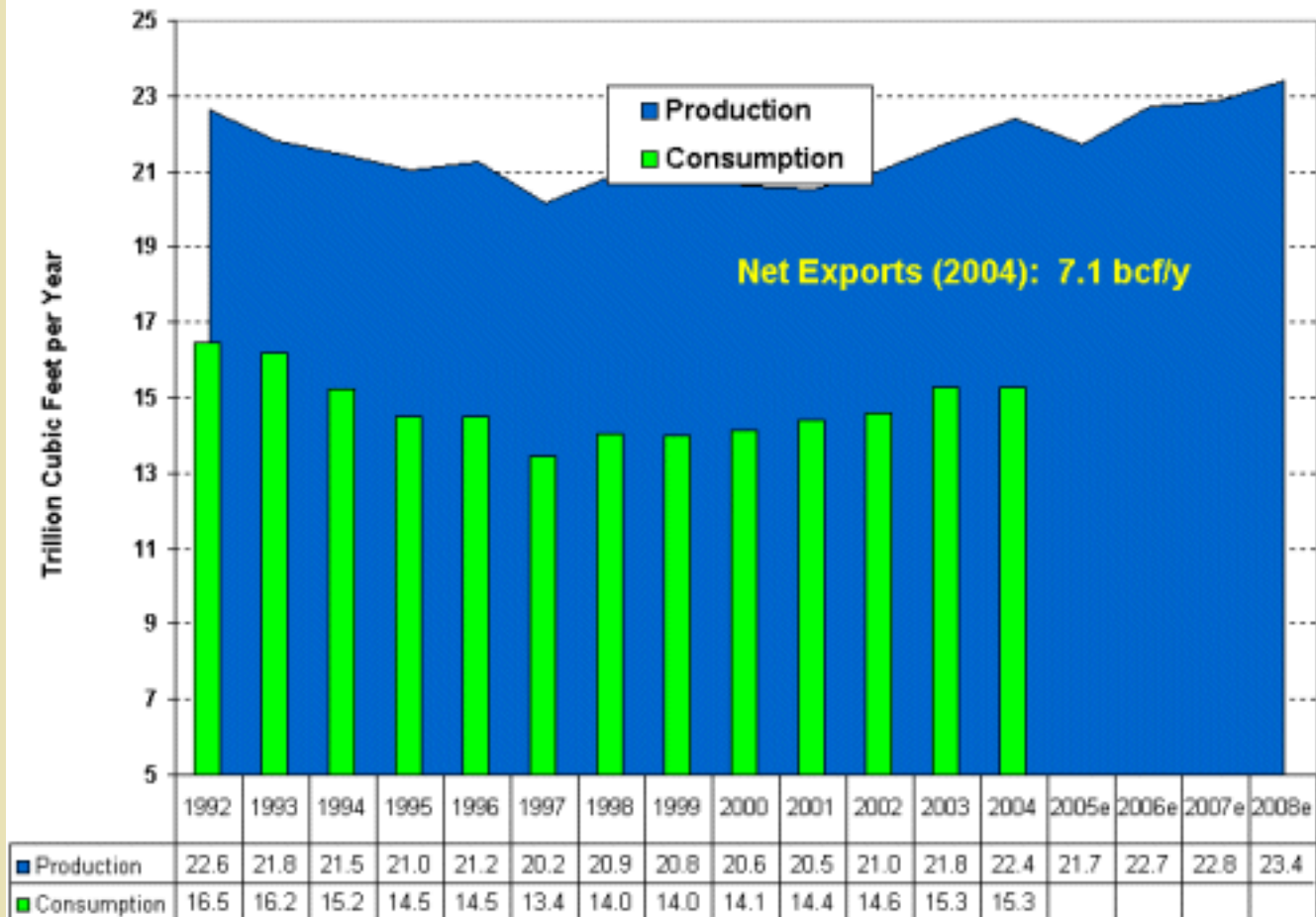


Russia

- ◆ 80% of Russian exports to Europe flow through the Ukraine
 - Some problems with supply interruption
- ◆ Gazprom: currently meets 40% of European gas demand
 - 51% state ownership
- ◆ Ability to play part in European politics: temporarily blocks supply to Georgia and Ukraine for political reasons

Russian Net Exports

Figure 5: Russian Natural Gas Balance 1992-2008



Source: 1992-2004: EIA, 2005: Interfax, 2006-2008: Gazprom

Russian Pipelines

Existing and Planned Natural Gas Pipelines to Europe





Iran

- ◆ Expanding into European and Asian markets
- ◆ Partnerships with China for Persian Gulf development of LNG
- ◆ Looking to expand exports
- ◆ Potential customers: Turkey, Europe, India, Pakistan, China
- ◆ Can do pipelines and LNG



Qatar

- ◆ Largest producer in 2006
- ◆ Growing rapidly
- ◆ Good relations with the US
- ◆ Exxon Mobil has a \$10 billion, twenty-five-year agreement signed in 2003,
 - World's largest LNG shipping facility
 - Much of the resulting liquid will go to US

Algeria

- ◆ Algeria currently OPEC's largest LNG producer
- ◆ First producer of LNG
- ◆ Two pipelines between Algeria and Europe





Pacific

- ◆ Australia is positioned to become a large exporter in the Pacific
- ◆ Indonesia
 - Leading LNG exporter (surpassed by Qatar in 2006)
- ◆ Japan:
 - Largest LNG importer in the world
 - LNG projected to make up 20% of OECD demand



US Imports

- ◆ Canada currently largest exporter to the US
- ◆ Mexico second
- ◆ LNG will become an increasing source
 - LNG currently small source of gas
- ◆ US Congress voted to build more LNG terminals in the US in July 2005
- ◆ Trinidad largest LNG supplier

Pricing

- ◆ Gas prices have risen alongside oil prices in 2005-2006





References

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