Global Natural Gas Market and Russian Gas Supply

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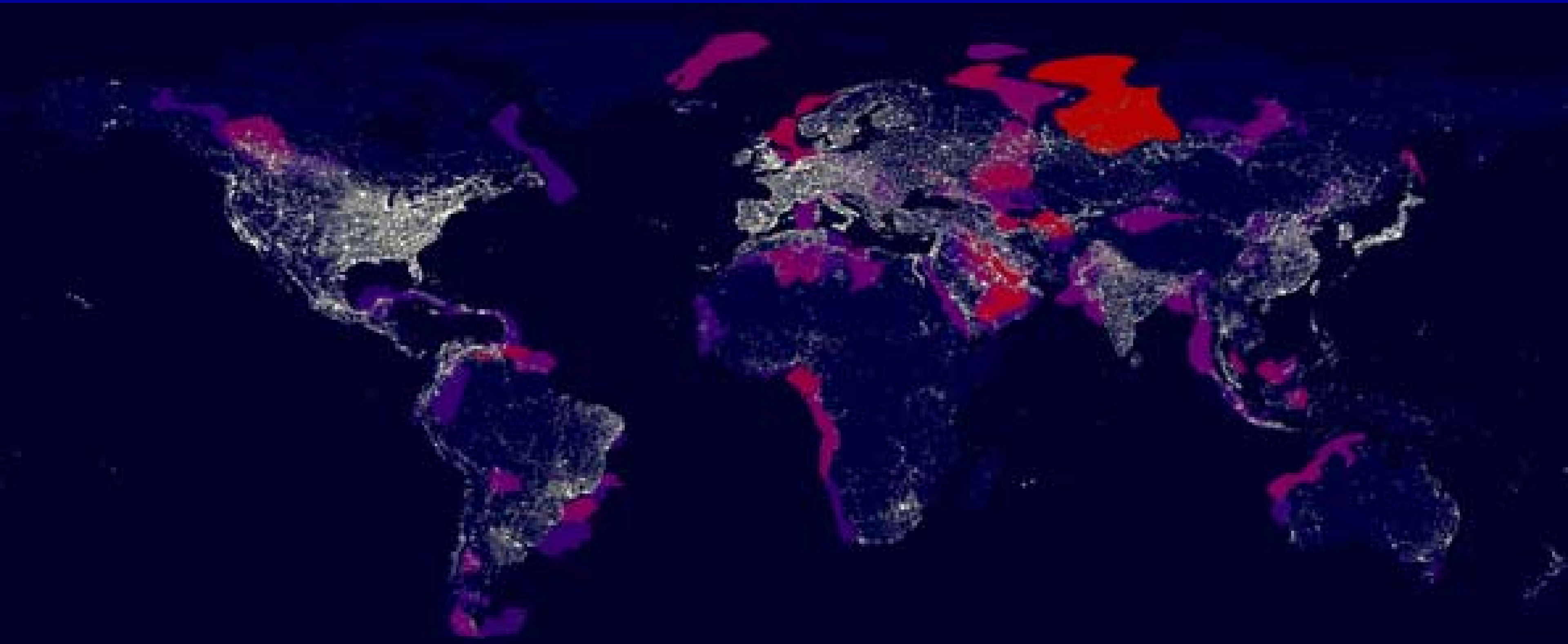
Global Gas Supply, Demand and Trade: History and Future

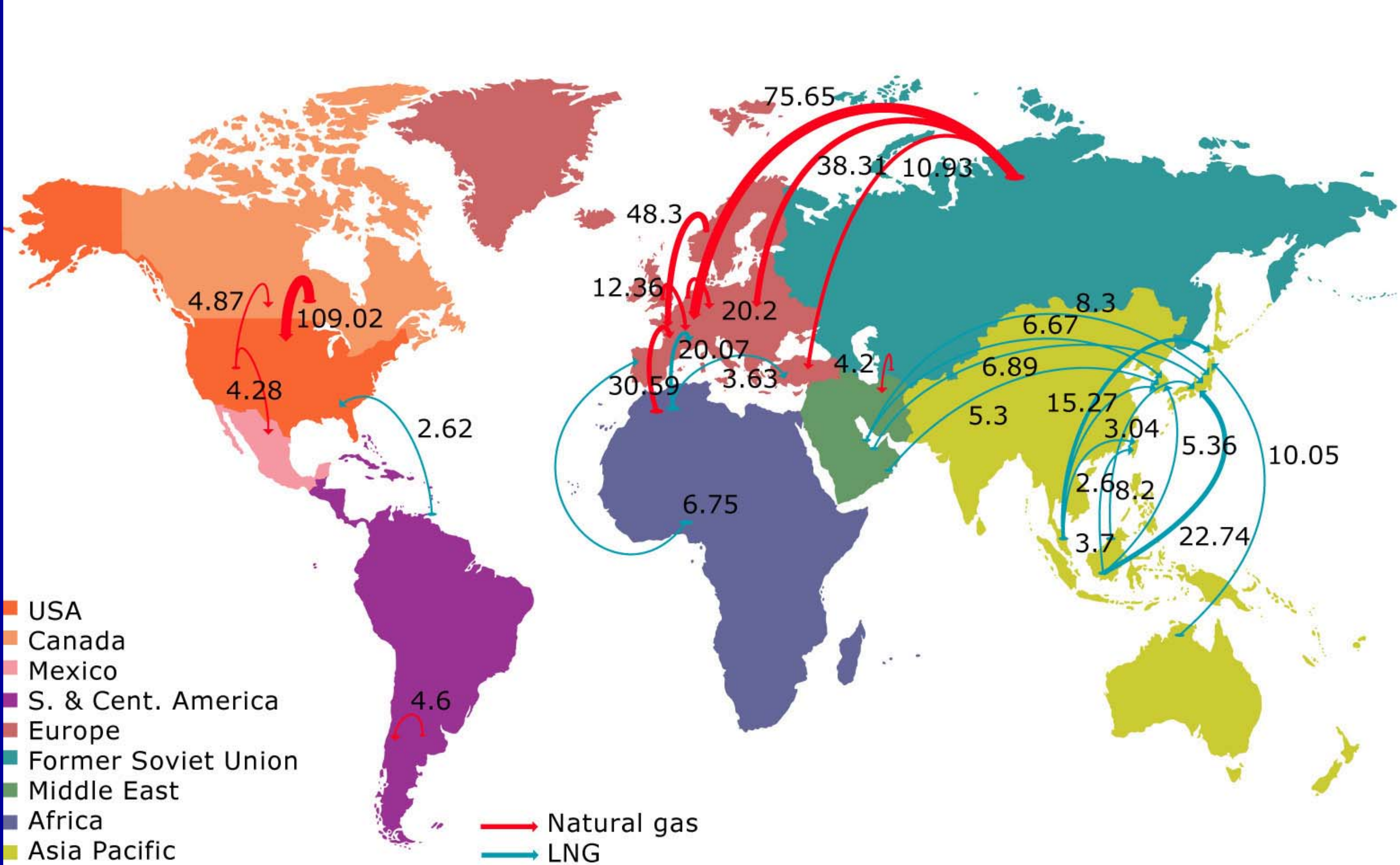
Gas Resources and Potential Demand



White: <u>where the lights are on, satellite imagery</u>
Blue → Red : Gas resources, with increasing size (USGS)

map of major gas trade movements

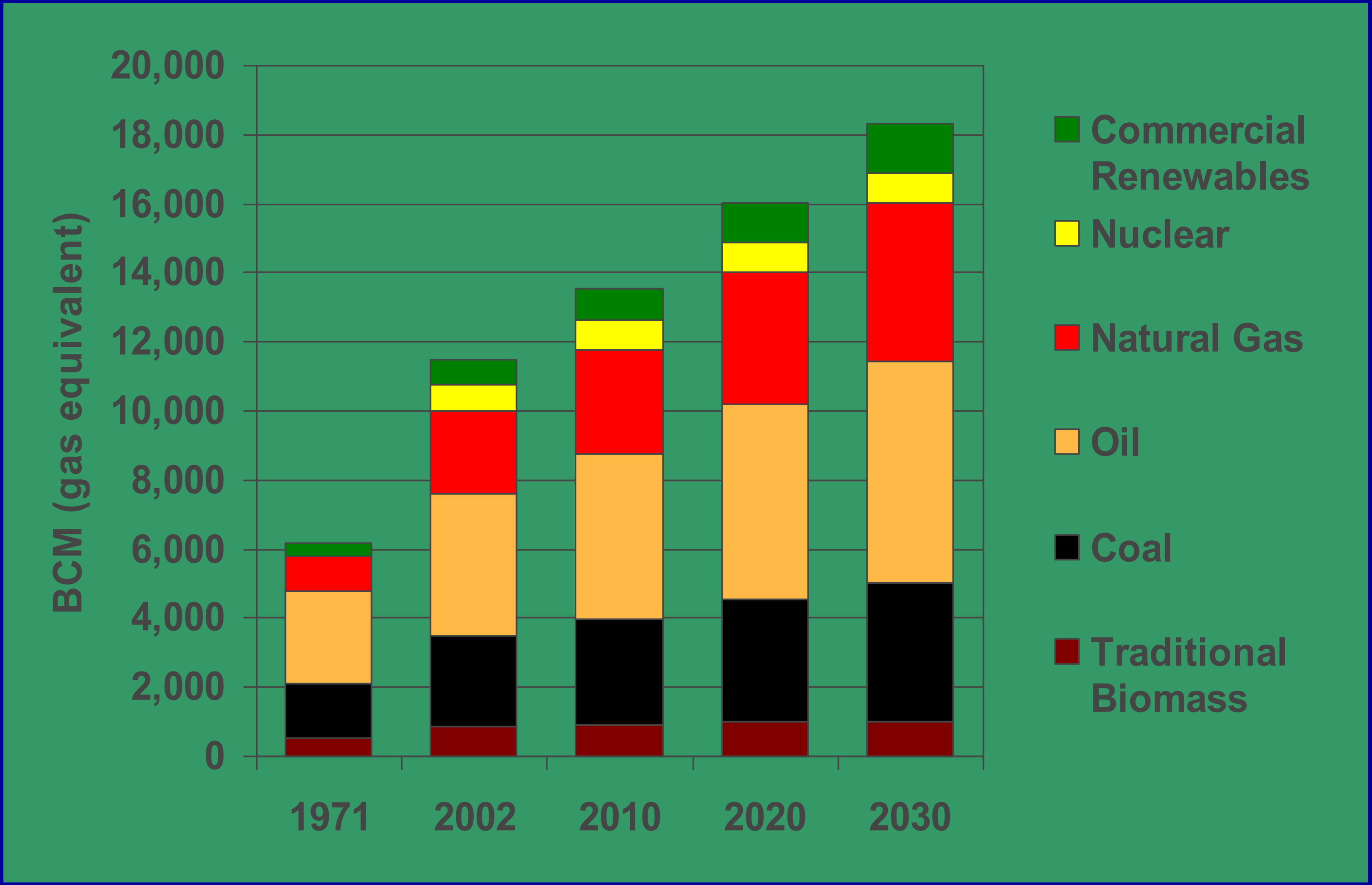
Trade flows worldwide (billion cubic metres)



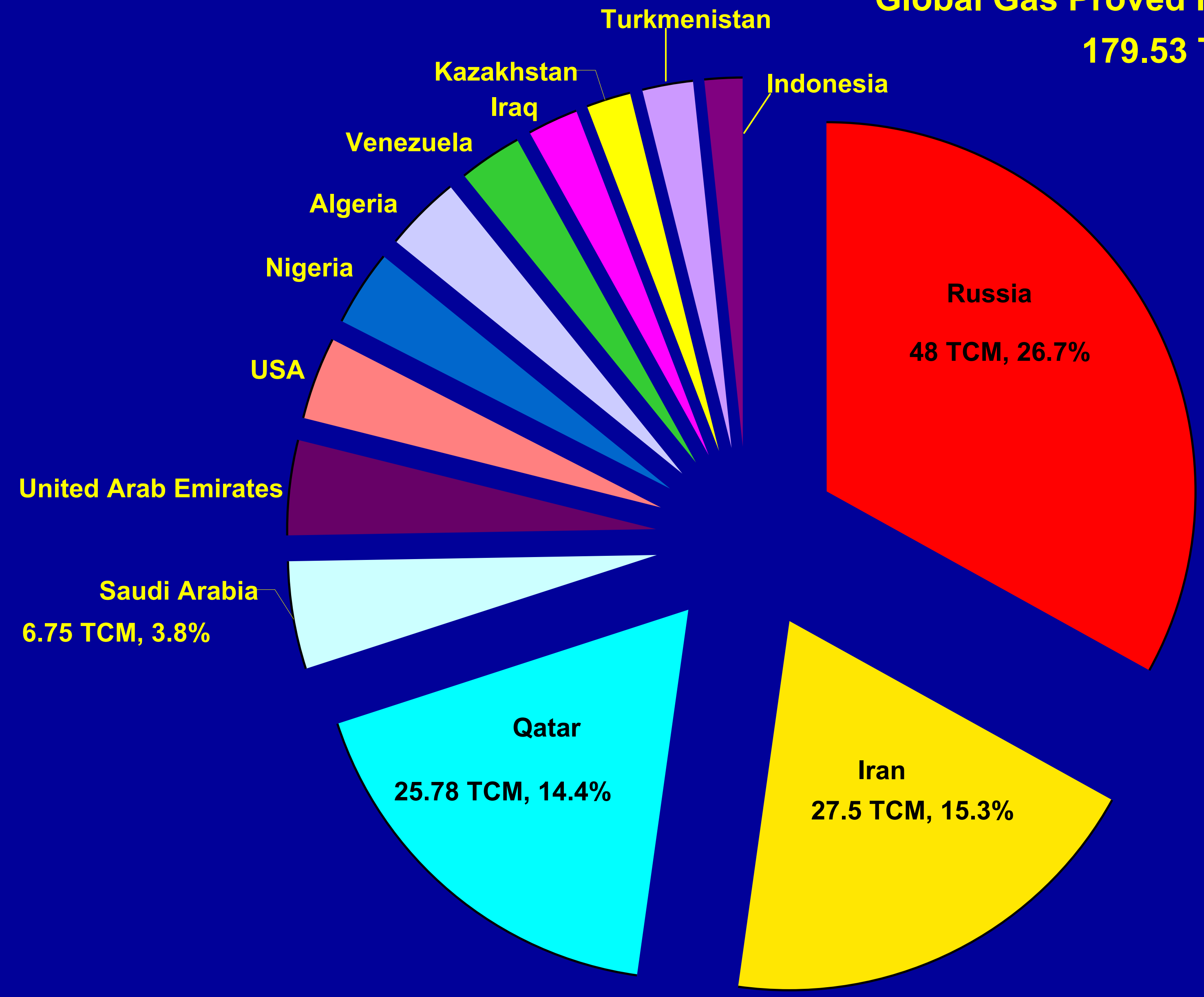
bp statistical review of world energy 2002

The Shift to Gas:
World Primary Energy Supply to 2030

IEA-WEO, 2004

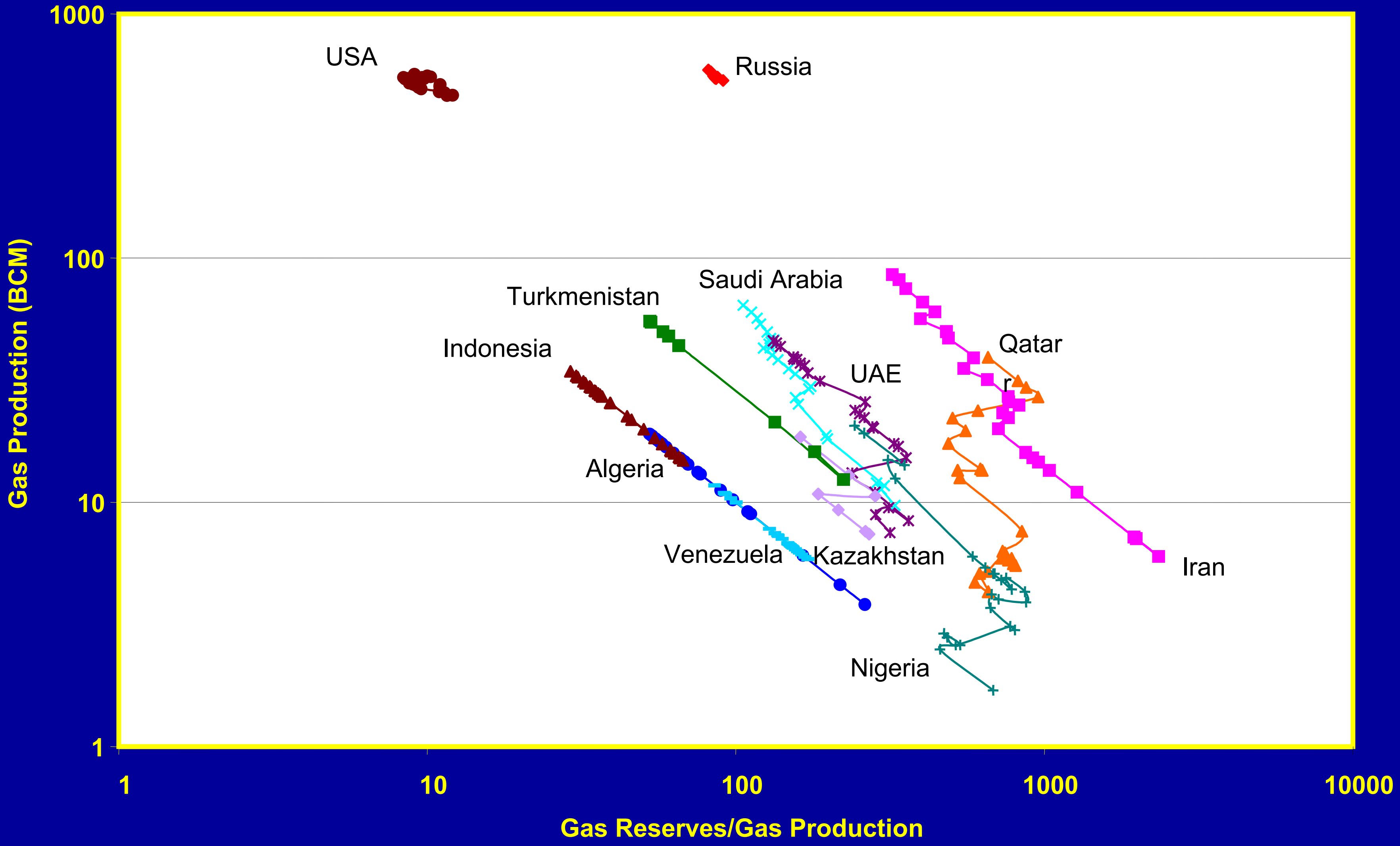


Global Gas Proved Reserves in 2004
179.53 TCM



Source: BP 2005

Top World Gas Reserves Countries: Gas Production versus Gas Reserves and Production Ratio, 1980-2004



Source: BP 2005

Security of Russian Gas Supply

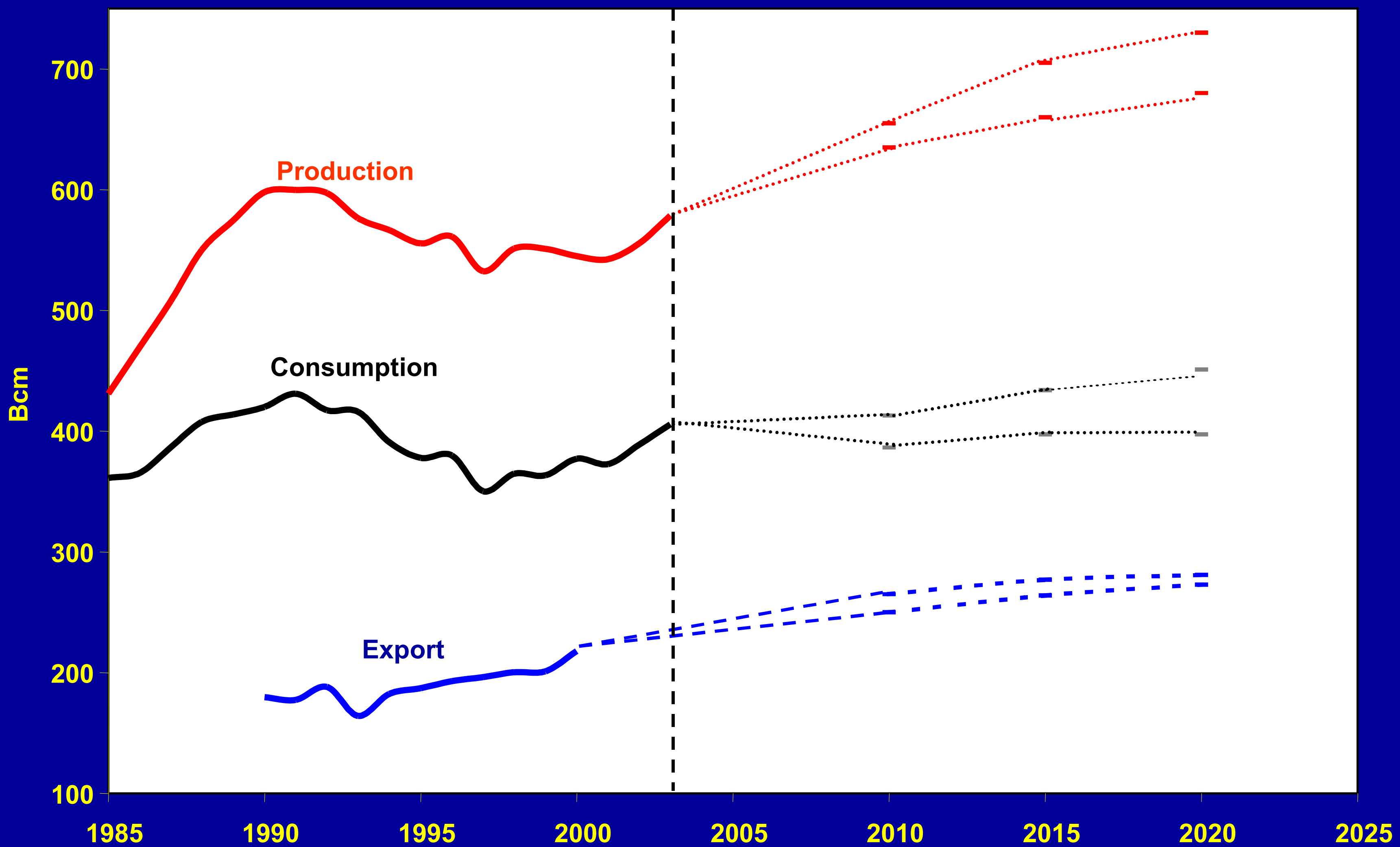
1. **Supply and Demand in Russia**
    - Production faltering
    - Russia's inefficiencies

2. **Financial and investment performance**

3. **Prospects for Private Investment**

4. **Is Russian Gas Supply Secure?**

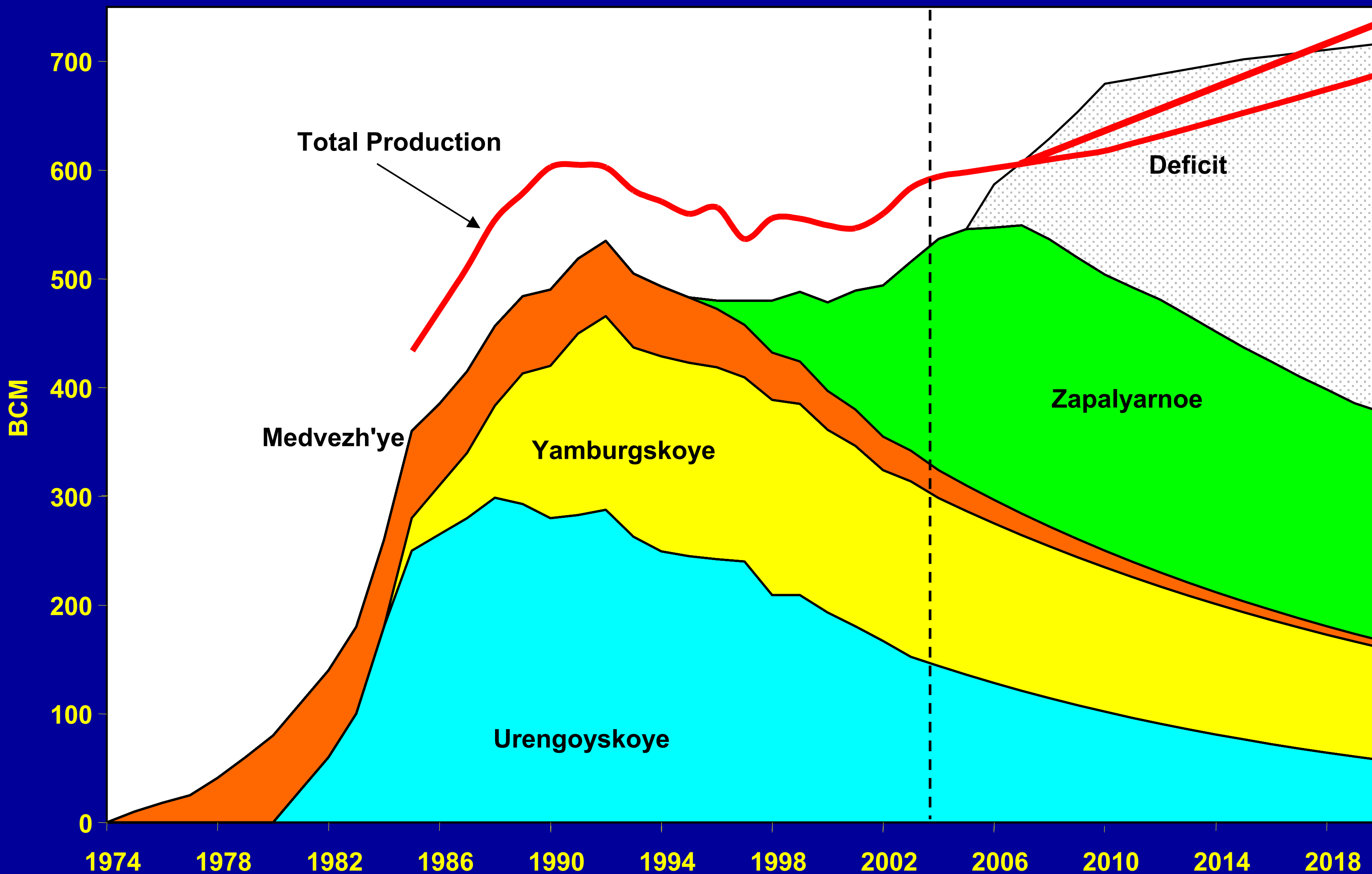
Russia: Natural Gas Production, Export and Consumption, Historical Data and Russian Energy Strategy Projections (2010-2020)



Source: BP 2005, Энергетическая стратегия России на период до 2020 года

Production

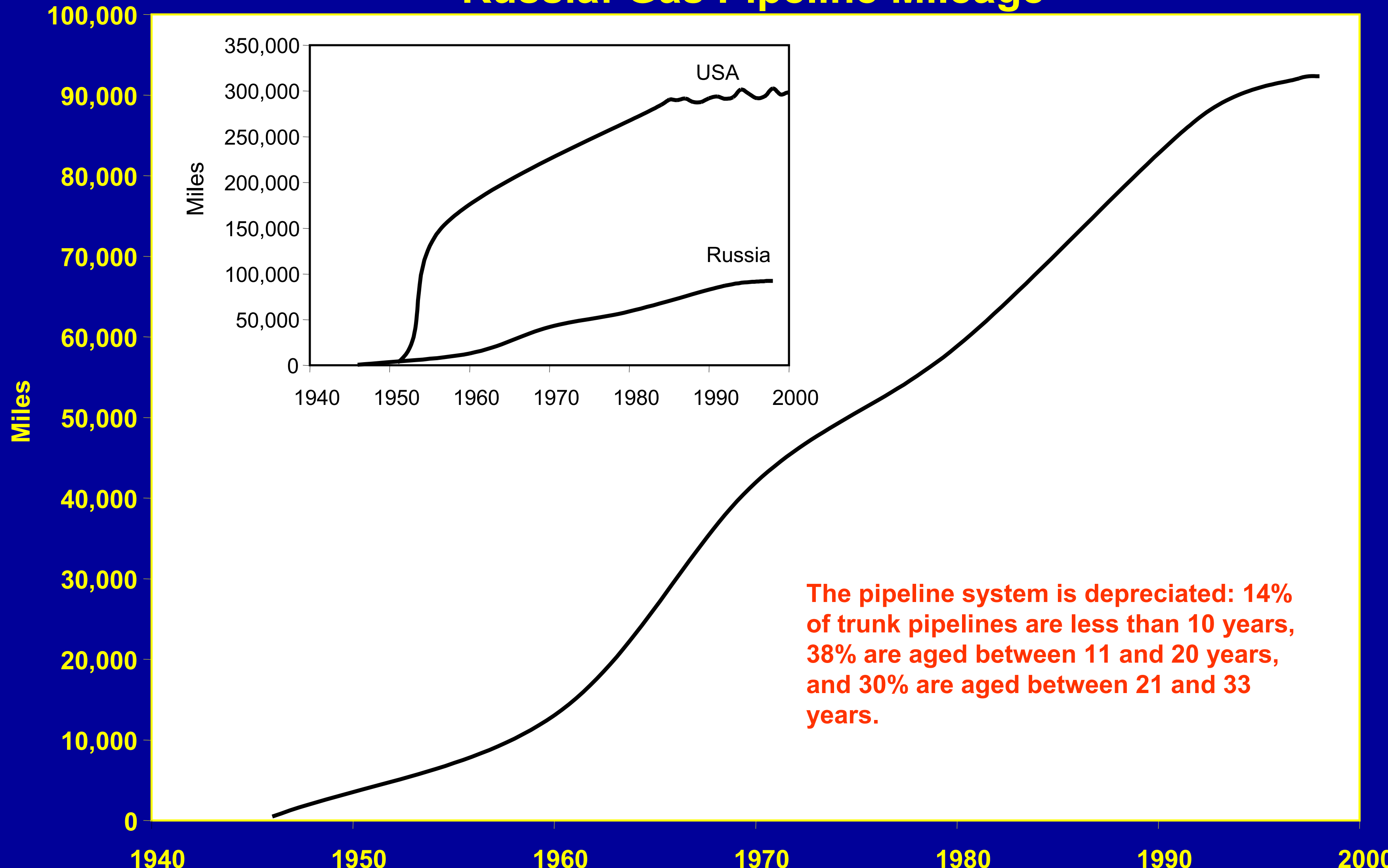
Russian Natural Gas Production from Major Gas Fields: Historical and Projections



Source: IEA 2002, Stern, J.P. 2005

Transmission
(pipelines)

Russia: Gas Pipeline Mileage

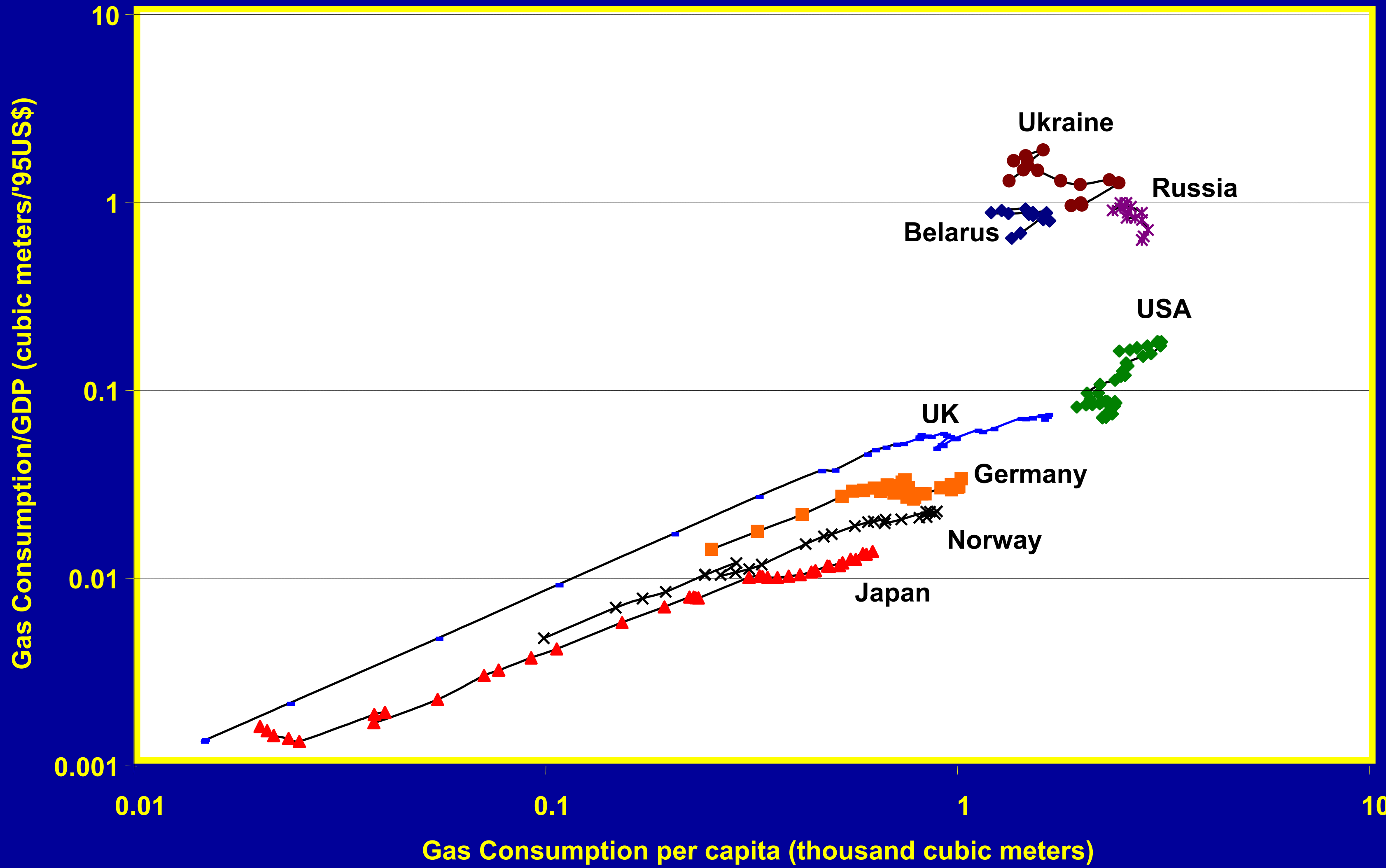


Note: Russian gas pipeline throughput capacity rose: 1.2% in 2005; 1.9% is forecast in 2006, 1.2% in 2007 and 0.8% in 2008.

Source: OPS On-Line Library, U.S. Census Bureau 2005

Efficiency and Consumption

Gas Consumption Intensity of GDP versus Gas Consumption per capita, 1965-2002



Source: BP 2005, World Bank 2004

Gazprom 101:
Performance and Investment

Gazprom Performance 2004-2005

	2004 (9M)	2005 (9M)	%
Europe			
Sales, 10e6 $US	10,942	15,141	38%
Sales, bcm	113	116	2%
Average price, $US/10e3 cm	132	181	37%
FSU			
Sales, 10e6 $US	1,677	2,983	78%
Sales, bcm	48	59	24%
Average price, $US/10e3 cm	46	62	35%
Russia			
Sales, 10e6 $US	5,956	7,553	27%
Sales, bcm	209	211	1%
Average price, $US/10e3 cm	29	36	24%
Other Revenues			
Gas condensate & refineries	3,015	4,092	36%
Transportation services	737	640	-13%
Other sales	1,318	1,620	23%
Total Sales Revenues	**23,645**	**32,028**	**35%**
OPEX	**-17,188**	**-20,850**	**21%**
Net Profit	**4,878**	**8,305**	**70%**
Net Debt	**-17,800**	**-18,500***	**4%**

** Doesn't include the loan to take over Sibneft*

Source: FINAM 2006

The Gazprom's Investments Needs in 2006-2008

(without M&A)

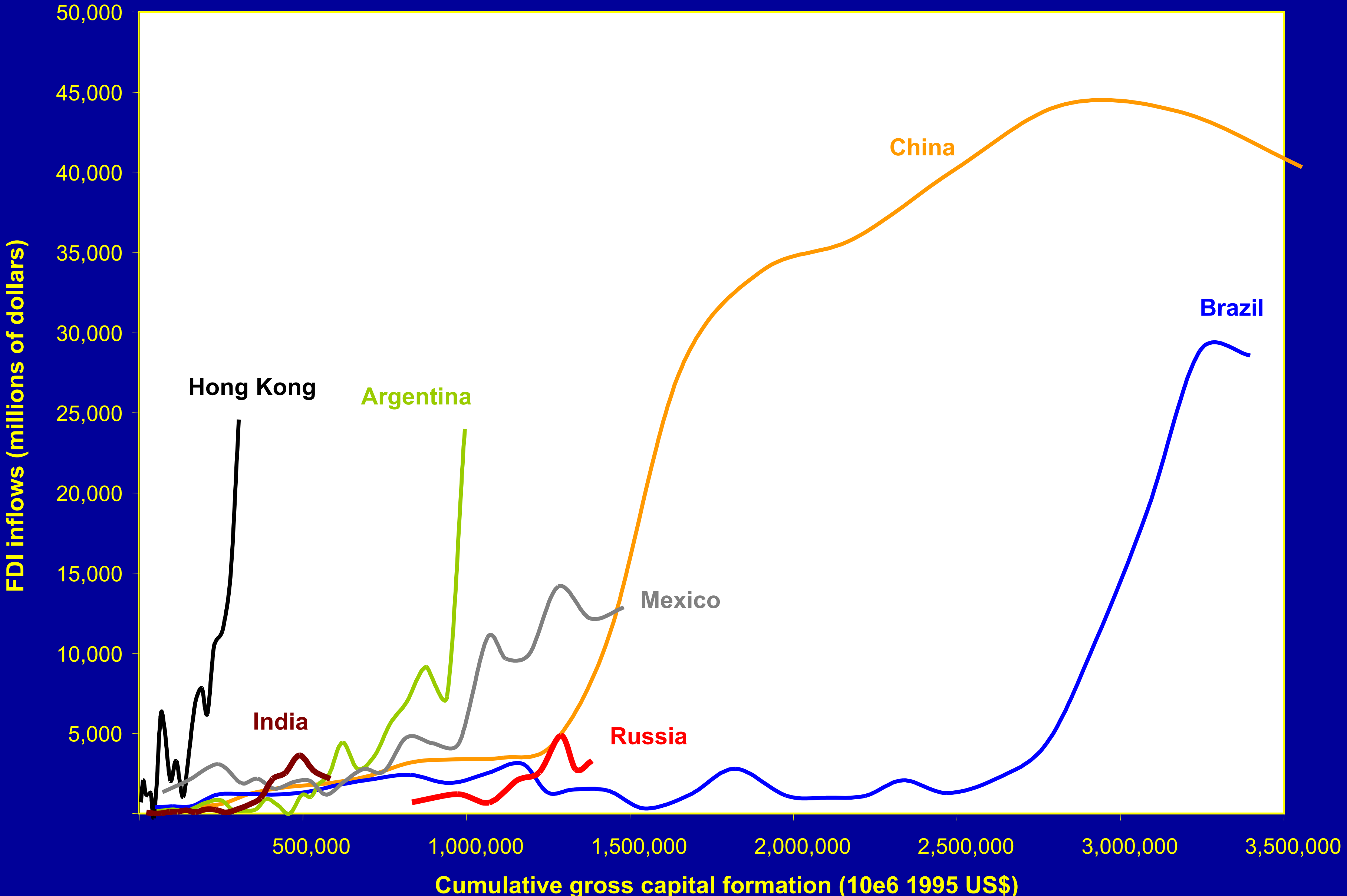
- **Refurbishing Depreciated Pipelines ~ $2 bln. annually**
- **Paying for previous loans ~ $3 bln. annually**
- **The Irkutsk Oblast gasification ~ $1 bln.**
- **Baltic Pipeline ~ $5 bln.**
- ***Kovykta Filed Development ~ $18 bln.***
- ***Shtockman Filed Development ~ $20 bln.***
- ***Yamal Filed Development ~ $50 bln.***

Gazprom's 2005 net profit ~ $11 bln. (annual basis)

Gazprom's 2005 net debt (without the loan for Sibneft) ~ $19 bln.

Can Private Investors Fill the Gap?

Foreign Direct Investments versus Cumulative Gross Capital Formation, 1990-2000



Source: World Bank 2004, IMF 2004

The Legal and Political Institutions

1. **Production Sharing Agreements**
    - Only 30% or less of the explored resource deposits can be developed on PSA terms
    - Use of domestic employees (a minimum of 80 percent of all staff)
    - Use of domestically manufactured equipment (70 percent)
    - 1,700 separate approvals are needed to launch a PSA

2. **New Mineral Resources Law (draft)**
    - Federal ownership of all mineral and hydrocarbon resources
    - Classification certain minerals as strategic raw materials
    - Recall a license of any company even for defaults of minor significance
    - The annual deposit cost evaluation and audits
    - Moving from license-based mineral use to civil-law contracts

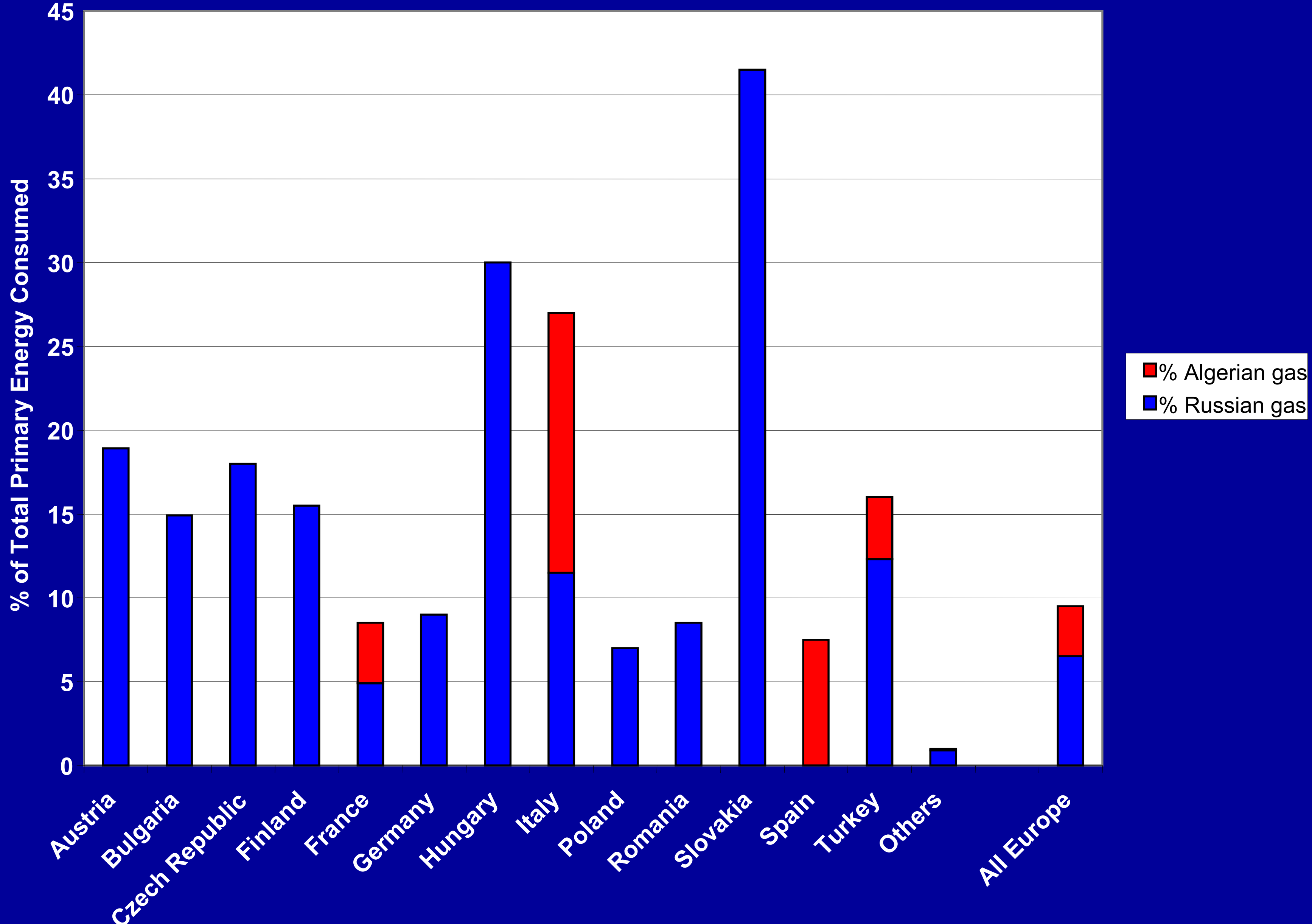
Gas Sector Reforms and Liberalization?

1. **Price Reform**
    - Gas prices and electricity prices ratio in Russia is about 1/33
    - Industrial prices are around 20% of European import prices
    - Energy Strategy: $40-41 per 1000 cm by 2006 and $59-64 by 2010
    - Regulated versus unregulated prices

2. **Liberalization**
    - Rights of access for third parties
    - An economically justifiable transmission tariffs
    - Liberalization of export

Is Russian Gas Supply Secure?

European Gas Imports: Russia & Algeria



Source: BP 2005