

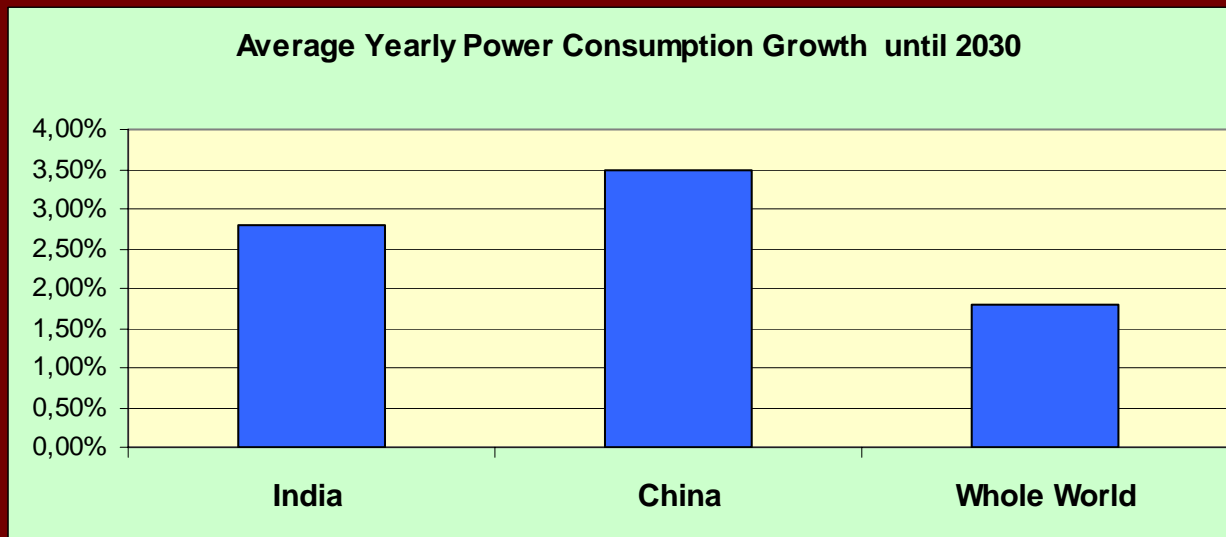
Russia and India&China Prospects of Energy Cooperation

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Prague
September, 9
2008

China and India: Much in Common

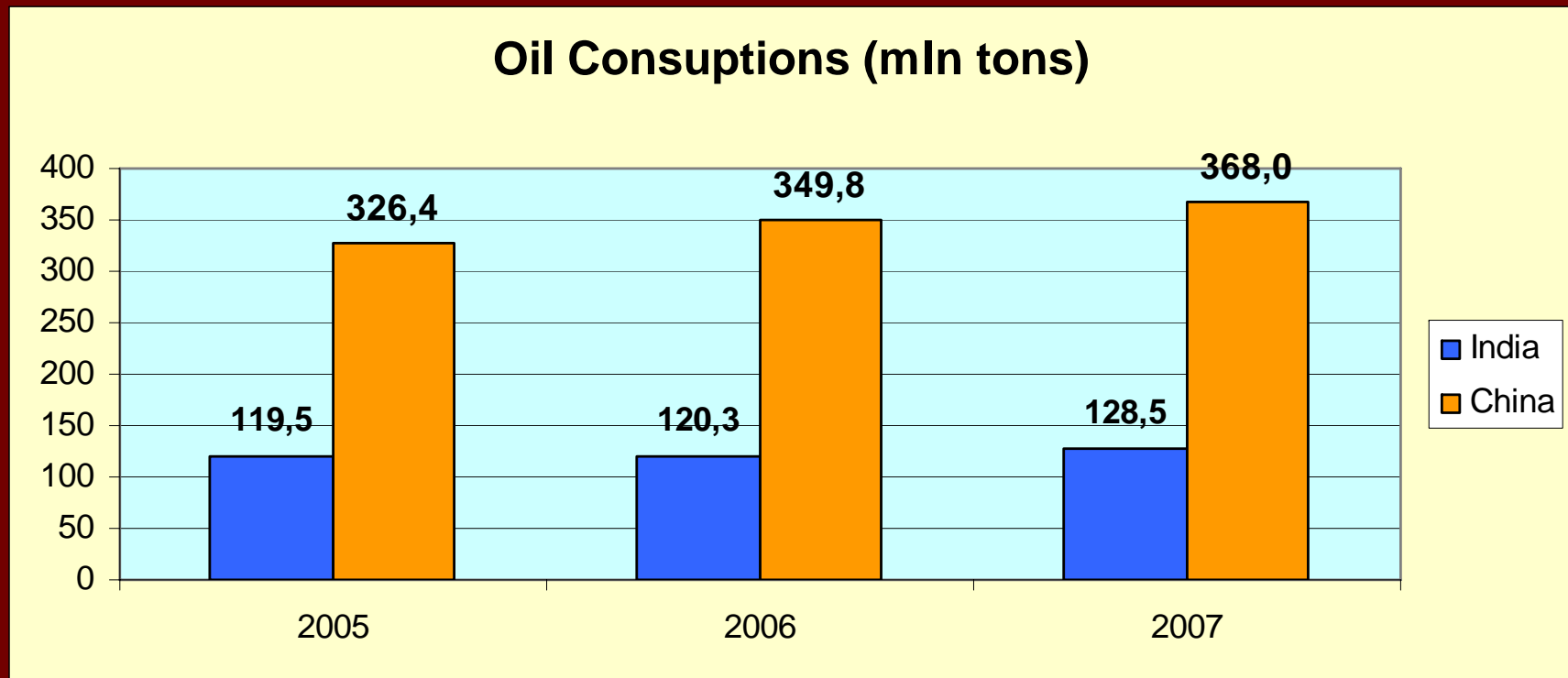
- Traditional stake on coal: 56% in energy generation of India, 65% in energy generation in China
- Lack of Oil and Gas Reserves
- Forecast of economic growth is 8-12%
- **Diagnostic**: hydrocarbon starvation



Source: EIA

First Problem will be Oil

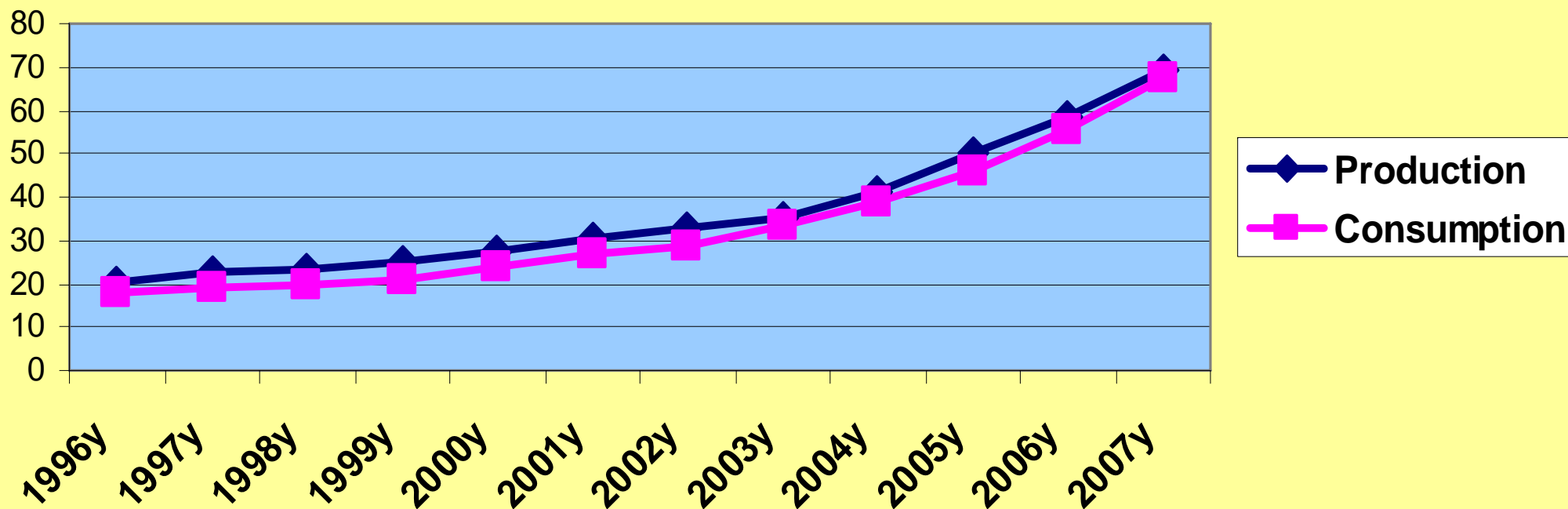
- Serious gap between oil production and consumption: 90 mln tons in India and 180 mln tons in China



Source: BP

Second Problem will be Gas

Production and Consumption of Gas in China (bcm)



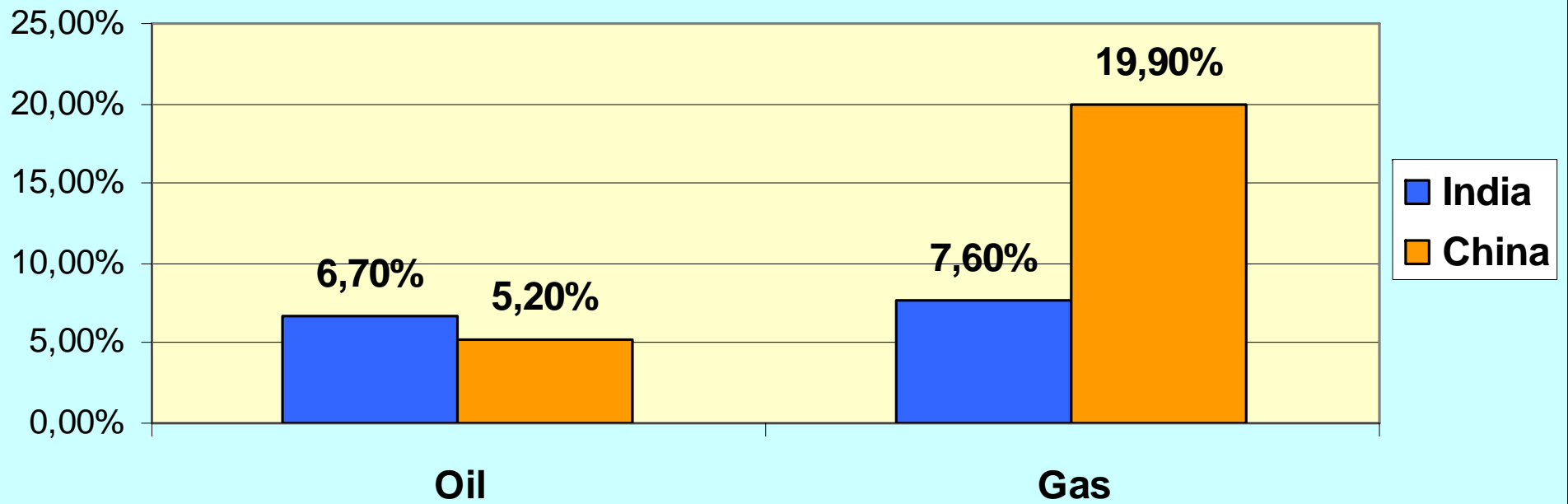
Source: BP

- Gas production in India in 2006 was 30,4 bcm, consumption - 36,6 bcm

Second Problem will be Gas

- The serious increasing of consumption: the production of gas will be behind consumption very soon
- International Energy Agency: China import of gas in 2020 will be 80-160 bcm
- Forecast of gas consumption in India : 2010 - 75,6 bcm, 2012 - 114 bcm, 2030 - 243 bcm. Forecast of production in 2030 is less than 40 bcm

Increasing of Consumption (2007, %)



Source: BP

Crusade for Oil and Gas

- At the end of 2006 India invested more than \$5,5 bln to foreign upstream (\$2,8 bln in Russia). Projects in 14 countries
- But energy expansion has serious limitation
- Europe and United States will be competitors of IC in Arabian Gulf, Central Asia and Africa

China and India in Energy Trap

10 Main Countries on Proved Reserves of Oil (2007)

| | |
|--------------|-------|
| Saudi Arabia | 21,3% |
| Iran | 11,2% |
| Iraq | 9,3% |
| Kuwait | 8,2% |
| UAE | 7,9% |
| Venezuela | 7,0% |
| Russia | 6,4% |
| Libya | 3,3% |
| Kazakhstan | 3,2% |
| Nigeria | 2,9% |

Source: BP

10 Main Countries on Proved Reserves of Gas (2007)

| | |
|--------------|-------|
| Russia | 25,2% |
| Iran | 15,7% |
| Qatar | 14,4% |
| Saudi Arabia | 4,0% |
| USA | 3,4% |
| UAE | 3,4% |
| Nigeria | 3,0% |
| Venezuela | 2,9% |
| Algeria | 2,5% |
| Iraq | 1,8% |

Source: BP

China and India in Energy Trap



- Oil: more diffused raw material but the problem of transportation (Strait of Hormuz)
- Gas: three countries control 55% of proved reserves

Diversification of Energy Supply – Impermissible Profusion

- Situation with gas is the most dramatic
- LNG: the beginning of supply from Australia, Algeria, Nigeria, Oman, Malaysia and Indonesia. But the stake on LNG can be problematic. This market is very competitive
- Australia, Malaysia, Indonesia, Burma – local solutions (no serious reserves, no possibilities of significant increasing of production)
- Central Asia: “word of honour reserves”
- Turkmenistan: Production of gas in 2007 was 67,4 bcm (2,7%)
- “Word of honour”: 250 bcm in 2015 (370%!!!)

Two Gas Alternative

- Real alternative: Russia or Iran
- Iran: two Problems. Political Future and Transportation Routes. Pipeline form Iran to India through Pakistan. More than 2000 km of political instability
- Russia: the problem of Choice between European and Asian Markets
- January-August, 2008: oil production ↓ 0,6%
gas production ↑ 3,1%
- Special thanks from China and India to the theorists of "energy weapon" and "diversification of energy supply to Europe"

Thank you!

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