



Oil & Gas: Global Market Status and Case Study of Methane Recovery Opportunities in Russia

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International Energy Agency**



International Energy Agency

Created in 1973; currently 26 Member Countries

Goals:

- energy security
- environmental protection
- economic growth



Activities:

- co-ordinates efforts to ensure energy security
- compiles energy statistics
- conducts policy analysis
- reviews energy policies & programs
- convenes, mobilizes science & technology experts

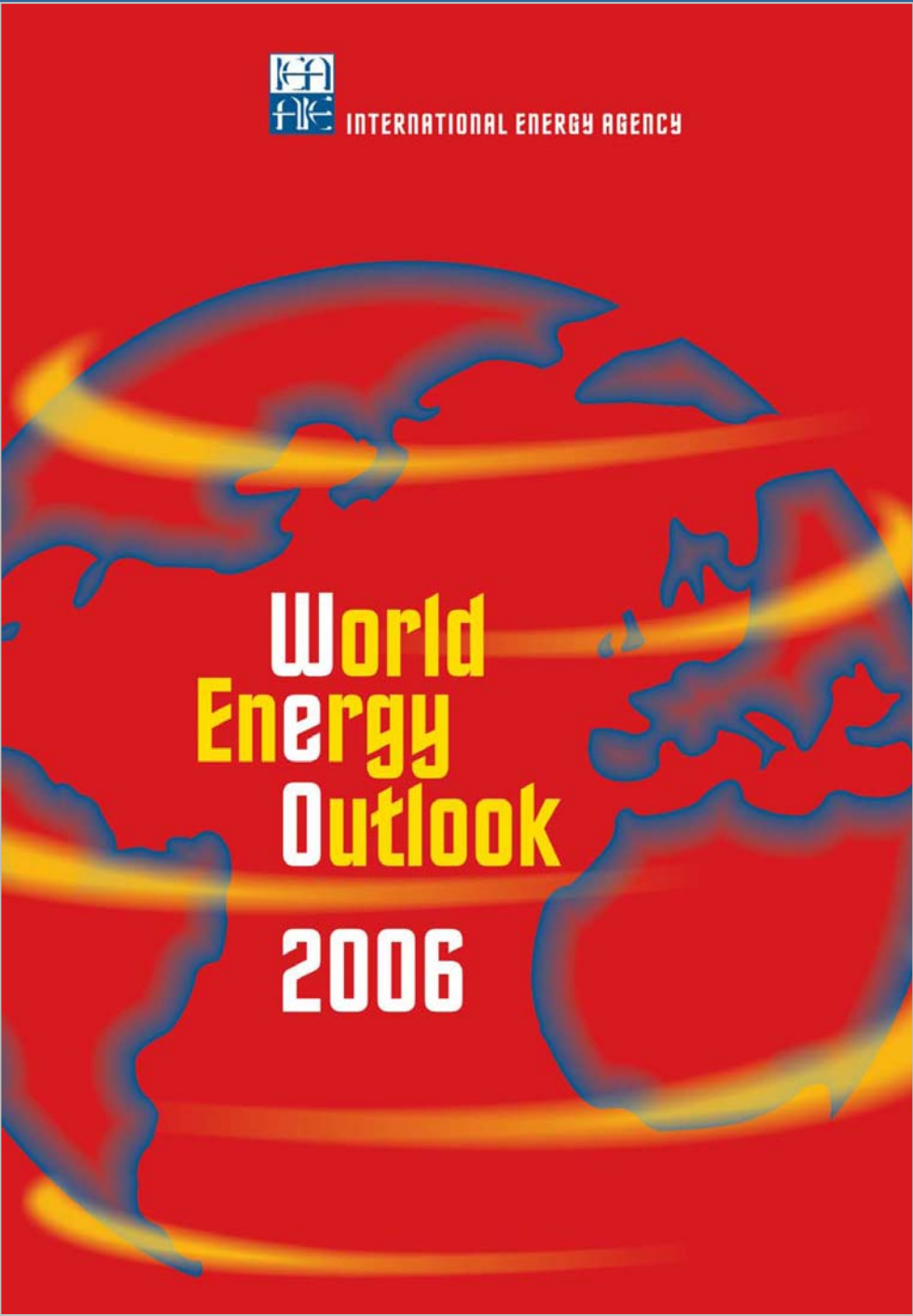


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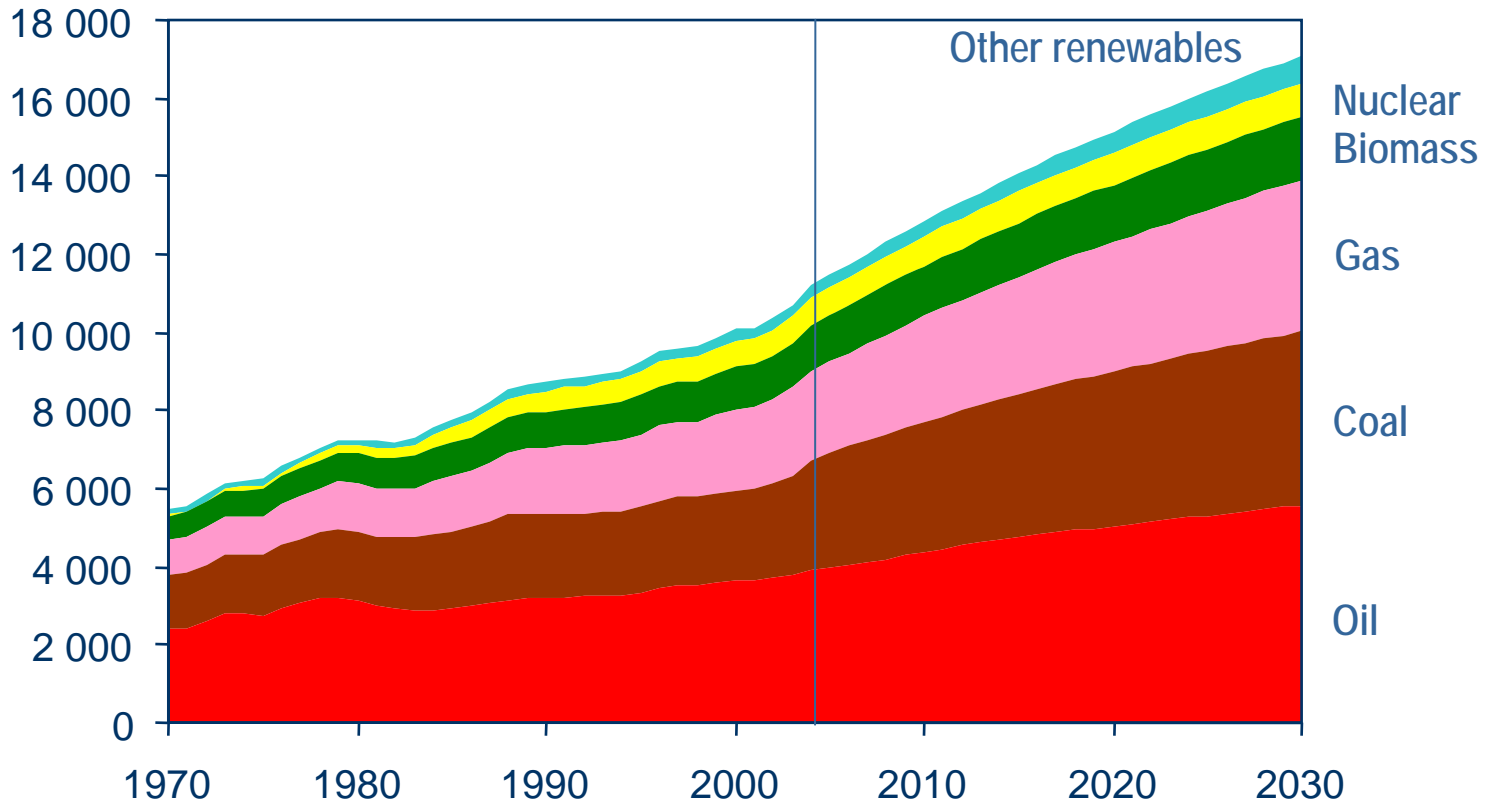
INTERNATIONAL ENERGY AGENCY

The cover features a stylized globe with blue outlines of continents and glowing yellow and orange horizontal bands representing energy or climate. The text is centered over the globe.

**World
Energy
Outlook
2006**



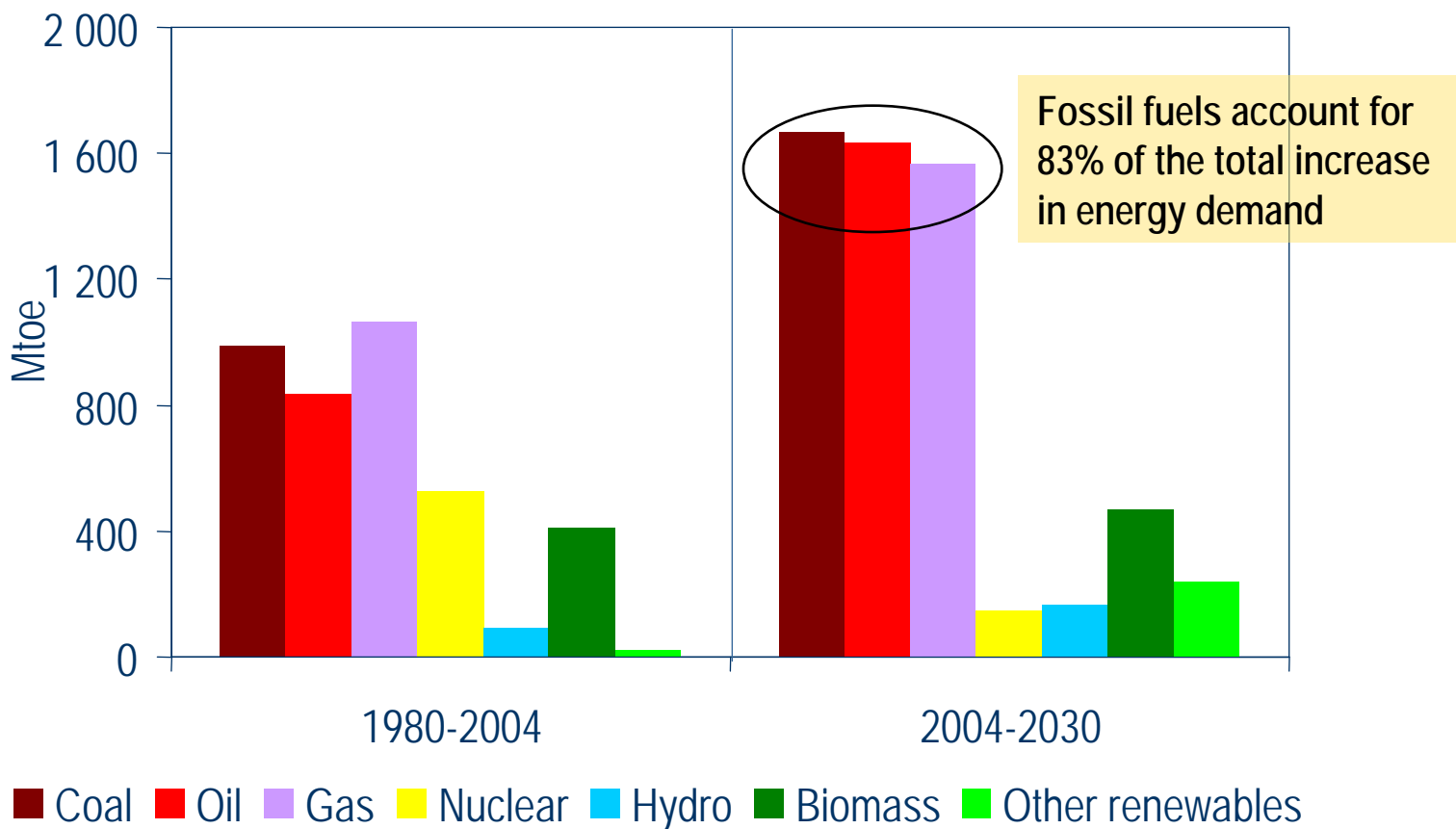
Reference Scenario: World Primary Energy Demand



Global demand grows by more than half over the next quarter of a century, with coal use rising most in absolute terms



Reference Scenario: Incremental World Primary Energy Demand



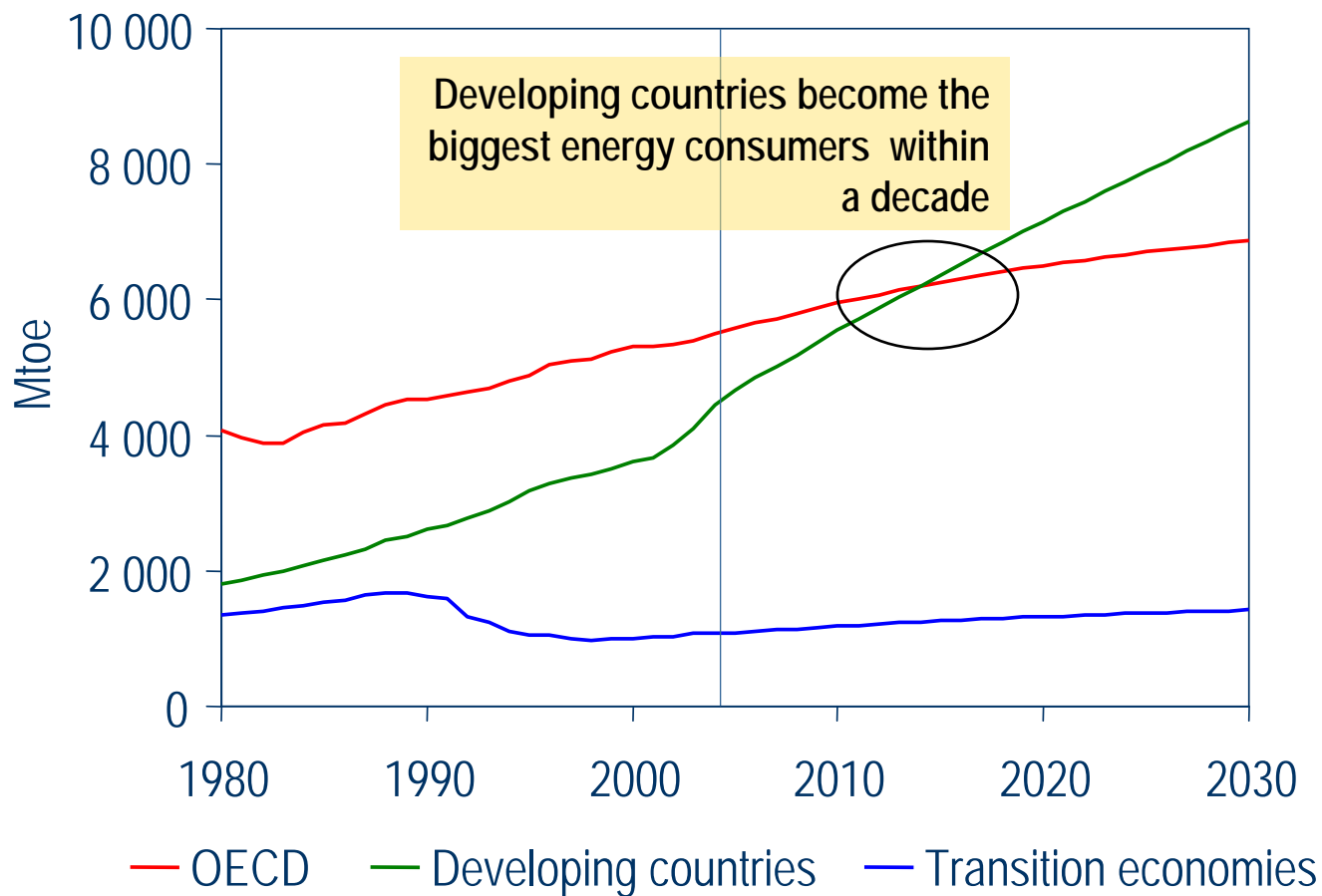
Fossil fuels account for most of the increase in global energy demand between now & 2030

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Reference Scenario: Primary Energy Demand by Region



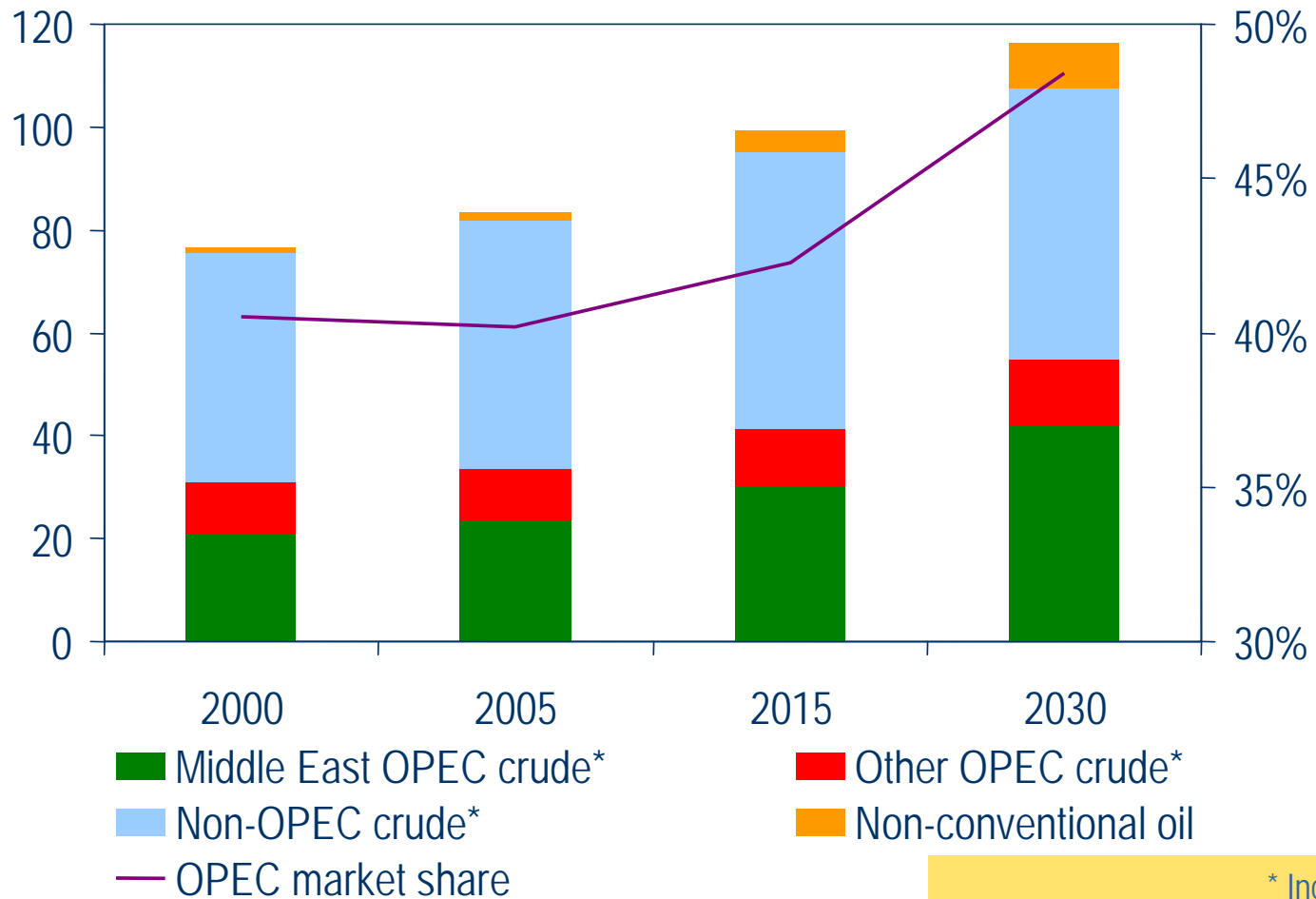
World oil demand grows by just over half between 2004 and 2030, with 70% of the increase coming from developing countries

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Reference Scenario: World Primary Oil Supply



OPEC takes the lion's share of oil market growth as conventional non-OPEC production peaks, but non-conventional oil plays a growing role

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Gas Security Issues

- Increasing import dependence
- Recent supply problems
- Need to develop/strengthen emergency measures, including strategic stocks
- LNG grows rapidly, but used in OECD
- Every OECD region imports more gas
 - North America and Japan import more LNG
 - Europe imports by pipeline and LNG
- A global gas market expected by 2015
- Improving the EE of gas production, T&D part of the solution

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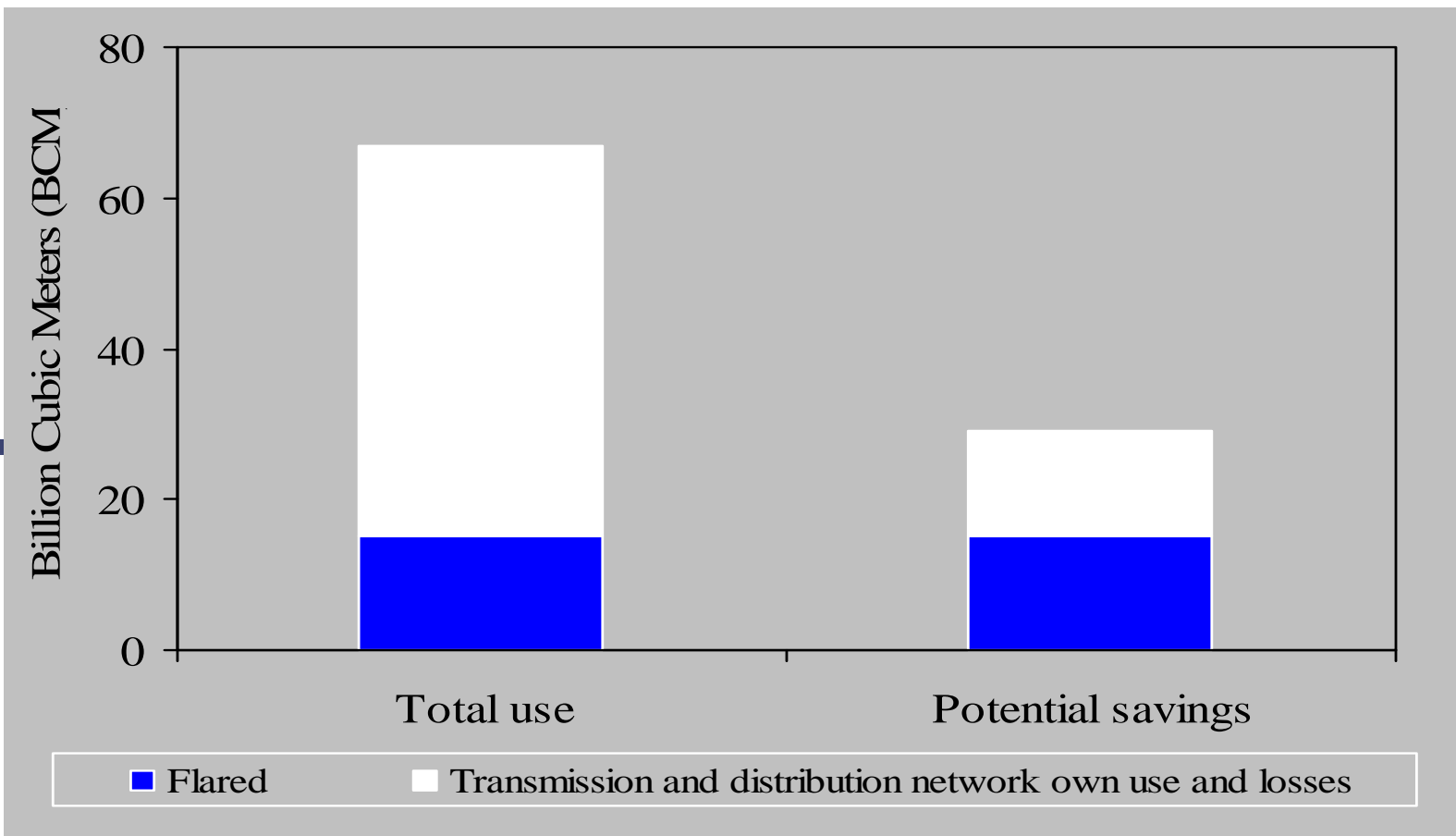
Russia: Challenge and Opportunity



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Potential Savings in Russia



**Annual savings could be at least 30 BCM
(over 20% of Russian exports to OECD Europe)**

Russia's Gas Transmission Sector

- **High emissions**
 - Compressor stations
 - Under-investment during transition period
- **Gazprom: 5-10 bcm annual savings by 2012**
- **Carbon finance could favour use of BAT**
- **Many low-cost maintenance & repair technologies and practices**

Russia's Gas Distribution Sector

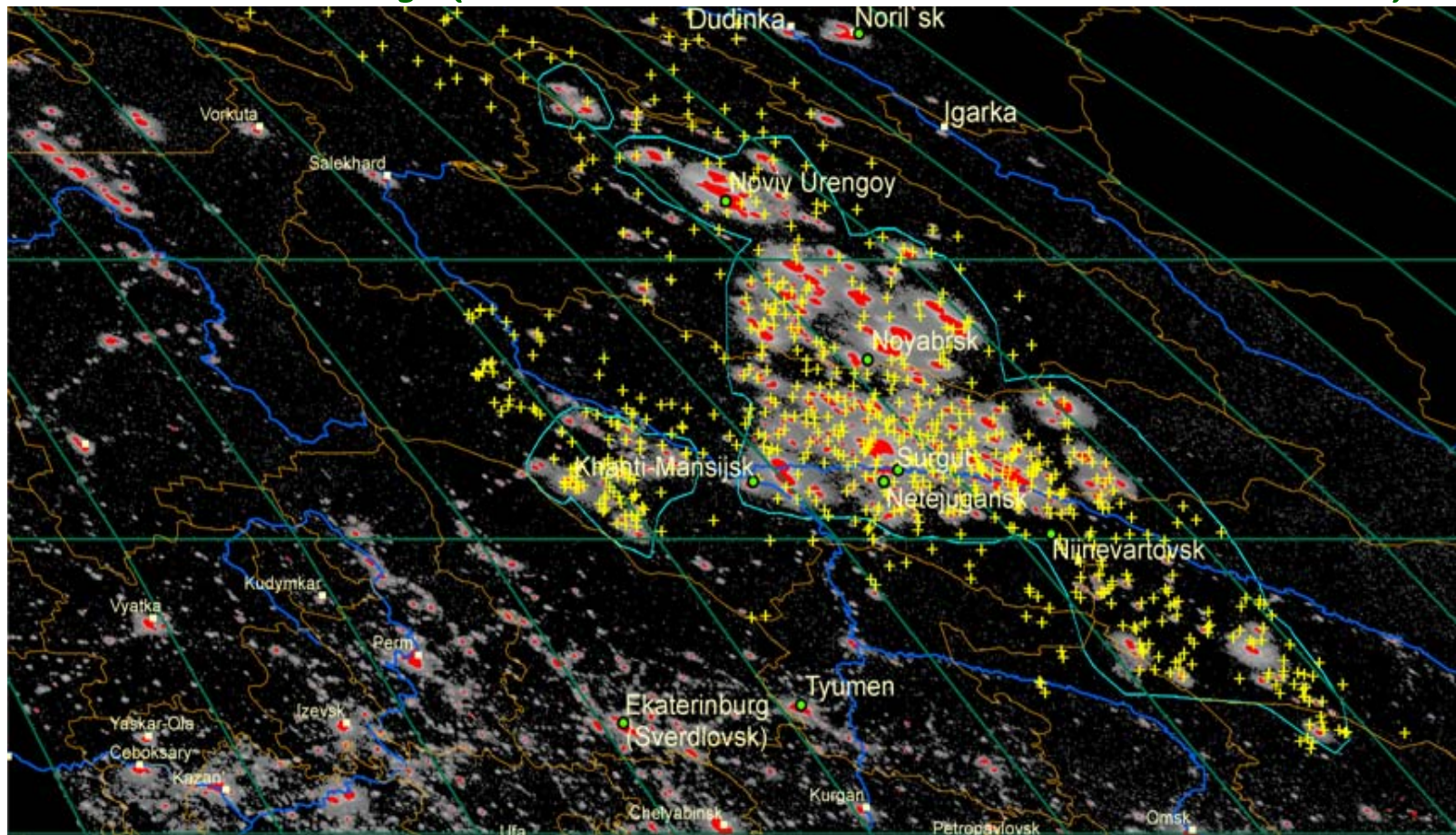
- **High methane emissions, but high uncertainty**
 - Lack of meters, information and studies
 - Financial difficulties during transition period
- **Huge potential for reductions of losses**
 - Gas savings over 3 bcm per year (50 MtCO₂e)
- **Small-scale relative to transmission**
 - Economically attractive, but dispersed
 - Transaction costs could hinder investments

Gas Flaring in Upstream Oil Sector

- **Russia officially reports flaring of 15 bcm**
- **Barriers to reduce gas flaring in Russia**
 - Access to gas processing and transmission
 - Low domestic gas prices
- **Progress may be ahead...**
 - New methane fees
 - President Putin's April 2007 announcement
 - Carbon finance can enhance economics
- **Need for more transparency globally**

IEA / NOAA Satellite Image: W Siberia

- Preliminary estimates indicate flaring of 60 bcm
- Uncertainty (technical / environmental factors)



- More data is needed in Russia / globally © OECD/IEA - 2007

Barriers to Improving CH₄ Recovery

- **Low domestic gas price**

- **Gas transmission and gas flaring**
 - Lack of true third party access
 - Uneconomic terms provided by Gazprom
 - Lack of capacity to monitor and enforce

- **Gas distribution**
 - Tariff and ownership structure
 - Lack of metering equipment
 - Project size and lack of expertise



IEA's Work in Energy Sector Methane Recovery

- Collaborating with the Methane-to-Markets Initiative
- Global analysis on costs and benefits
 - ETP 2008 publication chapter
 - ◆ Contribution of energy sector CH₄ to future CO₂ mitigation, energy technology scenarios
 - WEO 2008: will include non-CO₂ gases for the first time
- IEA Information Papers in 2008:
 - China: coal mine methane
 - Russia: oil & gas methane recovery opportunities
 - India: landfill methane
- Outreach
 - IEA network engagement in key countries with large energy sector CH₄ emissions: China, India, Russia

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For More Information

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