

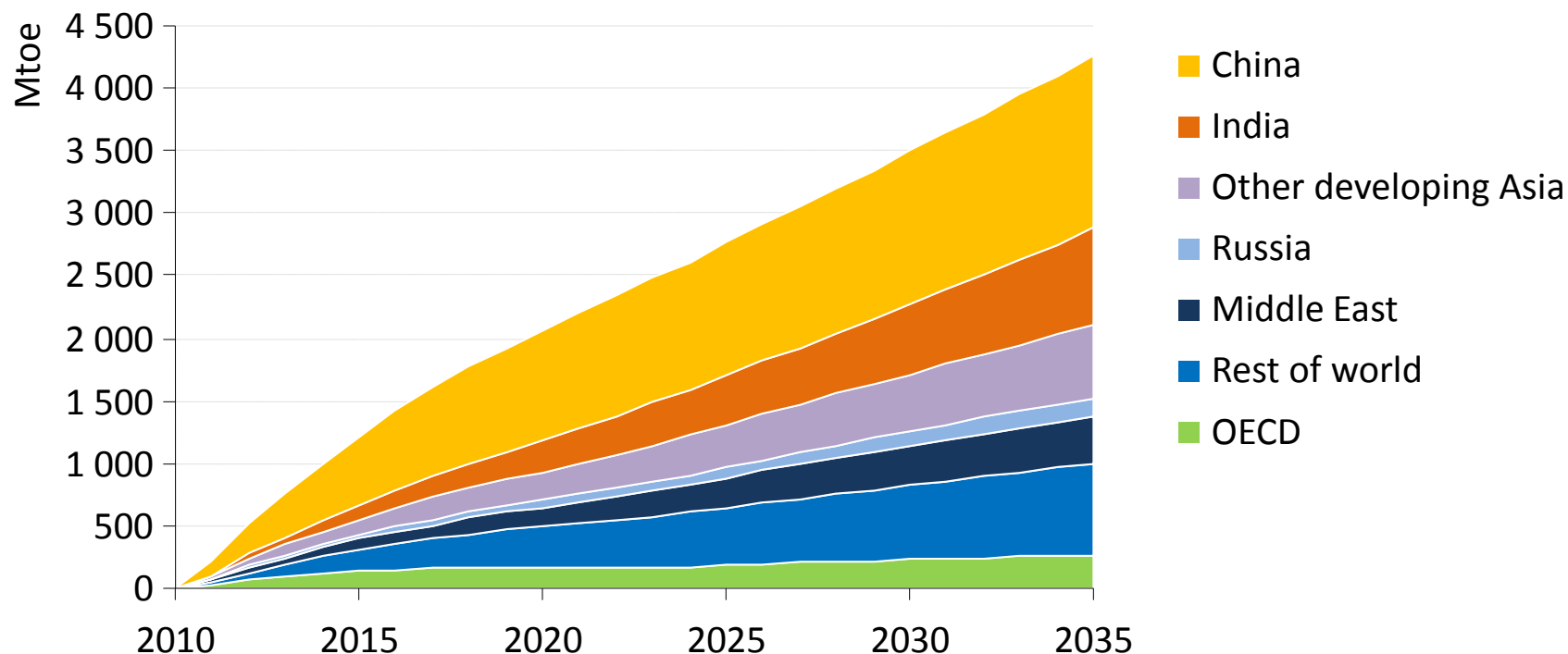
IEA, IEF, and OPEC: Security through data sharing, joint analysis, and dialogue

Maria van der Hoeven
Executive Director, International Energy Agency
International Energy Forum Secretariat
Riyadh, 21 November 2011

Emerging economies continue to drive global energy demand

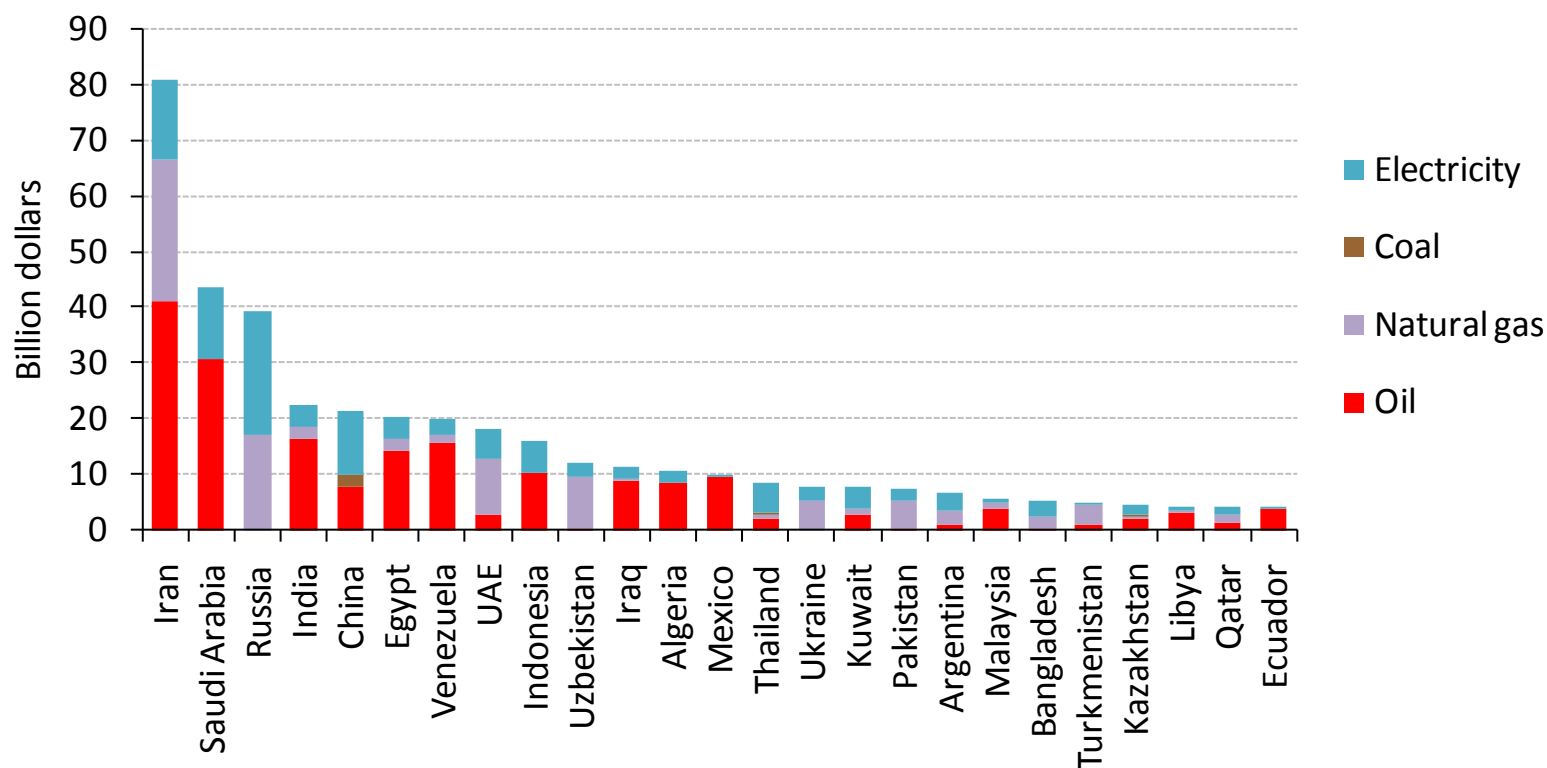
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Growth in primary energy demand



***Global energy demand increases by one-third from 2010 to 2035,
with China & India accounting for 50% of the growth***

Fossil-fuel consumption subsidies for top twenty-five countries, 2010

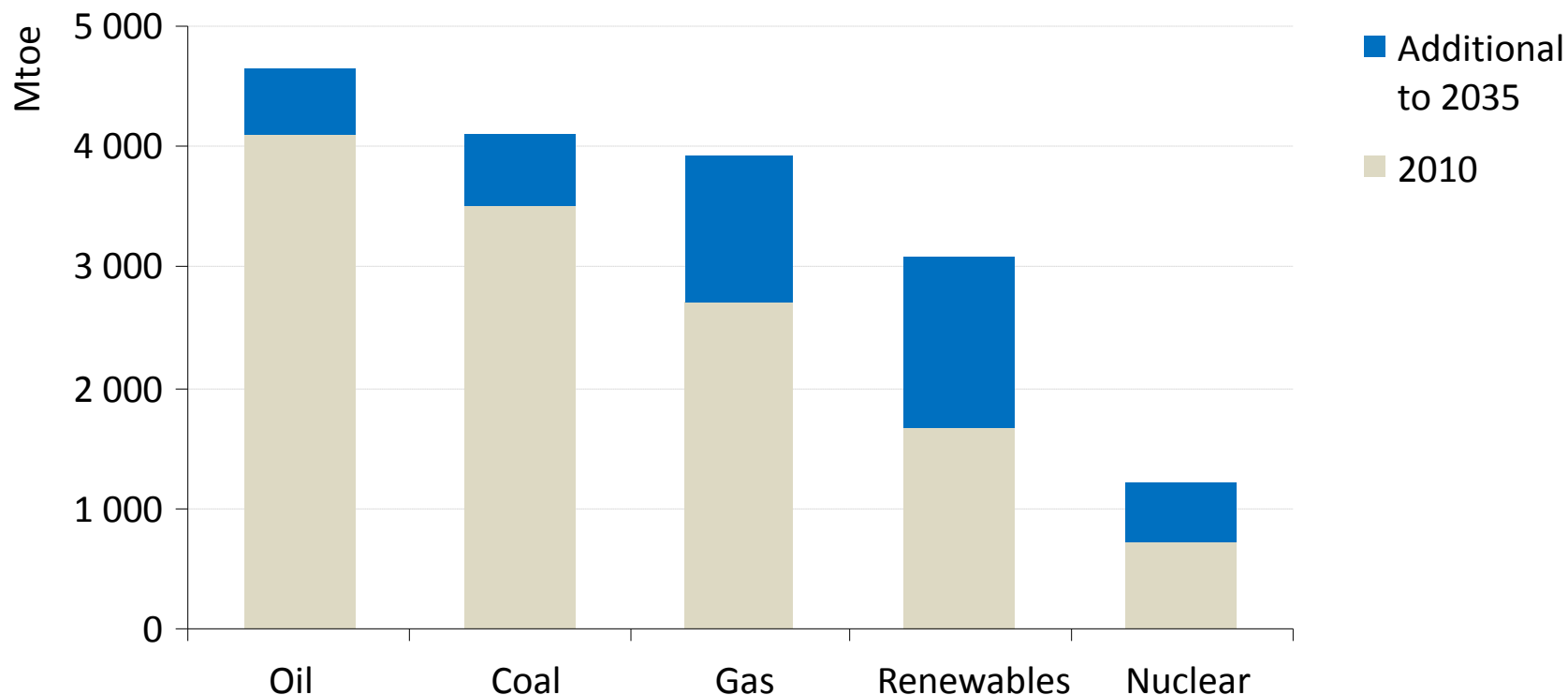


Oil products had the largest subsidies at \$193 billion, followed by natural gas at \$91 billion, while fossil-fuel subsidies resulting from the under-pricing of electricity reached \$122 billion

Natural gas & renewables become increasingly important

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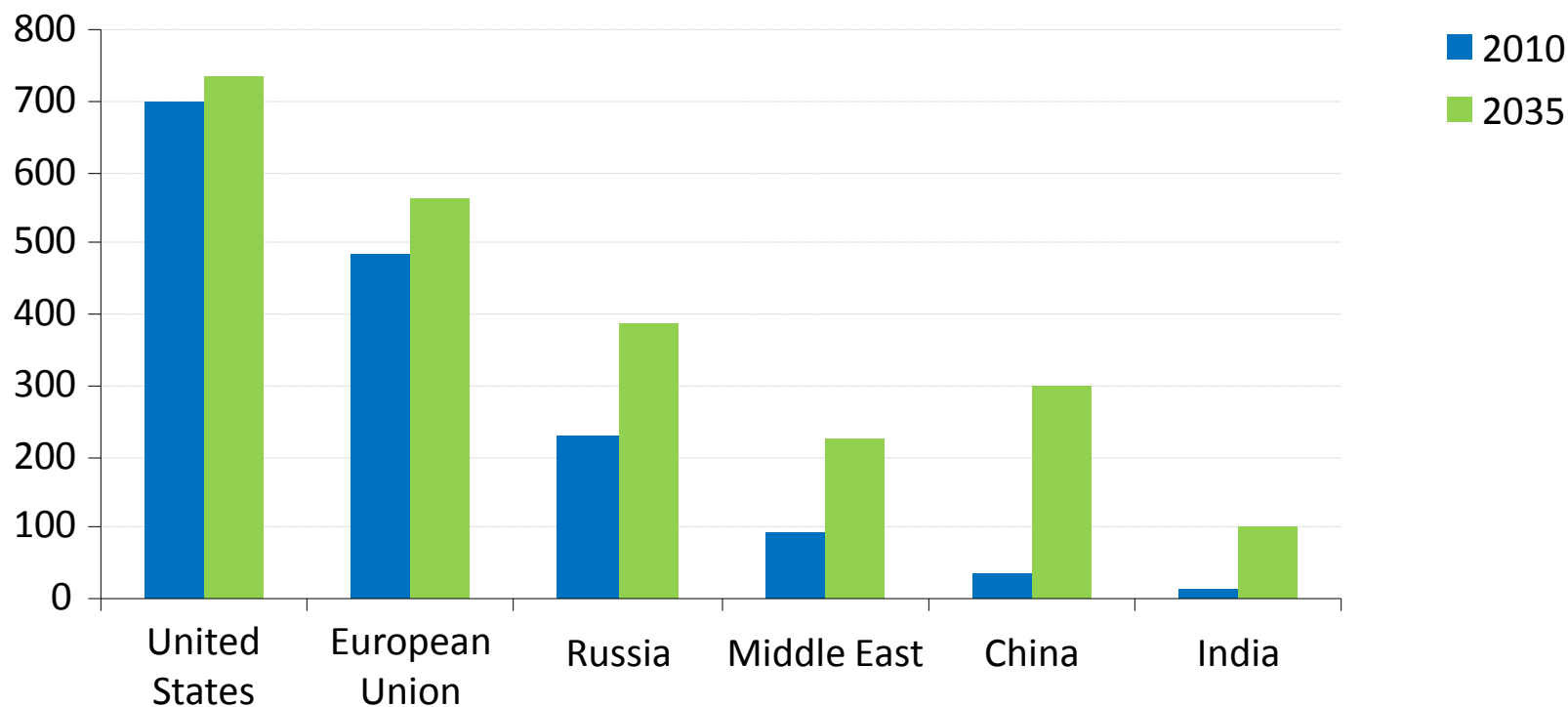
World primary energy demand



Renewables & natural gas collectively meet almost two-thirds of incremental energy demand in 2010-2035

Oil demand is driven higher by soaring car ownership

Vehicles per 1000 people in selected markets

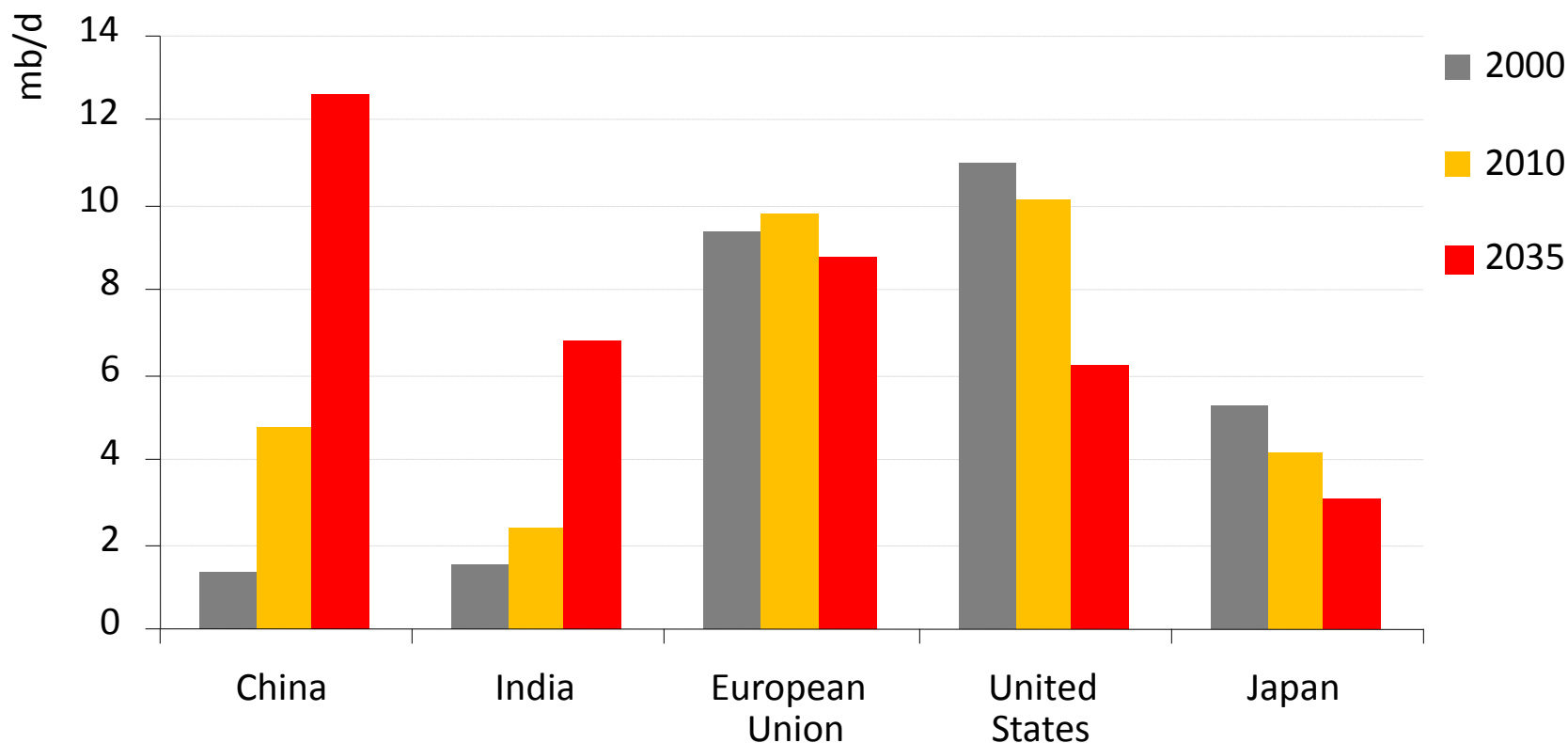


The passenger vehicle fleet doubles to 1.7 billion in 2035; most cars are sold outside the OECD by 2020, making non-OECD policies key to global oil demand

Changing oil import needs are set to shift concerns about oil security

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Net imports of oil



US oil imports drop due to rising domestic output & improved transport efficiency: EU imports overtake those of the US around 2015; China becomes the largest importer around 2020

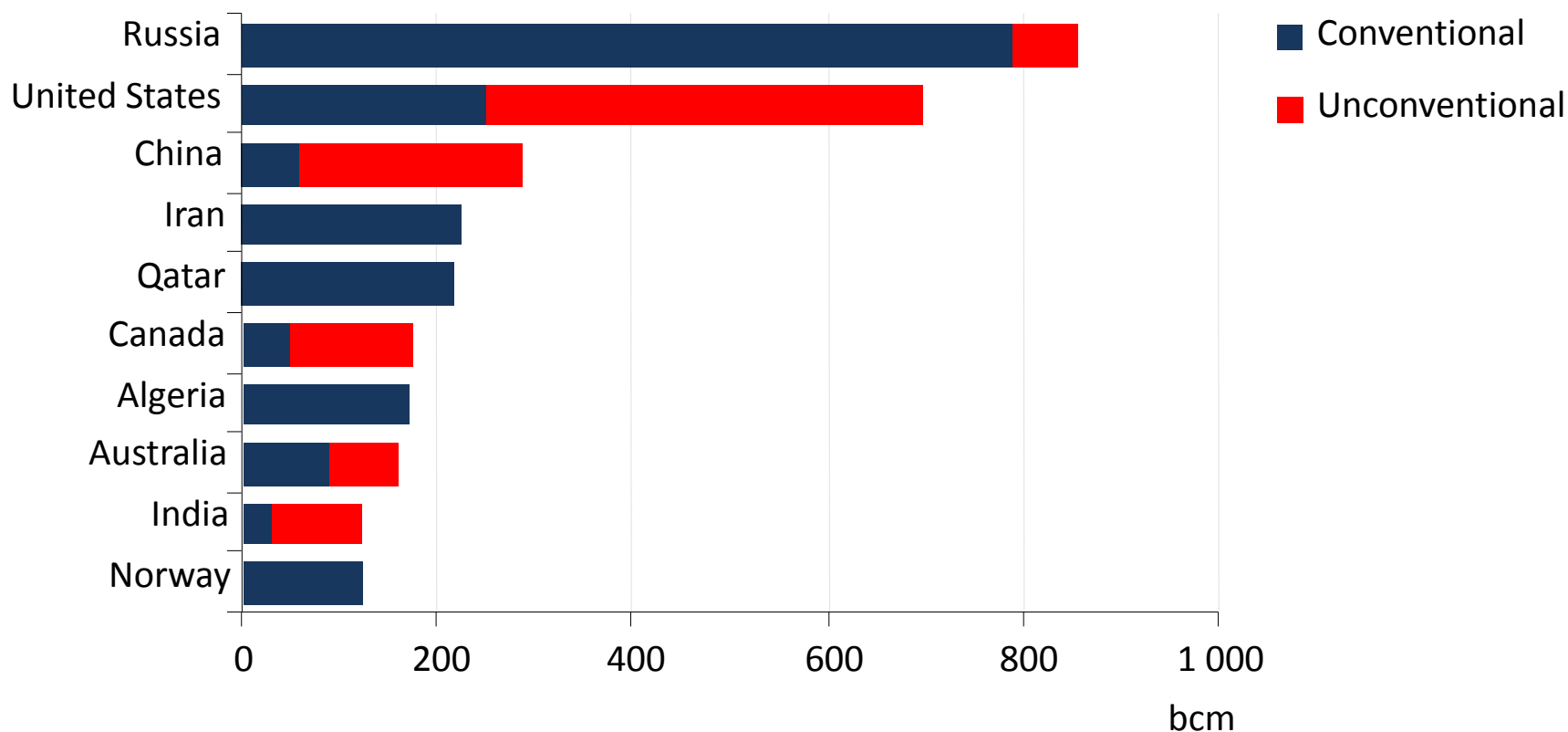
What impact would deferred investment in MENA have on markets?

- The Middle East and North Africa (MENA) is set to supply the bulk of the growth in oil output to 2035, requiring investment of over \$100 billion/annum
- A 'Deferred Investment Case' looks at near-term investment falling short by one-third
 - *possible drivers include new spending priorities, higher perceived risks, etc*
- MENA output falls 3.4 mb/d by 2015 and 6.2 mb/d by 2020
- Consumers face a near-term rise in oil prices to \$150/barrel
- MENA earns more initially, but then less as market share is lost

Golden prospects for natural gas

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Largest natural gas producers in 2035

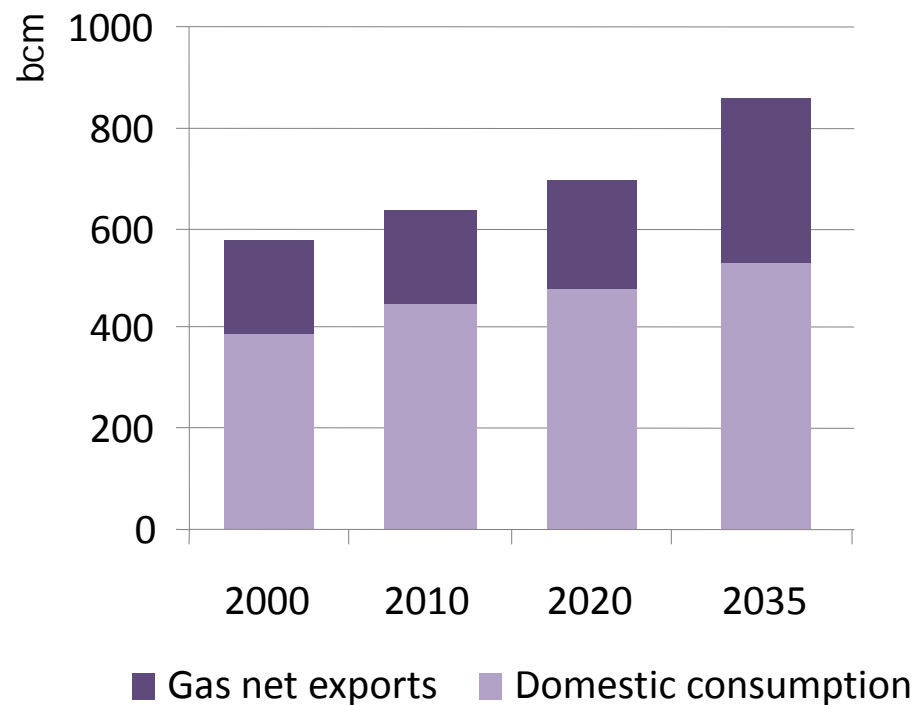
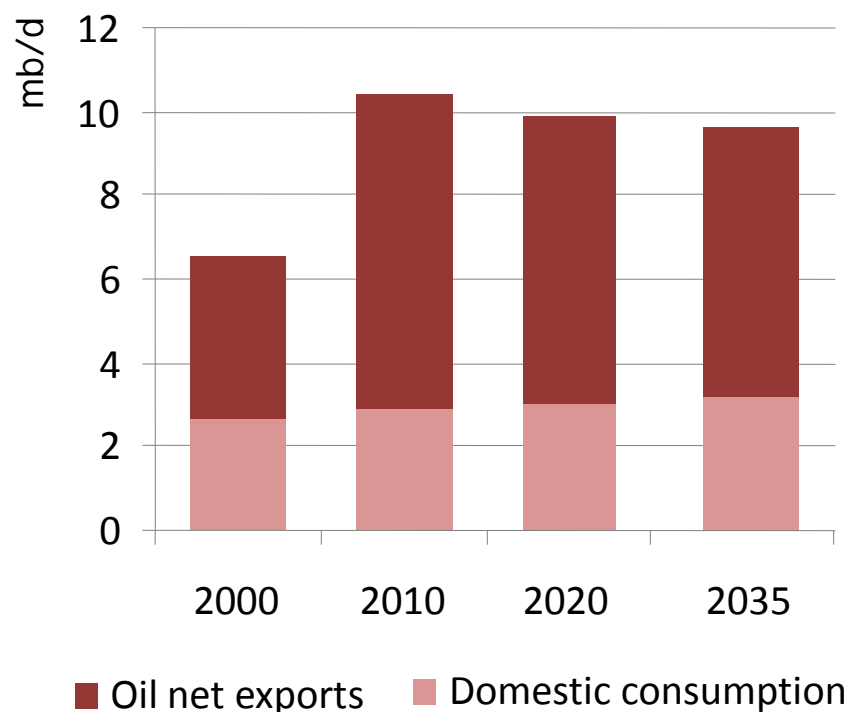


Unconventional natural gas supplies 40% of the 1.7 tcm increase in global supply, but best practices are essential to successfully address environmental challenges

Russia remains a cornerstone of the global energy economy

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Russian oil and gas outlook



Oil production tails off to 9.7 mb/d in 2035 while production of natural gas increases by one-third to 860 bcm: the overall contribution to global supply continues to rise

Second thoughts on nuclear would have far-reaching consequences

- **“Low Nuclear Case” examines impact of nuclear component of future energy supply being cut in half**
- **Gives a boost to renewables, but increases import bills, reduces diversity & makes it harder to combat climate change**
- **By 2035, compared with the New Policies Scenario:**
 - *coal demand increases by twice Australia’s steam coal exports*
 - *natural gas demand increases by two-thirds Russia’s natural gas net exports*
 - *power- sector CO₂ emissions increase by 6.2%*
- **Biggest implications for countries with limited energy resources that planned to rely on nuclear power**

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