

WORLD ENERGY OUTLOOK 2012

World Energy Outlook 2012

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*Trendy Evropské Energetiky
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■ Foundations of global energy system shifting

- *Resurgence in oil & gas production in some countries*
- *Retreat from nuclear in some others*
- *Signs of increasing policy focus on energy efficiency*

■ All-time high oil prices acting as brake on global economy

- *Divergence in natural gas prices affecting Europe (with prices 5-times US levels) and Asia (8-times)*

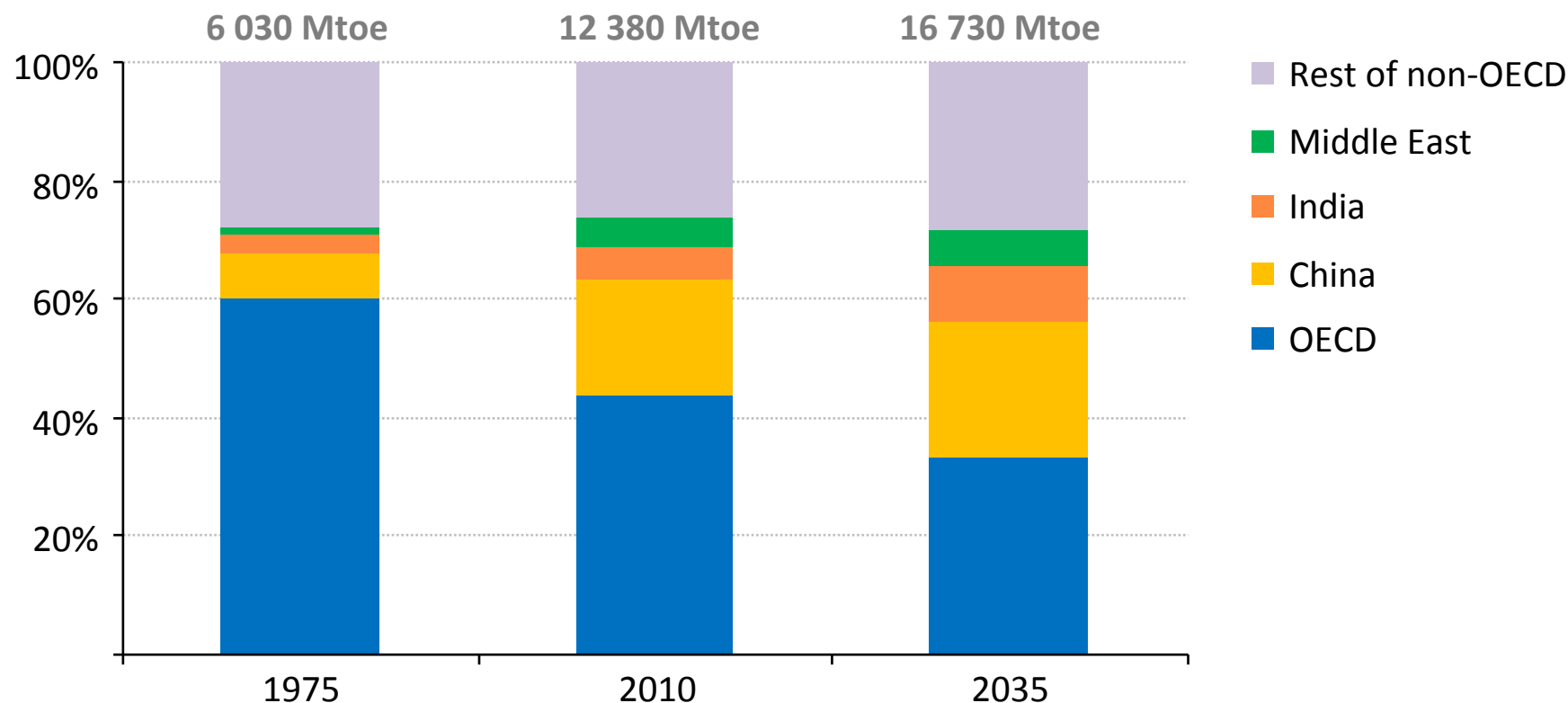
■ Symptoms of an unsustainable energy system persist

- *Fossil fuel subsidies up almost 30% to \$523 billion in 2011, led by MENA*
- *CO₂ emissions at record high, while renewables industry under strain*
- *Despite new international efforts, 1.3 billion people still lack electricity*

Emerging economies steer energy markets

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Share of global energy demand

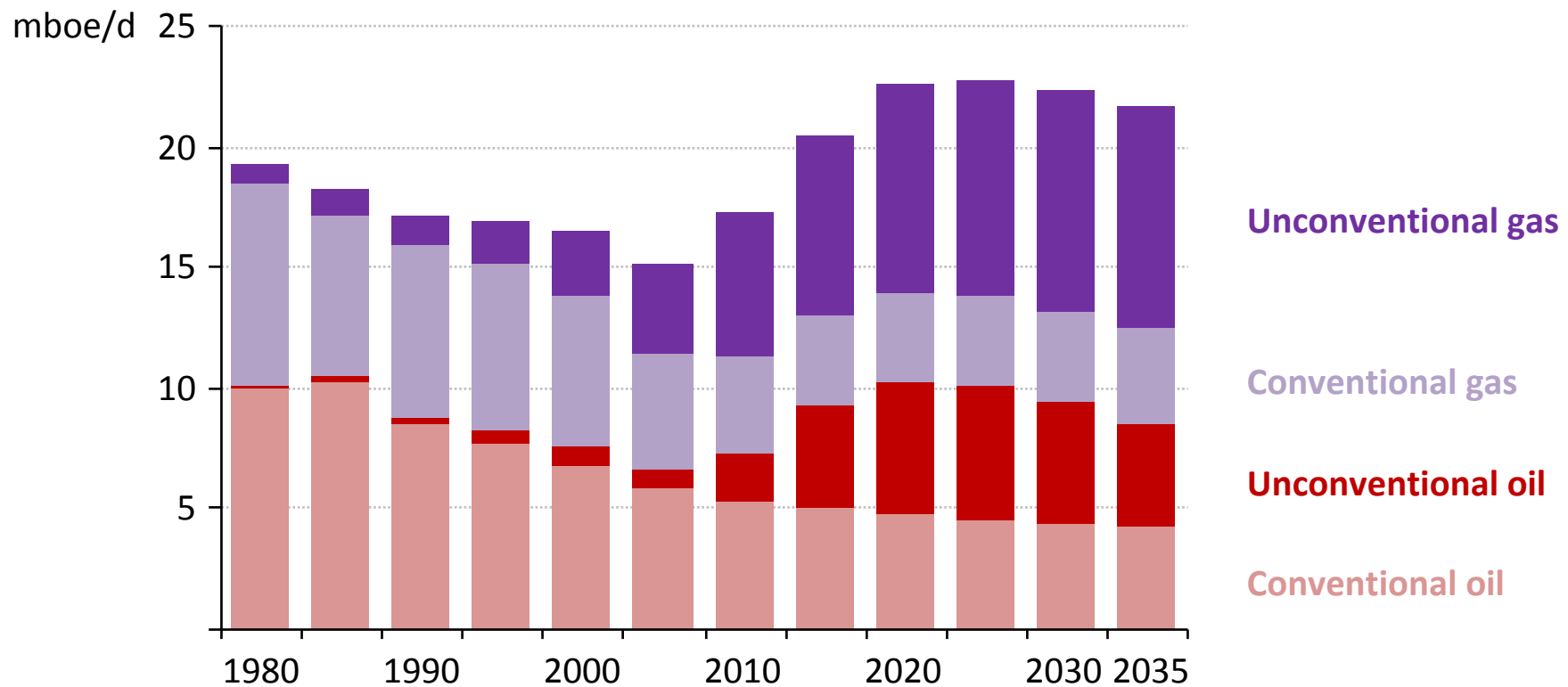


Global energy demand rises by over one-third in the period to 2035, underpinned by rising living standards in China, India & the Middle East

A United States oil & gas transformation

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US oil & gas production

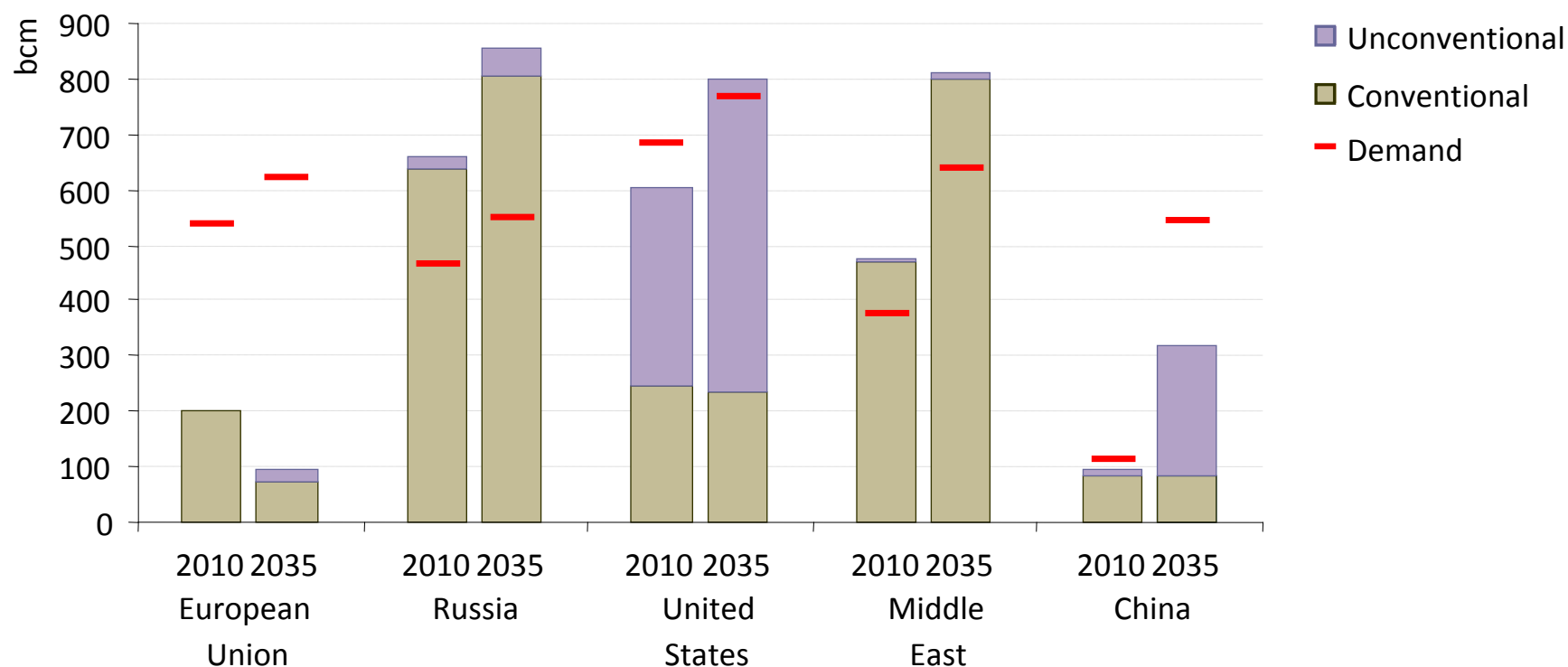


The surge in unconventional oil & gas production has implications well beyond the United States

The unconventional gas revolution takes time to spread

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Gas conventional and unconventional production and gas demand

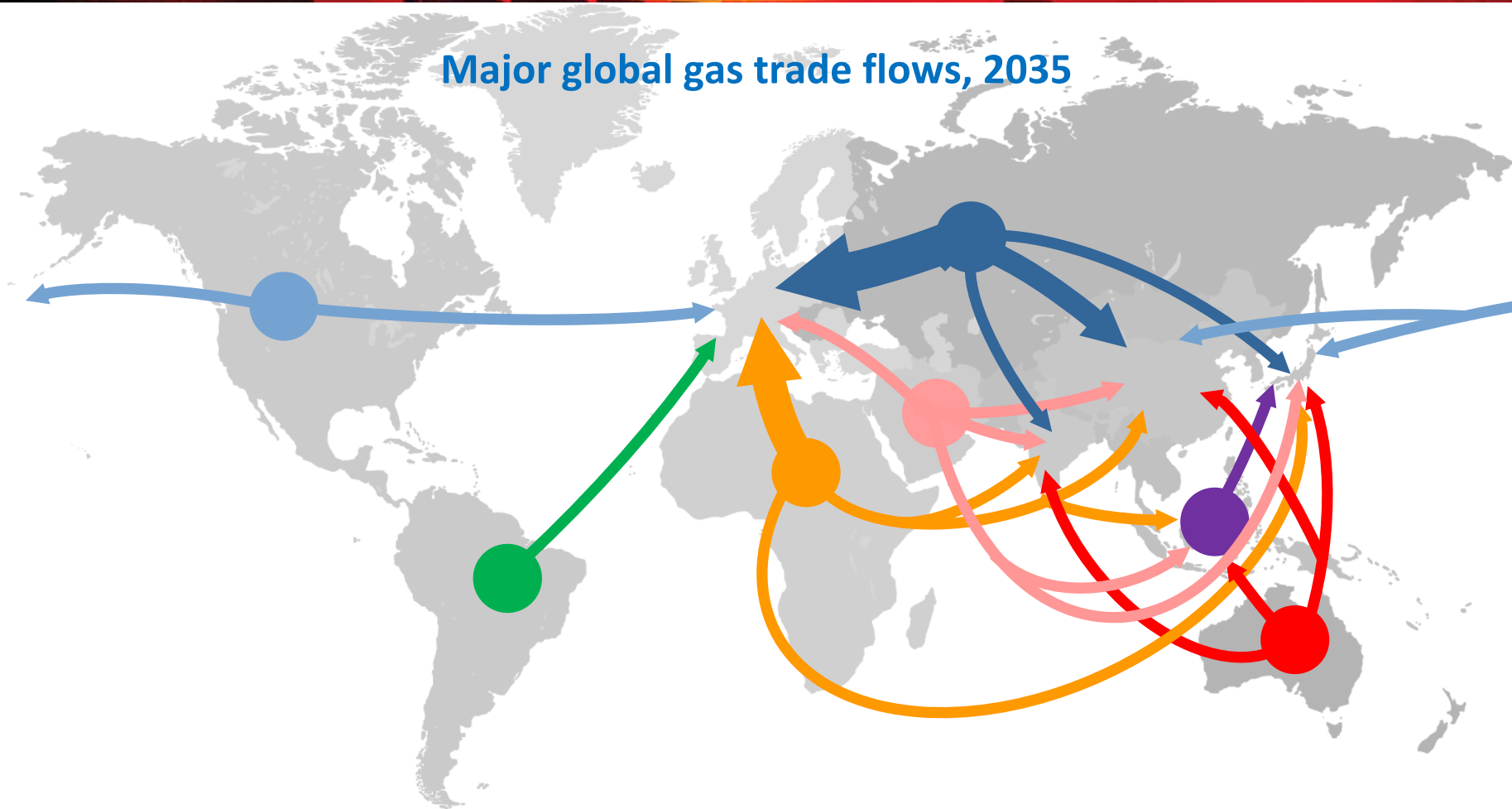


Unconventional gas is set to play a central role in meeting rising natural gas demand, and is expected to account for almost 50% of increase in global gas production

Natural gas: towards a globalised market

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Major global gas trade flows, 2035

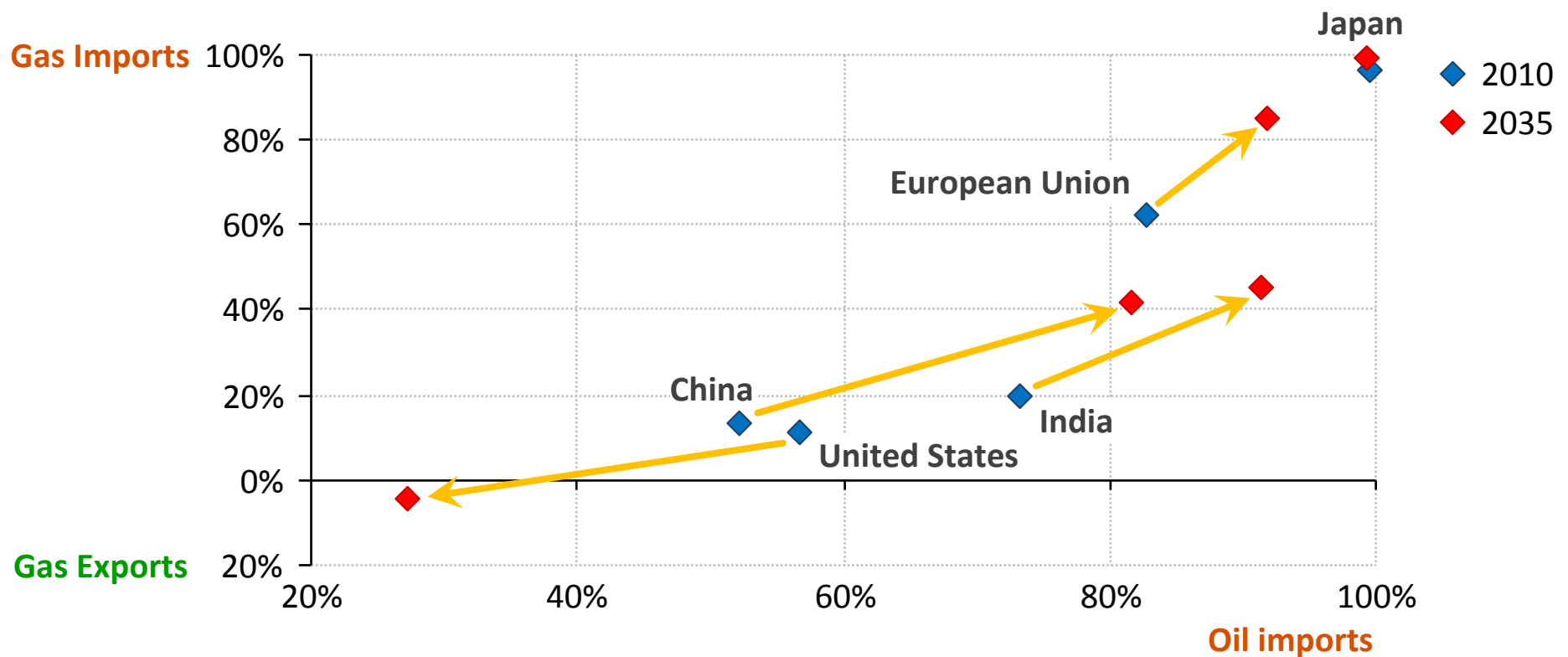


Rising supplies of unconventional gas & LNG help to diversify trade flows, putting pressure on conventional gas suppliers & oil-linked pricing mechanisms

Different trends in oil & gas import dependency

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Net oil & gas import dependency in selected countries

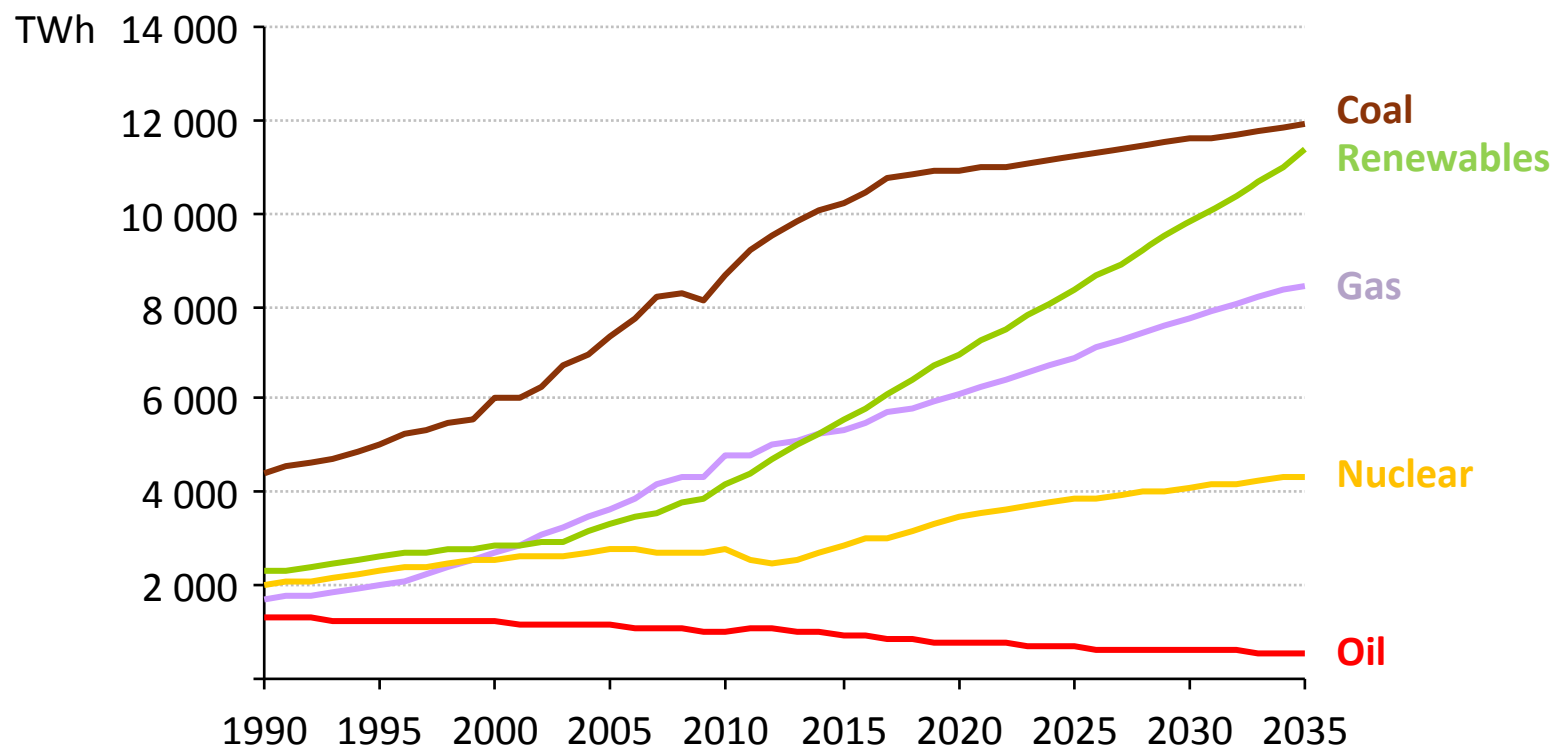


While dependence on imported oil & gas rises in many countries, the United States swims against the tide

The power generation mix is set to change

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Global electricity generation by source, 2010-2035

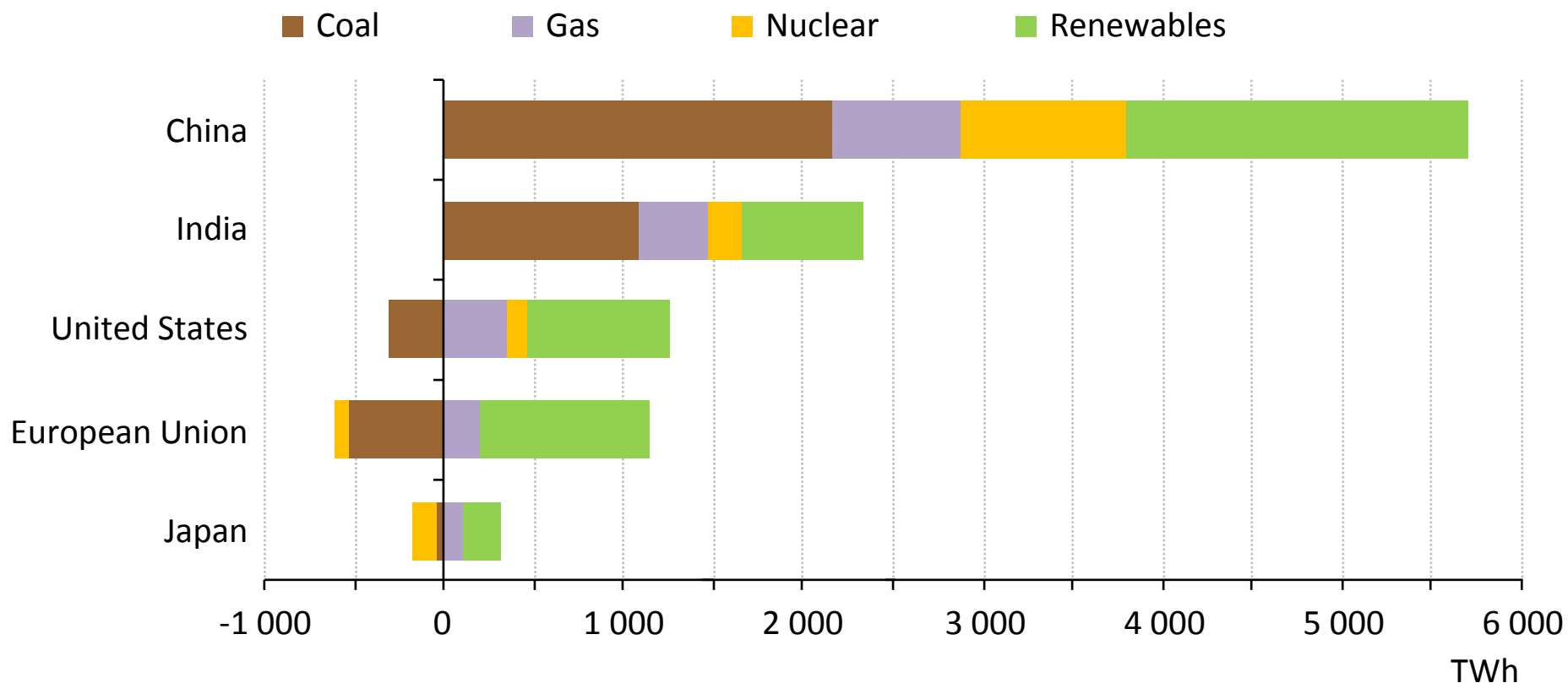


Renewables electricity generation overtakes natural gas by 2015 & almost coal by 2035; growth in coal generation in emerging economies outweighs a fall in the OECD

A power shift to emerging economies

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Change in power generation, 2010-2035

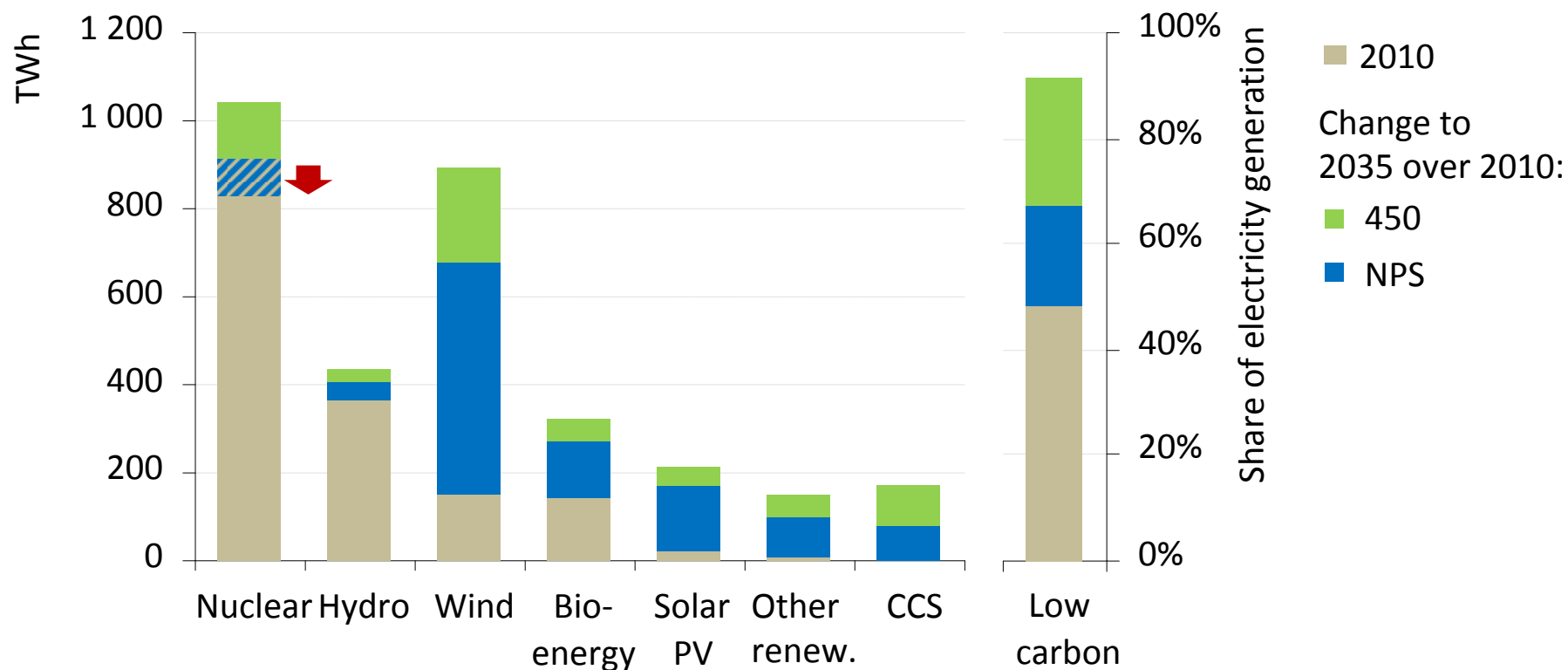


The need for electricity in emerging economies drives a 70% increase in worldwide demand, with China and India accounting for over half of the global growth

EU moving towards cleaner forms of electricity generation

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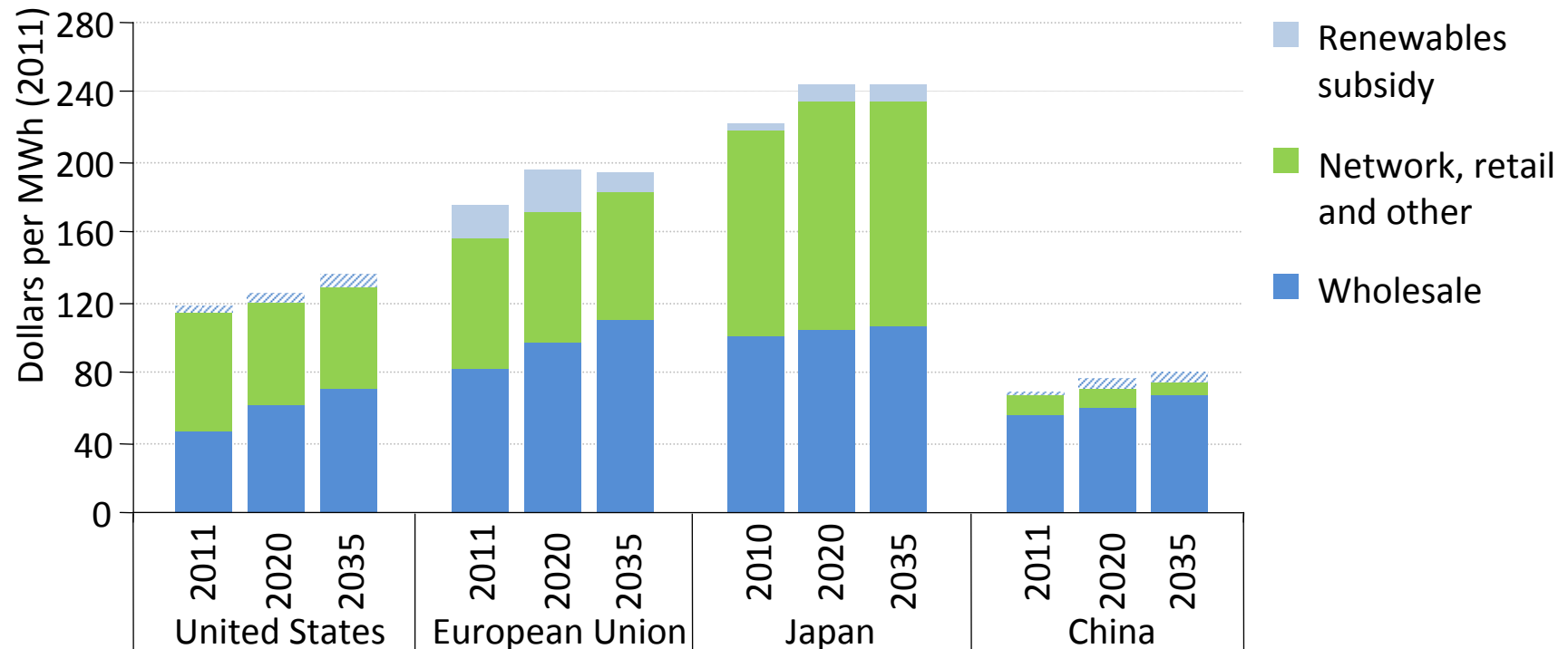
Electricity generation by selected low carbon technology and share of generation by scenario in the European Union, 2010 & 2035



Wind & solar push up the share of renewables, with low-carbon reaching two-thirds of total generation in the NPS and around 90% in the 450 Scenario

Wide variations in the price of power

Average household electricity prices, 2035

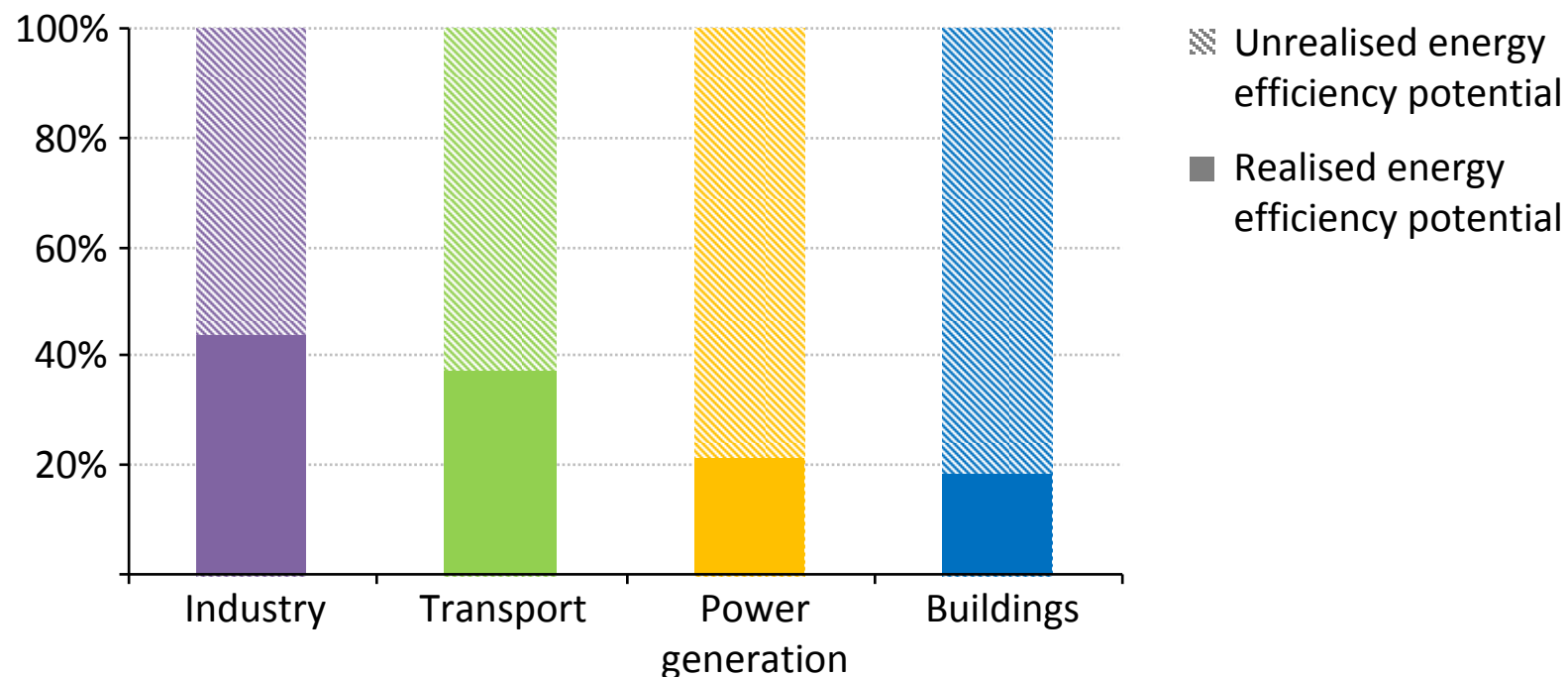


Electricity prices are set to increase with the highest prices persisting in the European Union & Japan, well above those in China & the United States

Energy efficiency: a huge opportunity going unrealised

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Energy efficiency potential used by sector in the New Policies Scenario

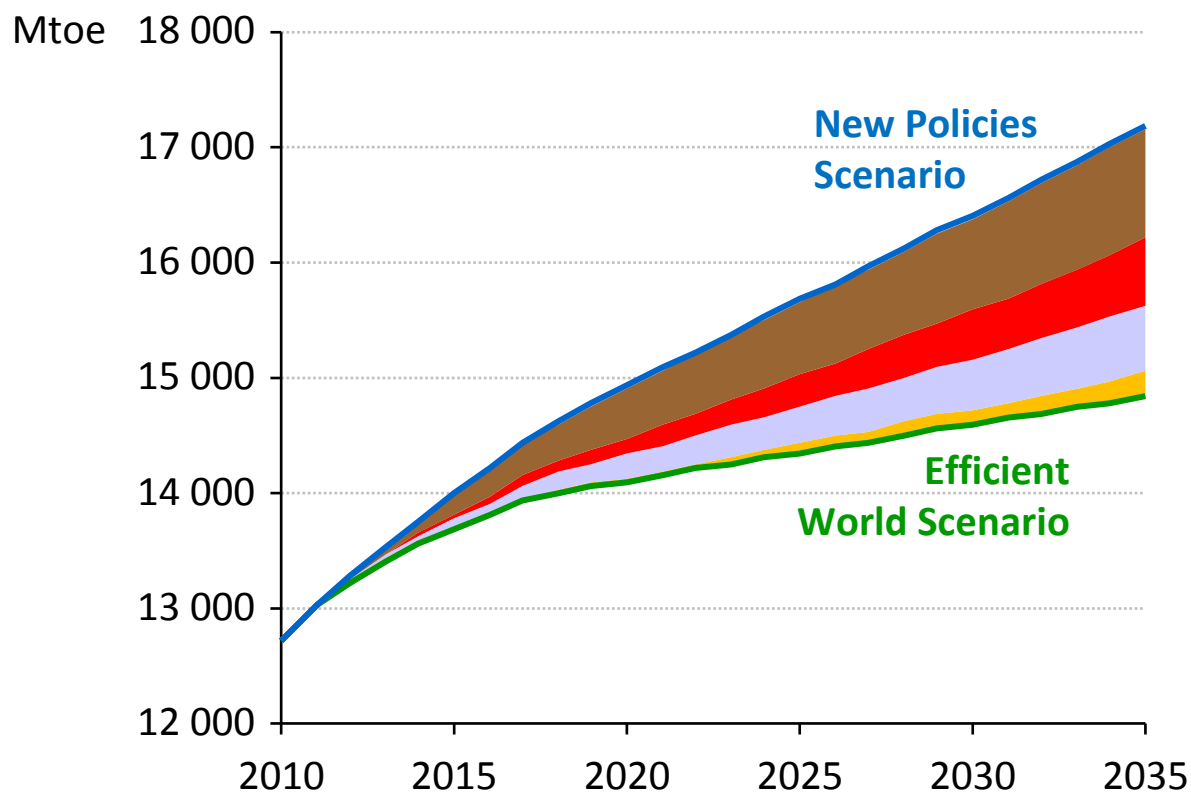


Two-thirds of the economic potential to improve energy efficiency remains untapped in the period to 2035

The Efficient World Scenario: a blueprint for an efficient world

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Total primary energy demand by scenario



Reduction in 2035	
Coal	1350 Mtce
Oil	12.7 mb/d
Gas	680 bcm
Others	250 Mtoe

**Economically viable efficiency measures can halve energy demand growth to 2035;
oil demand savings equal the current production of Russia & Norway**

Foundations of energy system shifting

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- **Policy makers face critical choices in reconciling energy, environmental & economic objectives**
- **Changing outlook for energy production & use may redefine global economic & geopolitical balances**
- **New opportunities and challenges arising in the power sector as the technology mix evolves**
- **As climate change slips off policy radar, the “lock-in” point moves closer & the costs of inaction rise**
- **The gains promised by energy efficiency are within reach & are essential to underpin a more secure & sustainable energy system**