

WORLD ENERGY OUTLOOK

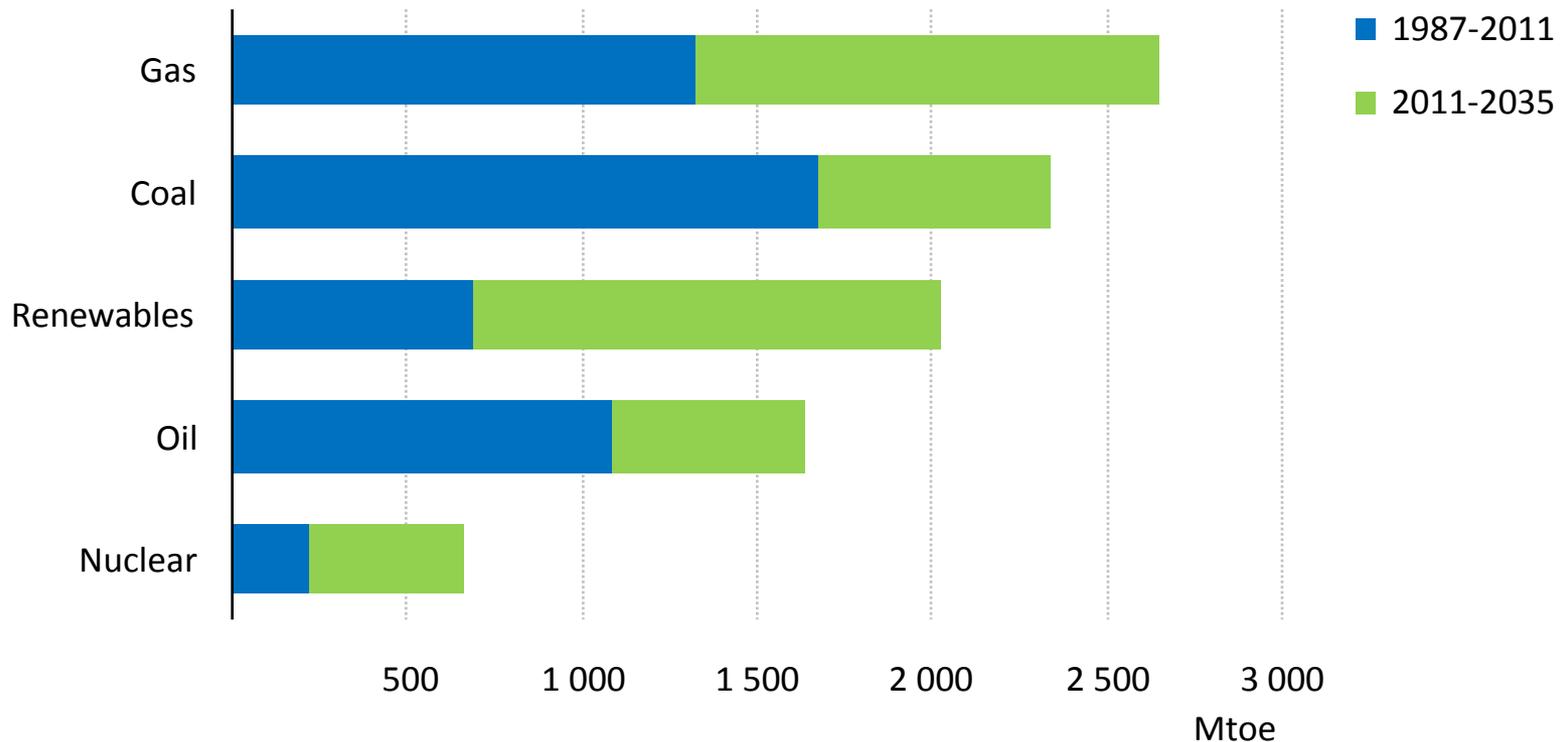
Tim Gould

International Energy Agency

**2nd IEA-IEF-OPEC Symposium on
Gas and Coal Market Outlooks**

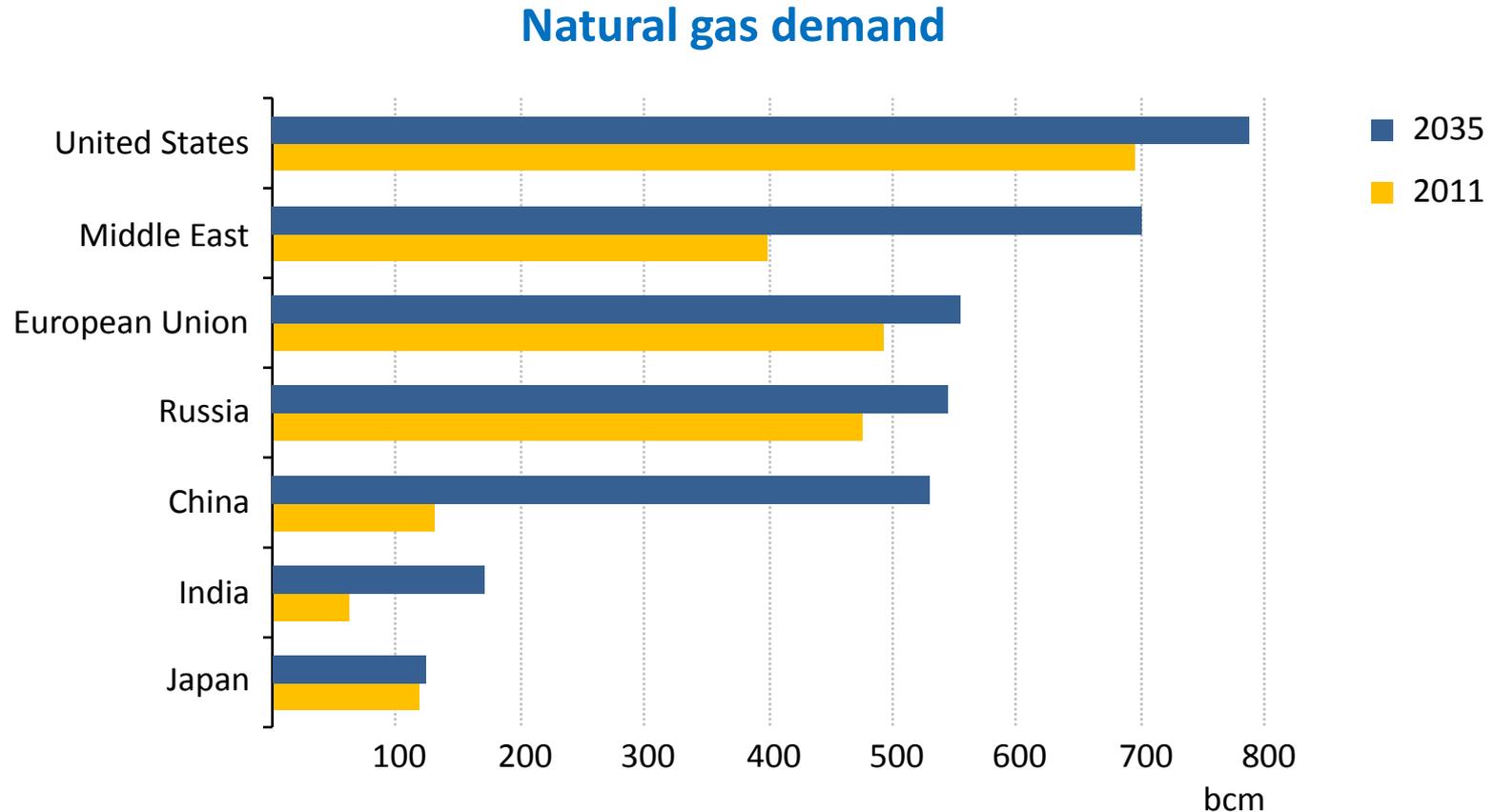
A global mix that is slow to change

Growth in total primary energy demand



Today's share of fossil fuels in the global mix, at 82%, is the same as it was 25 years ago; the strong rise of renewables reduces this, but only to around 75% in 2035

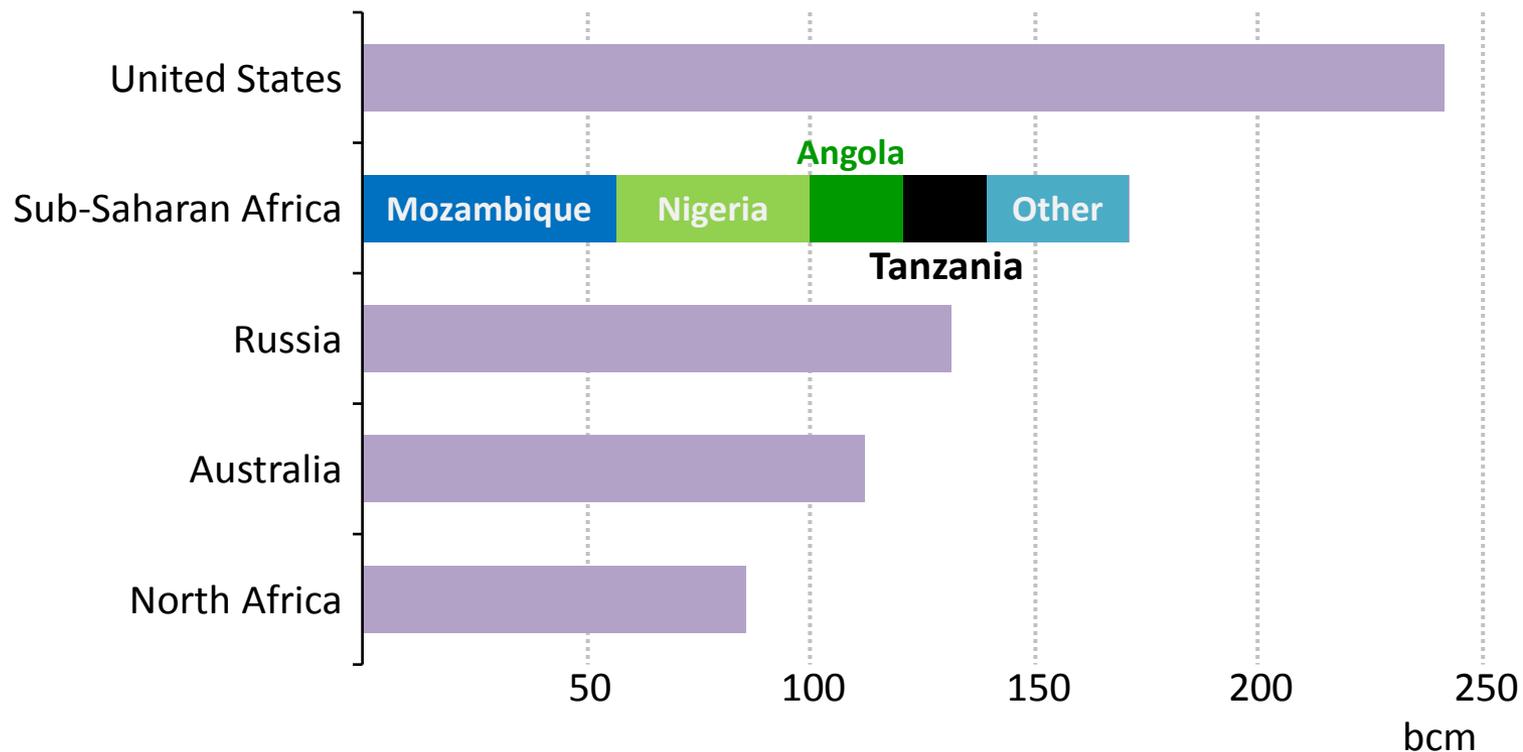
Different regional doses of economics & policies affecting the rise of gas



Economic drivers prevail in North America, while elsewhere policies play a much larger role in pushing – or curbing – natural gas production & use

Sub-Saharan Africa contributes to a new diversity in global supply

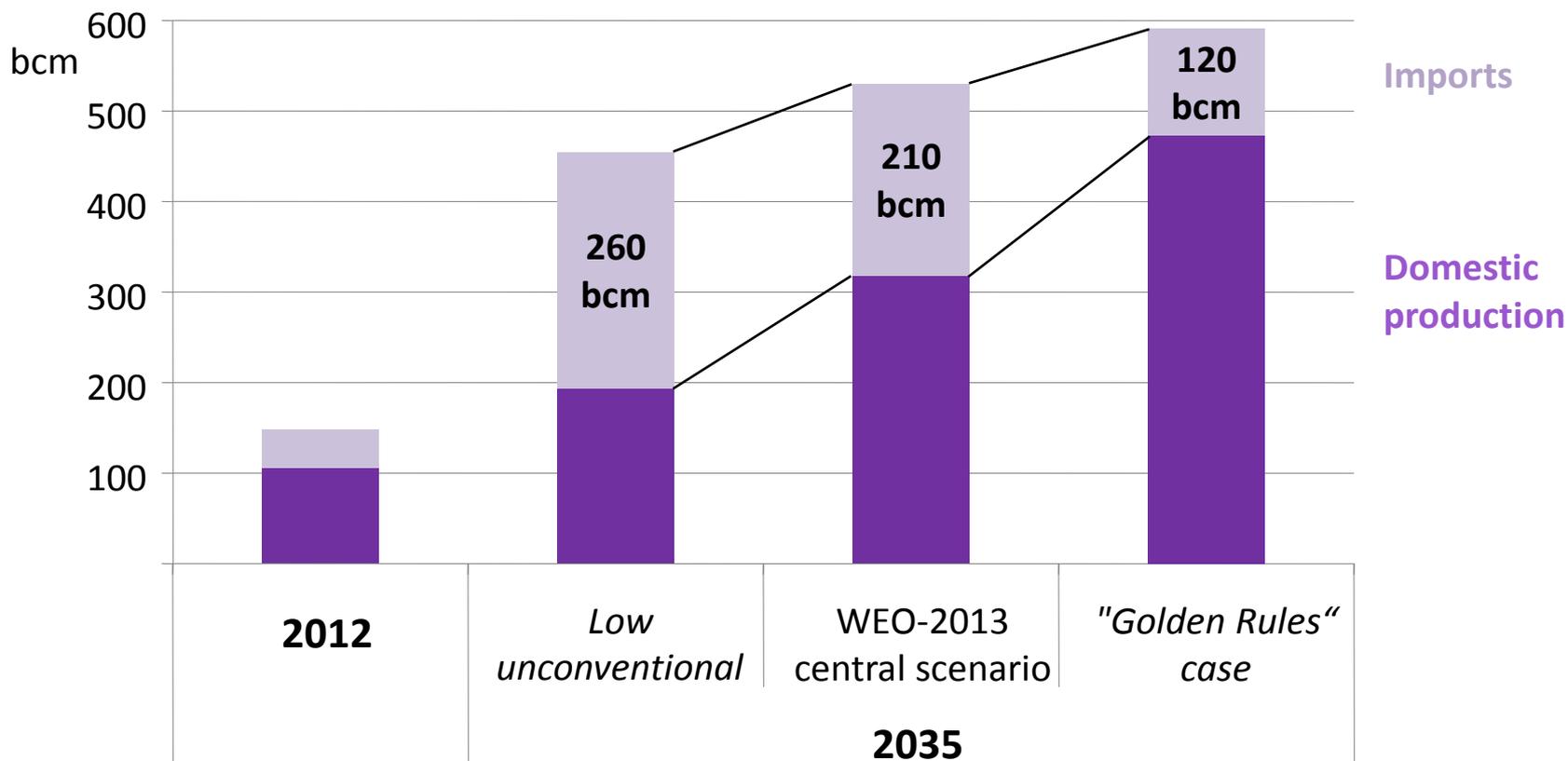
Increase in gas production in selected countries & regions, 2012-2040



Mozambique & Tanzania join the US, Canada & others in an expanding cast of LNG exporters: production increases in every major region of the world, except Europe

China unconventional: a major uncertainty in global gas (and coal) markets

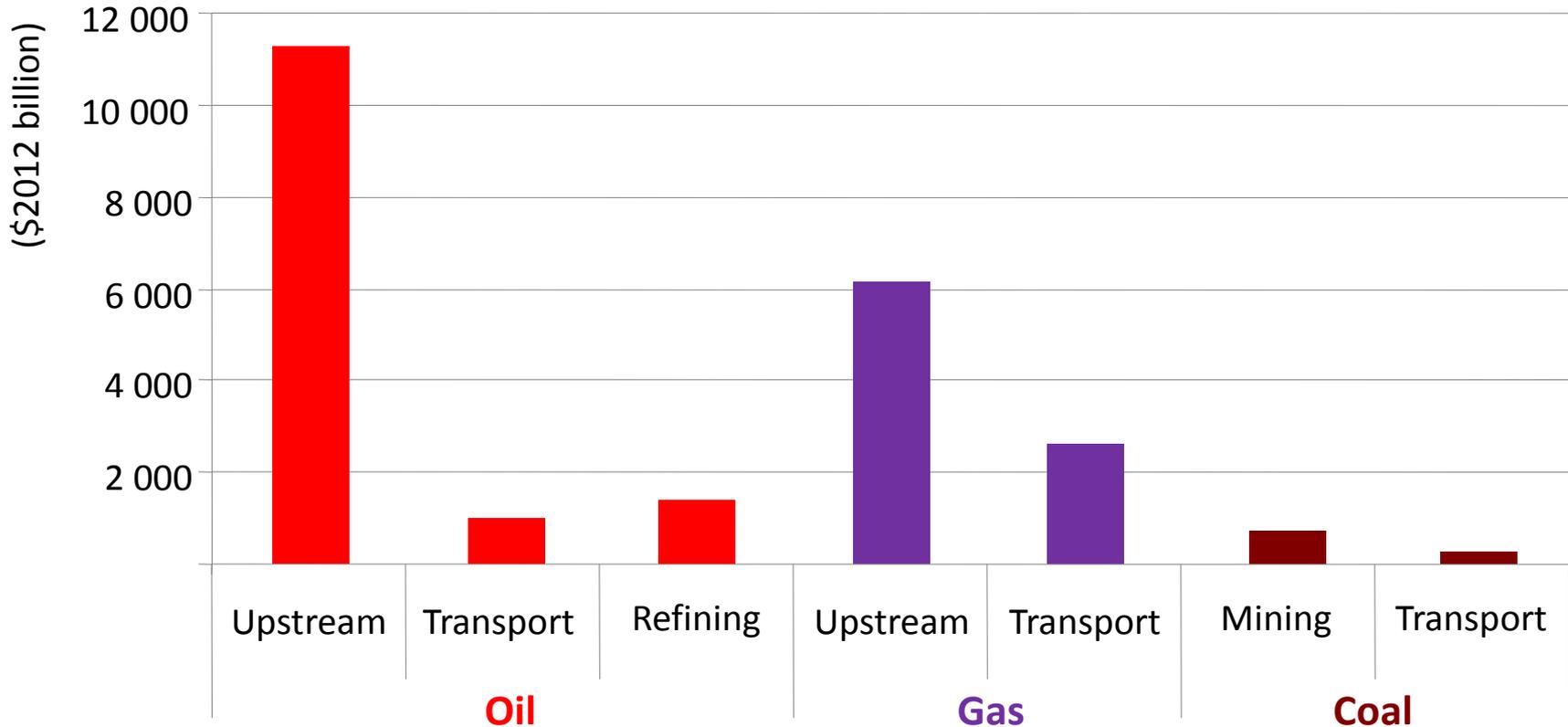
Gas outlook for China in different WEO scenarios



China accounts for 45% of the rise in global gas trade in our main scenario to 2035; unconventional output in China is critical to prospects for an Asian golden age of gas

Low energy density comes with a cost

Cumulative fossil fuel investment, 2014-2035



Transportation is 7% of global oil investment, but 30% for gas, with high capital costs for infrastructure constraining the pace at which LNG globalises gas markets

Conclusions

- **Factors on both the supply & demand side pushing gas towards a higher share in the global energy mix**
- **But a brighter outlook for gas can't be taken for granted: economic facts are stubborn, policy & pricing barriers hard to shift**
- **The unconventional revolution will take time to spread: developments in China are critical to the global outlook**
- **The rise in LNG – notably from the US – set to have a major impact on international market efficiency & security**
- **Natural gas has a role to play in moving us towards a low-carbon energy economy, but it is no panacea**