



Trends and Perspectives of the Global Gas Industry

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Secretary General of IGU**

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Bern, Switzerland***

IGU represents more than 95 % of the global gas market



Founded in 1931
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 IGU members

81 Charter members
40 Associate members

The global energy future

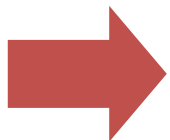
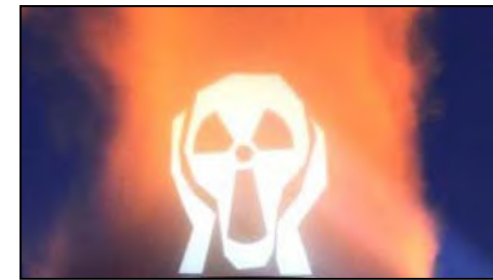
Drivers:

- Rising population & middle class
- Economic development and job creation
- Public health: urban air quality
- Environmental concerns



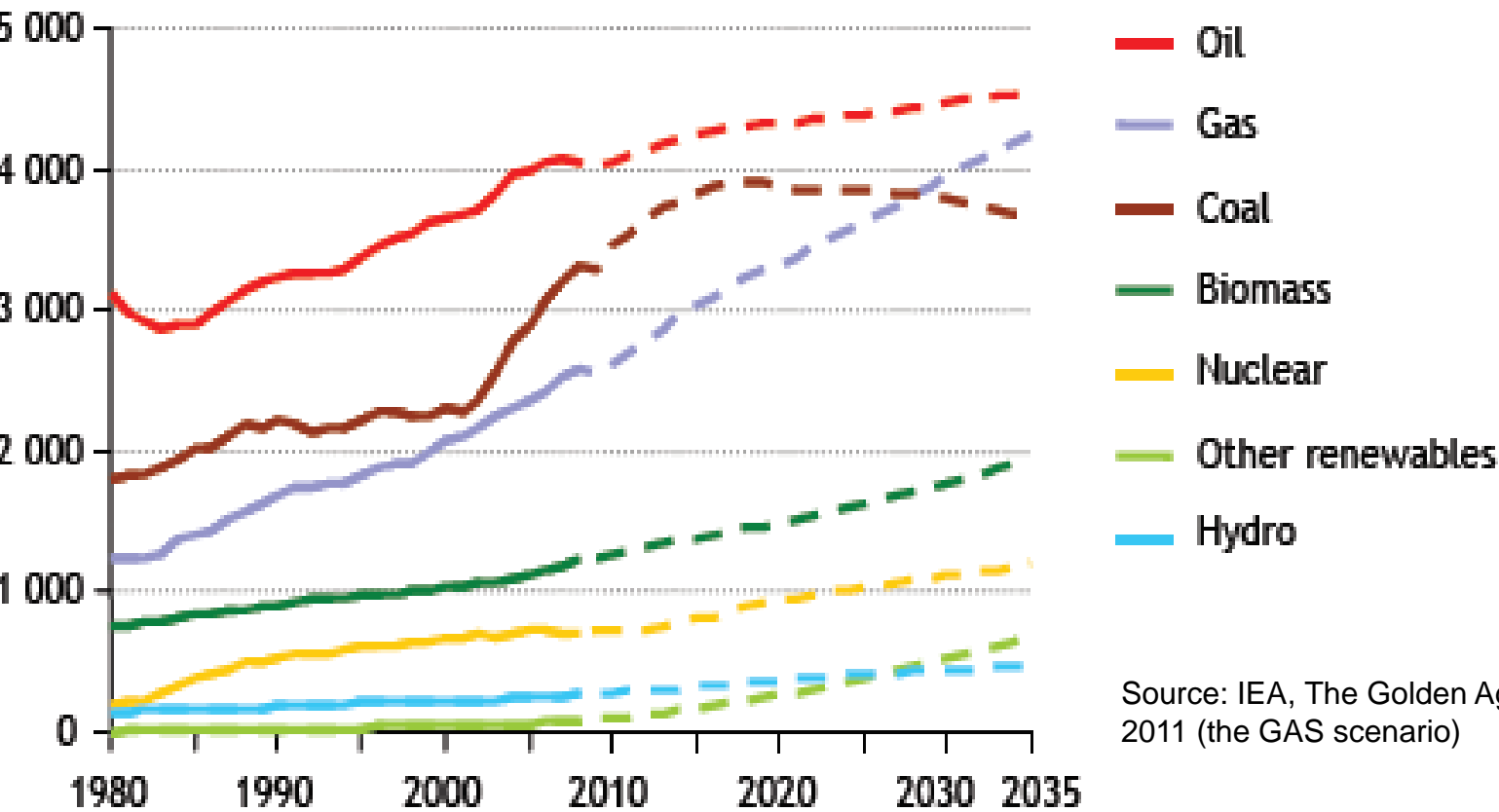
The world needs:

- Secure, clean and competitive energy
- Safe energy



Balanced and robust solutions required

Growing energy demand – Need for all energy sources available



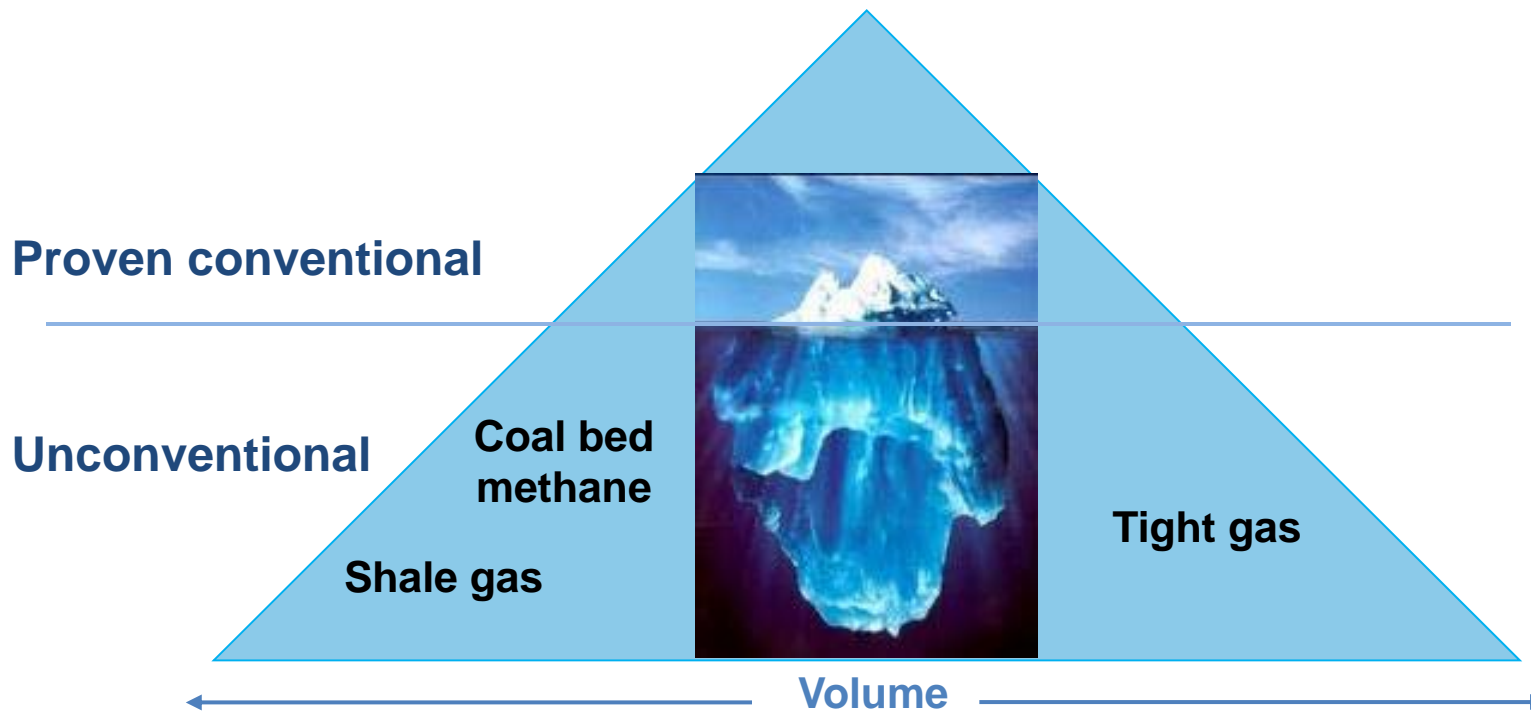
Source: IEA, The Golden Age of Gas, 2011 (the GAS scenario)

Oil and coal declining in the long run whereas gas and renewables are increasing

natural gas resources are abundant

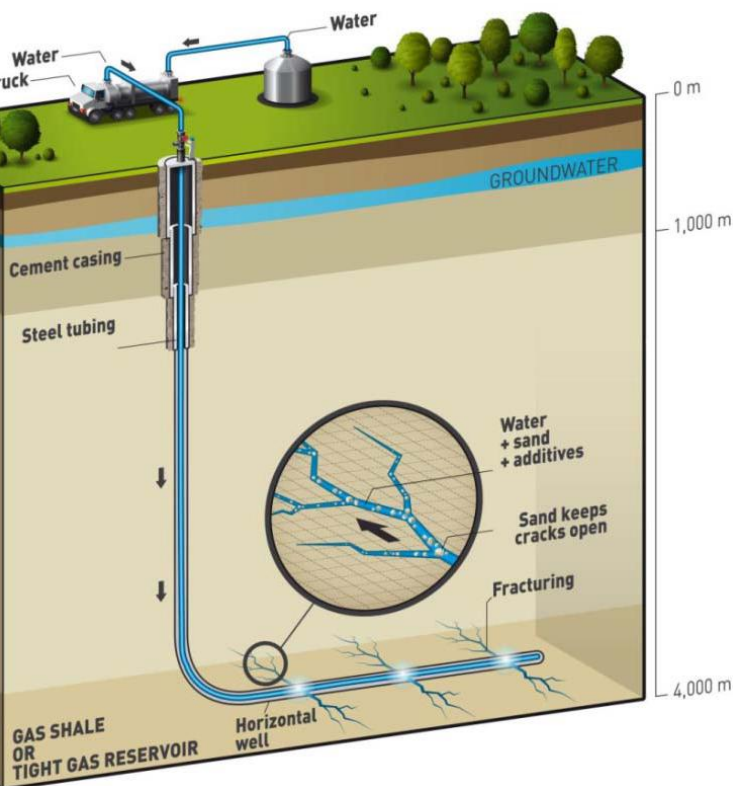


technology – driving supplies



Gas resources for more than 250 years (IEA)

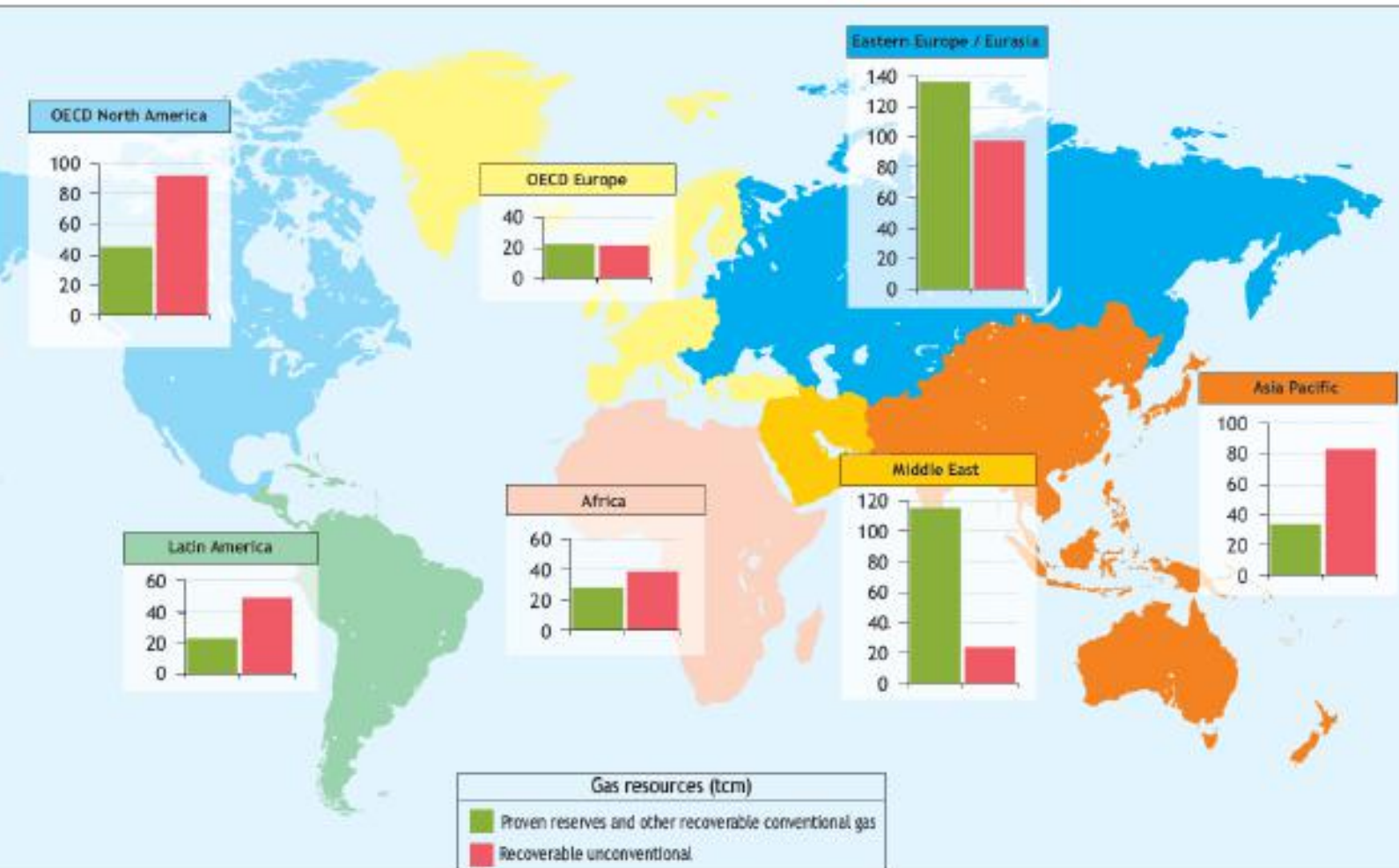
The production process



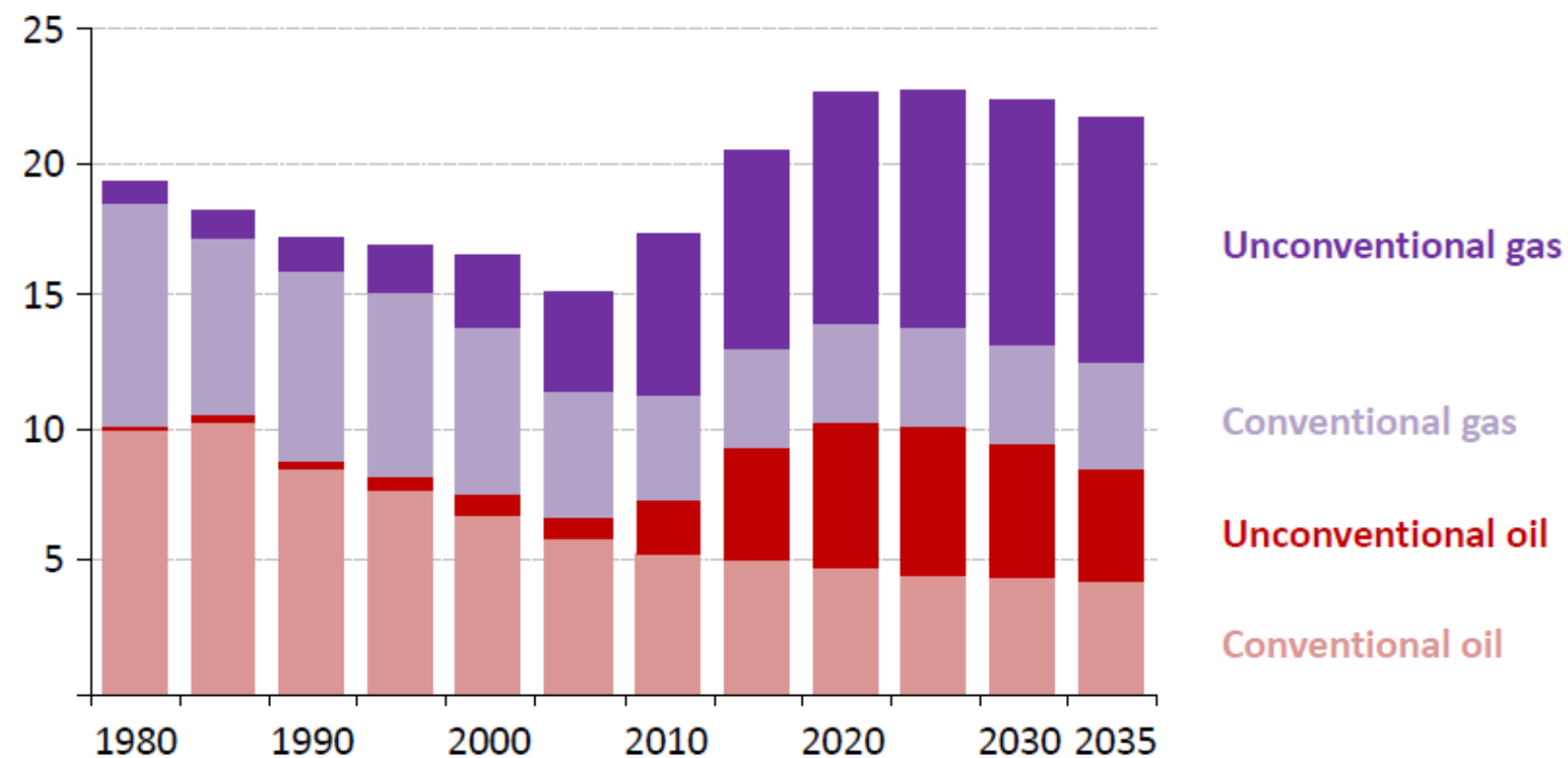
- Site development and preparation
- Vertical drilling
- Horizontally drilling
- Hydraulic fracturing
- Recycling of wastewater
- Well completion and operation



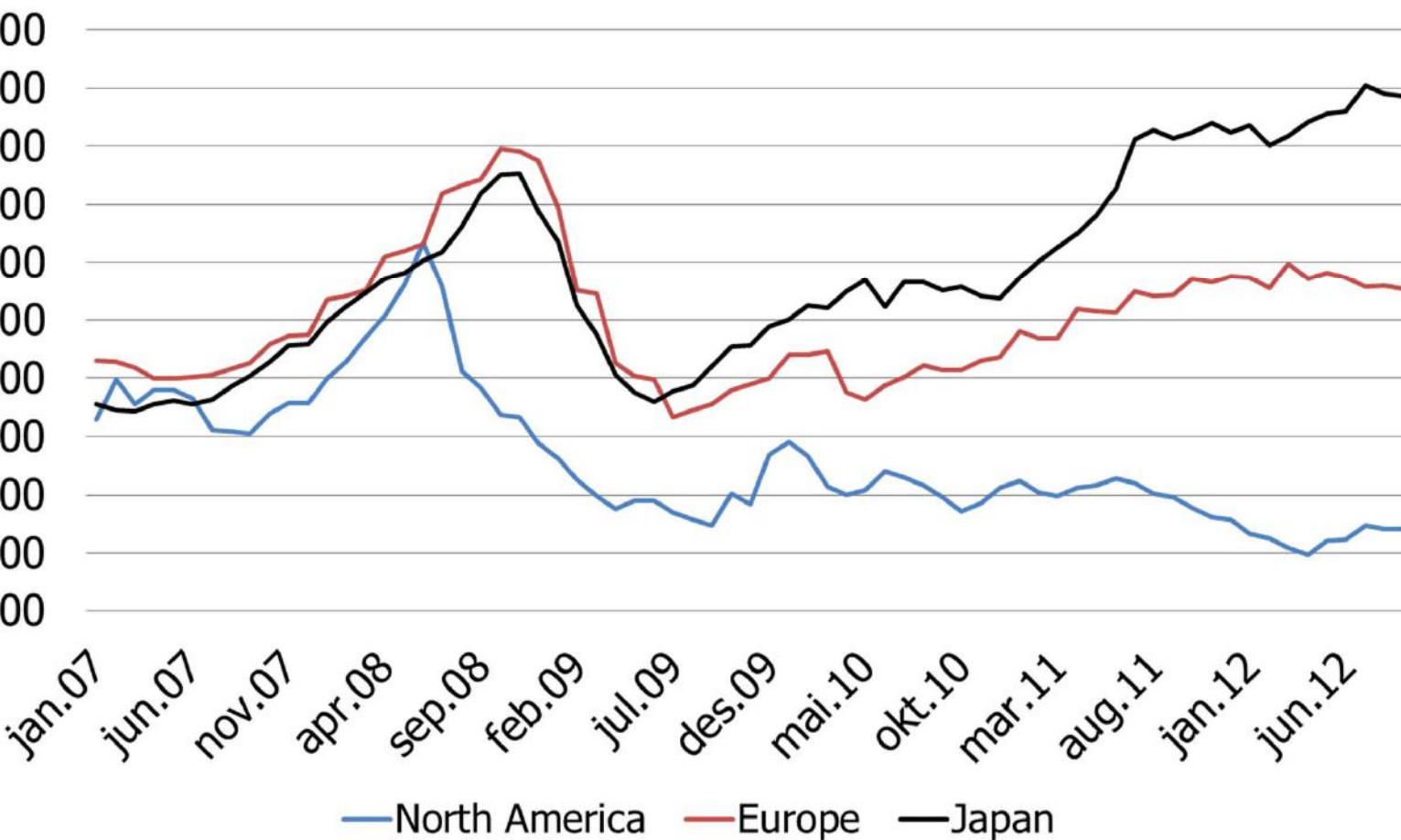
World gas resources – conventional (green) & unconventional (red)



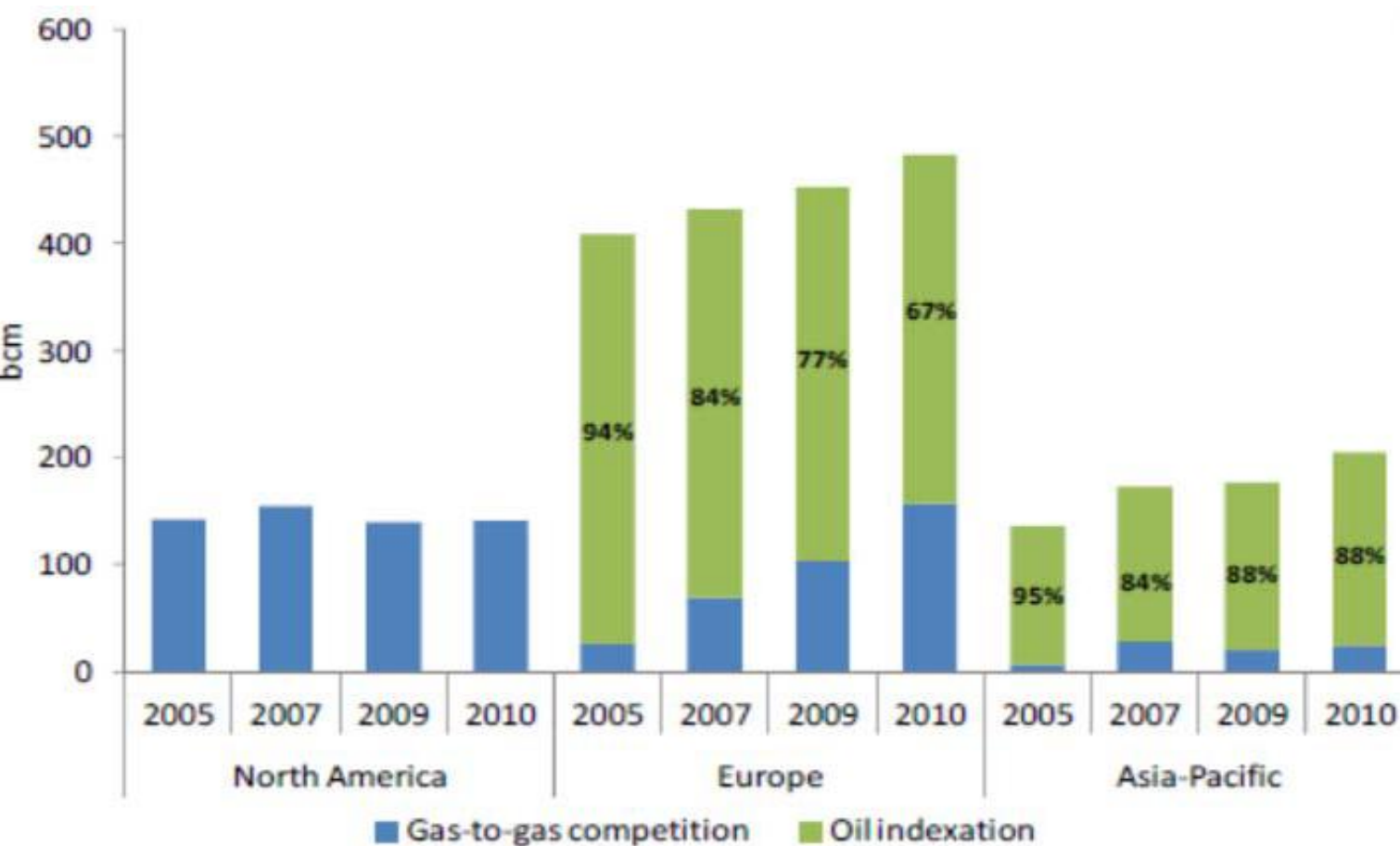
Oil and Gas Production (IEA)



World Natural Gas Prices

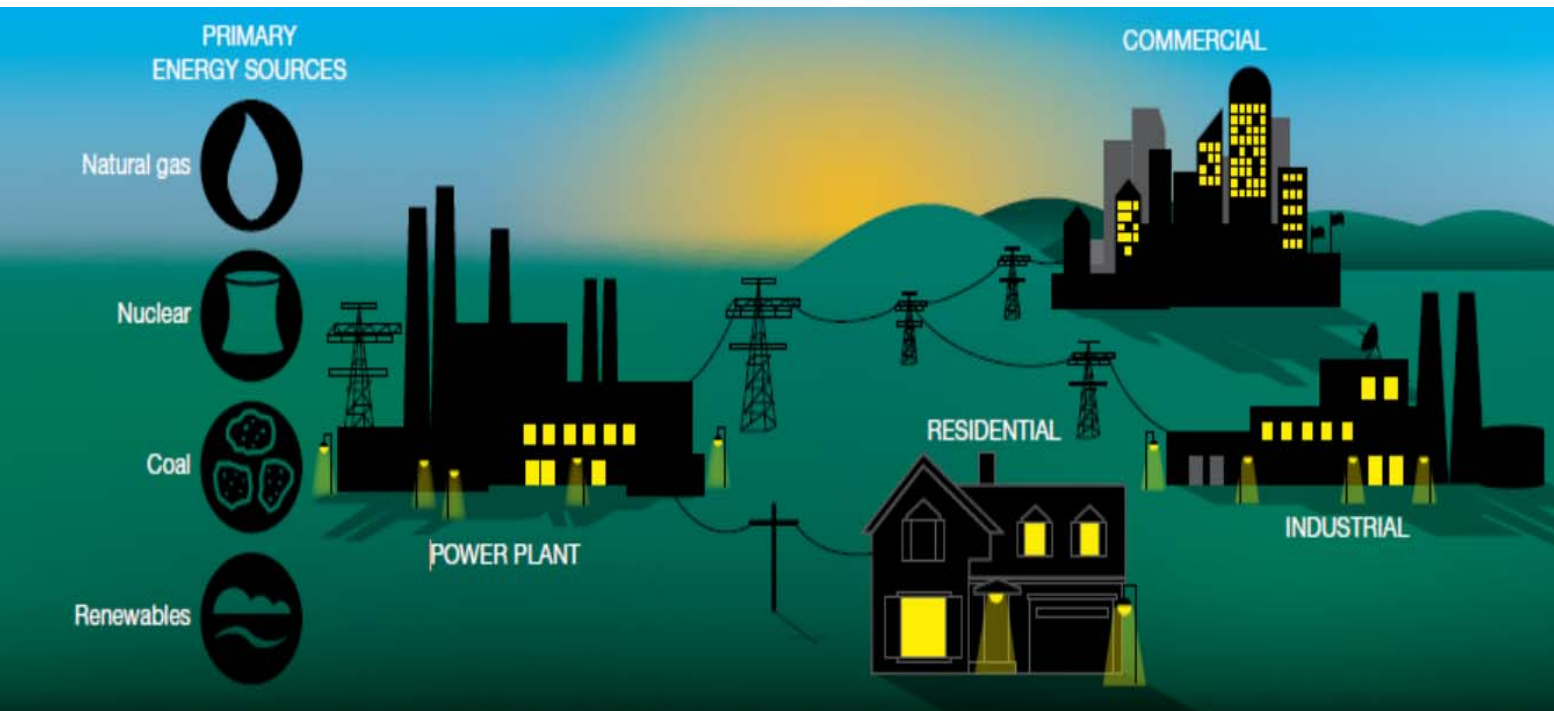


Trends in export pricing models



...tly oil indexation, however in Europe trend in moving towards gas to gas competition

World loves electricity!



Source: ExxonMobil

Global increase by 2035 more than 50%

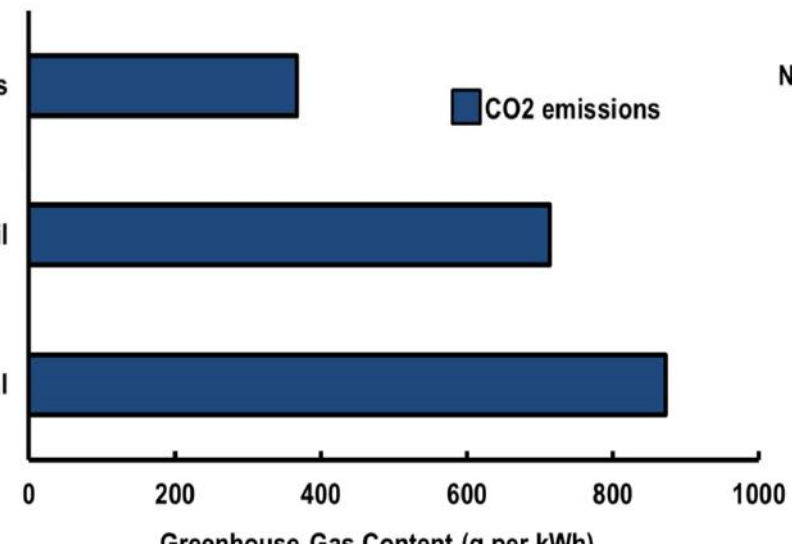
Natural gas in the power sector



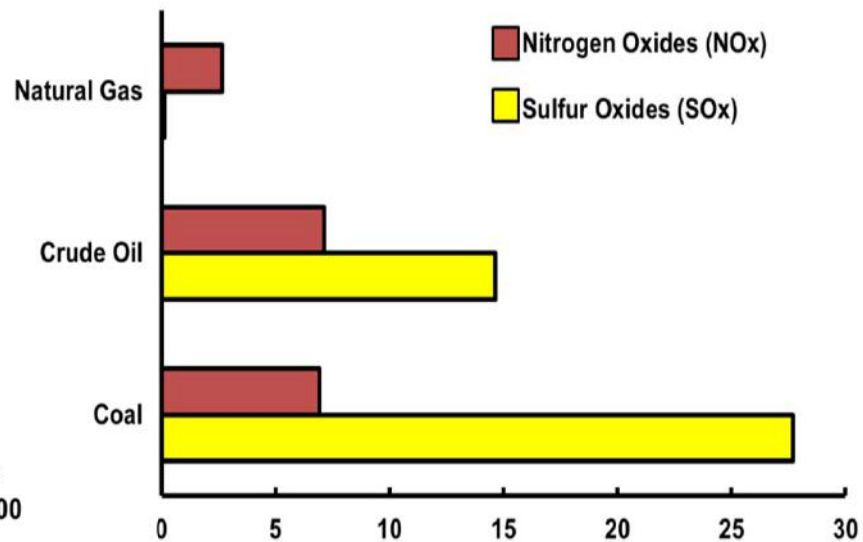
Clean-burning and affordable



Carbon dioxide emitted during electricity generation by fuel



NOx and SOx content by fuel



Natural gas enables renewable energy



Natural Gas - Wind - Solar

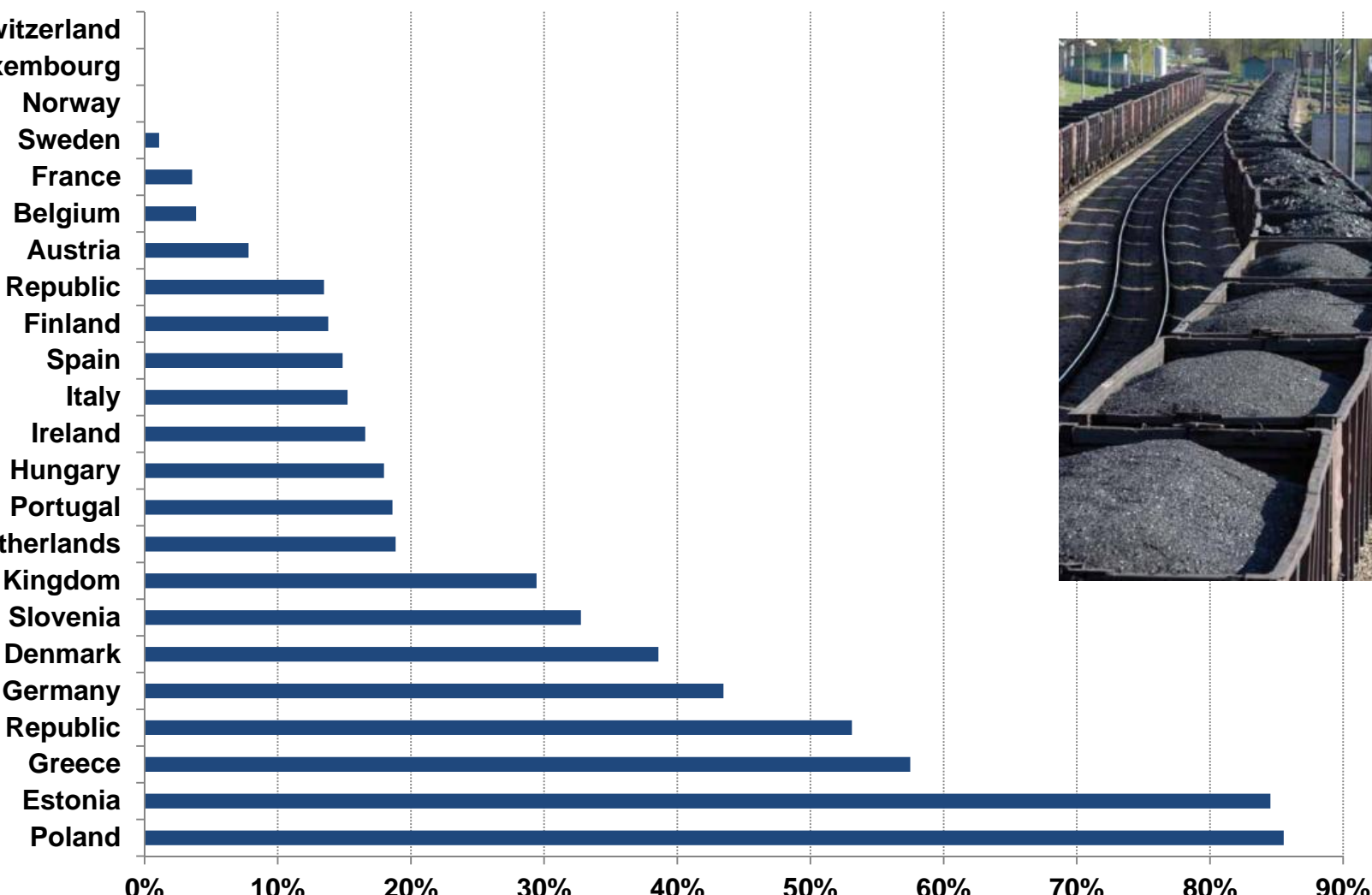
an support for
able renewables



ideal combination



Share of coal in electricity generation Europe



natural gas for transportation



Less

- Particles/soot
- Noise
- CO₂
- NO_x - smog



Fleets



Maritime

Gas price lower than oil price

Natural gas provides sustainable growth



- **Economic development and job creation**
- **Build on existing energy infrastructure**
- **Gas industry contributes to public finances**



Adaptability of natural gas



Gas-fired generation technology directions:

- Capture carbon through retrofit technology
- Partnership with renewables
- Greater inclusion of carbon-neutral biogas

Gas pipeline and storage systems provide secure options for:

CO₂, Biogas, Hydrogen

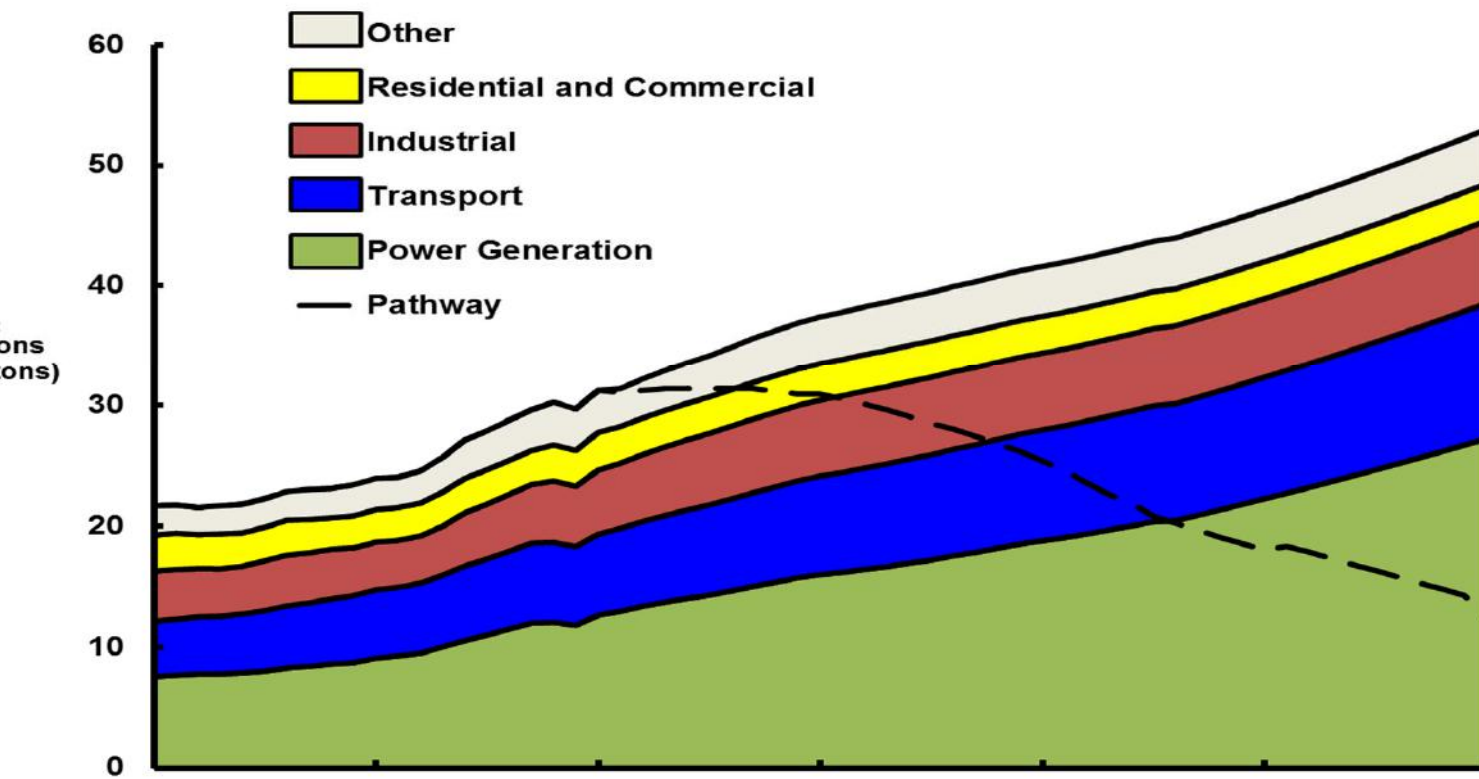


Pathway towards a sustainable future



Meeting future global energy needs – whilst addressing air quality and climate change concerns

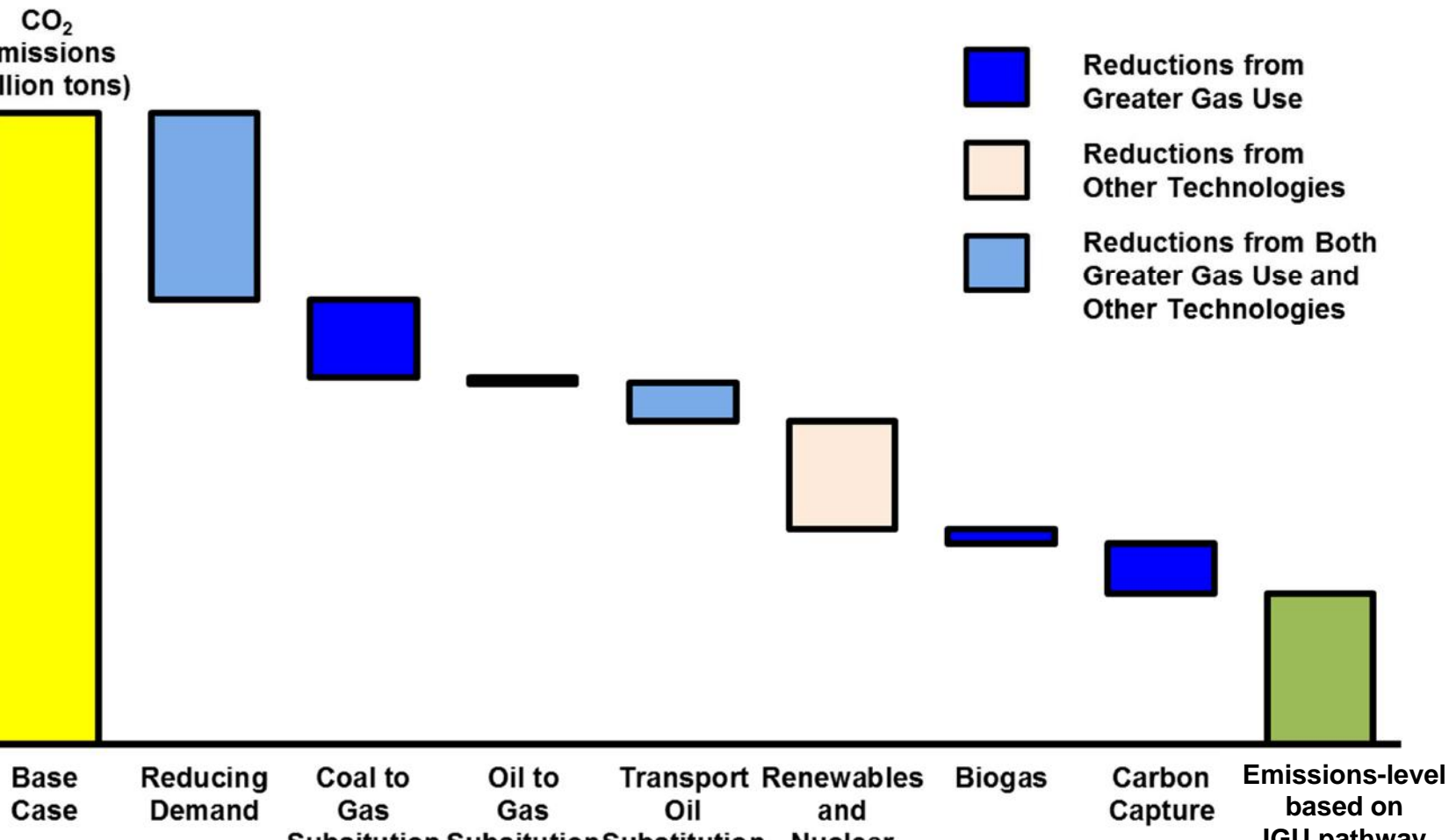
Global Emissions Trajectory Base Case



IGU Pathway highlights various CO₂ abatement options and technology choices



Projection for 2050



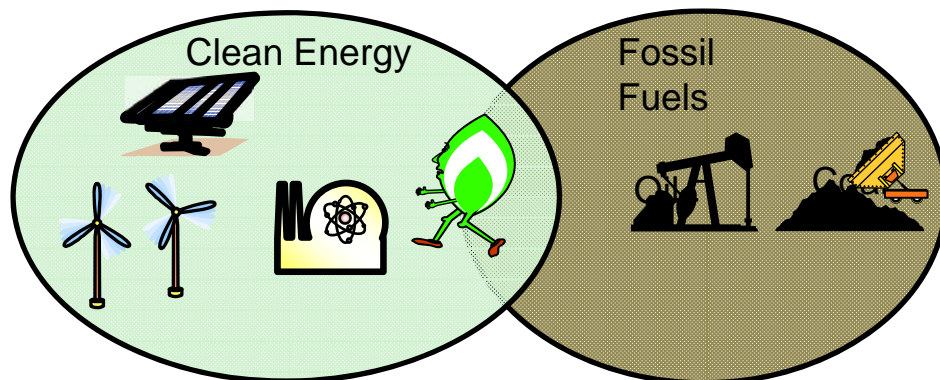
Creating Trust for Gas



- **Recognition by policymakers**
 - National, EU, G20, UN
- **Dialogue with environmental NGOs**
- **Licence to operate**



Image of Gas



robust and sustainable energy policy



Energy efficiency & savings

**Enhance use of gas in
power generation and transportation**

Phase in renewable energy

Develop Carbon Capture and Storage technology



Gas: The fuel of today and tomorrow!

Thank you for your attention!



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