Shell energy scenarios to 2050

An era of revolutionary change

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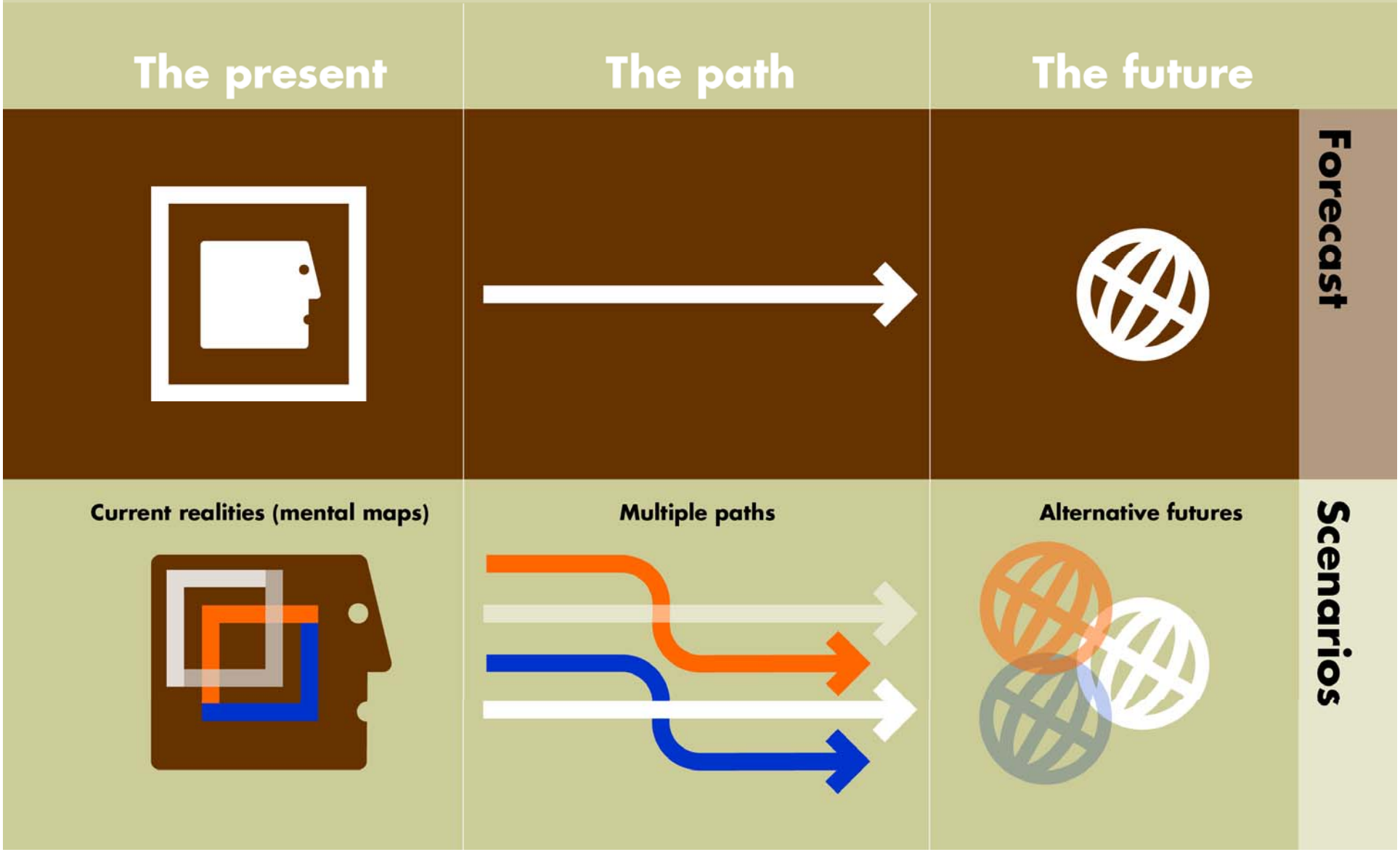
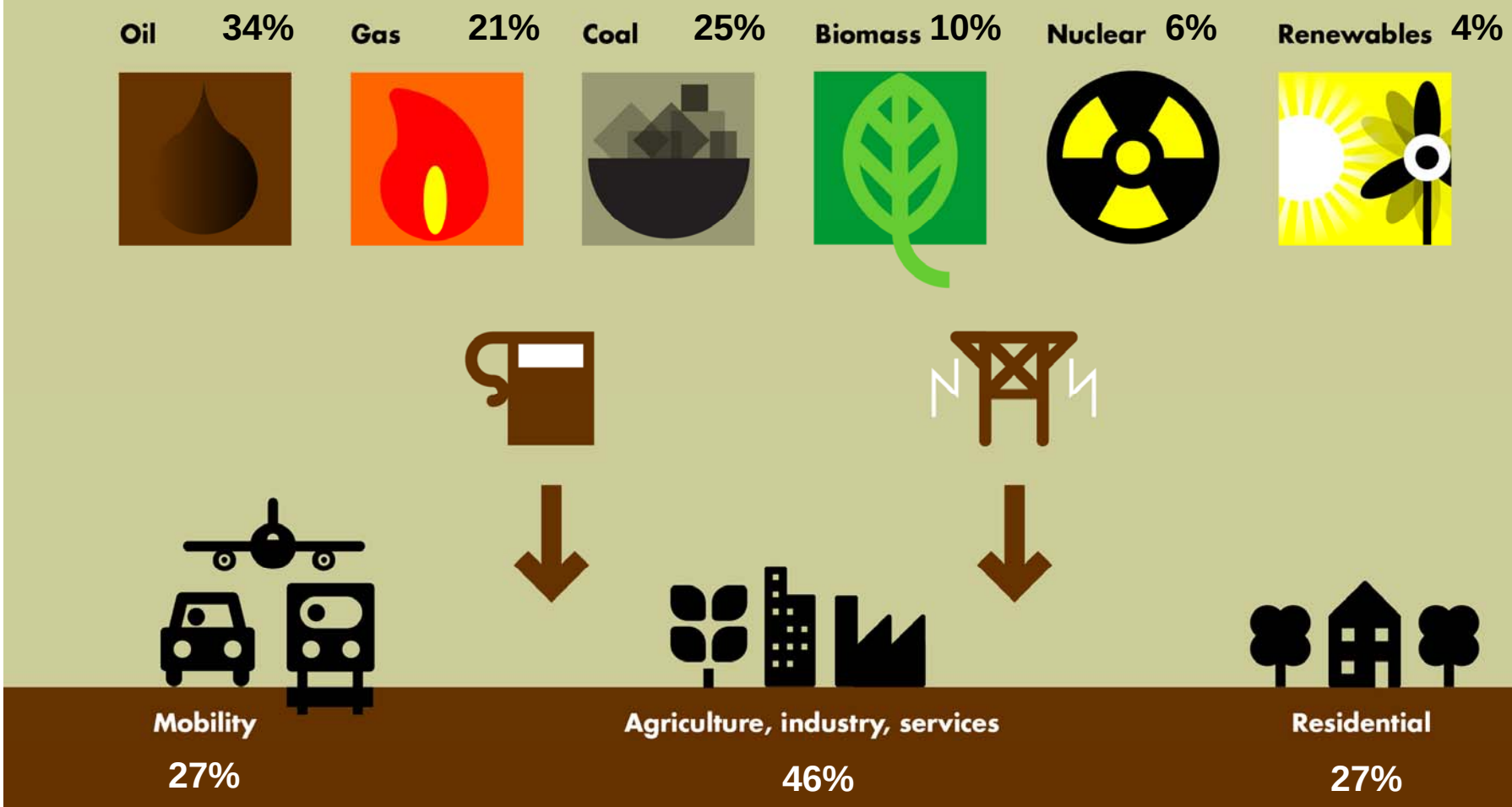
Scenarios explore alternative futures



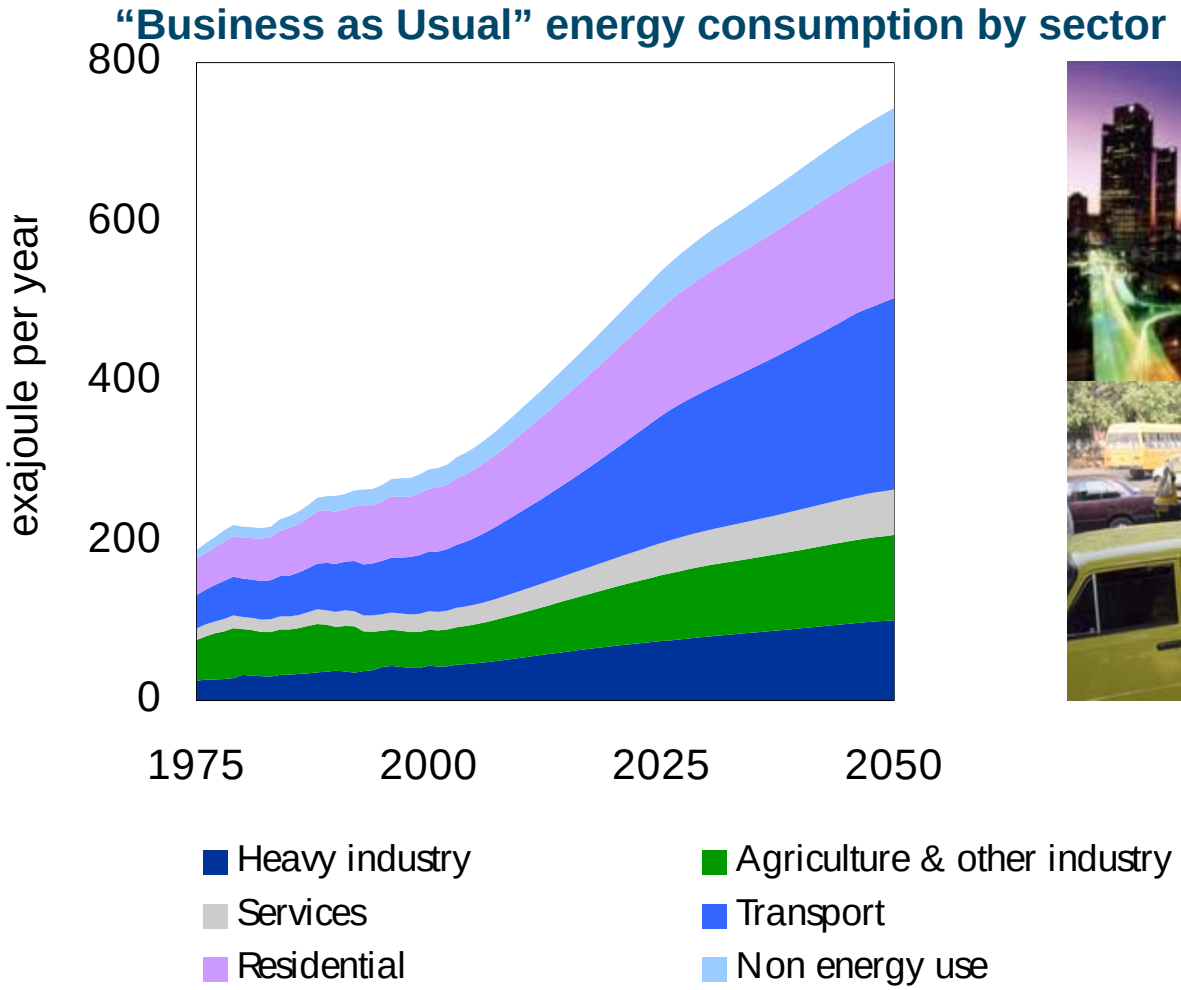
The energy system today sets the context for the future



Source: Shell International BV; UN Population Division

World population 6.6 bln; 50% in urban environment

“Business as Usual”: energy demand is set to increase dramatically

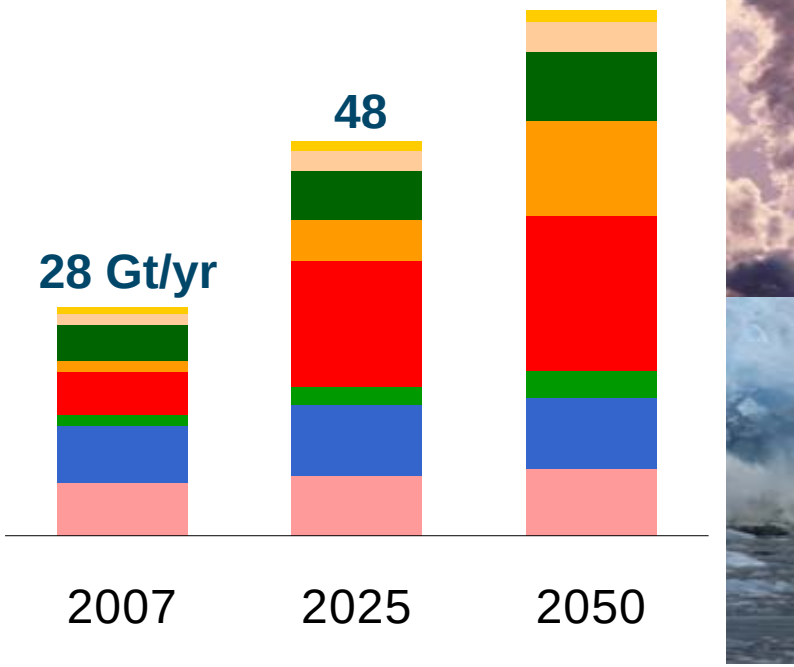


Source: Shell International BV and Energy Balances of OECD and Non-OECD Countries ©OECD/IEA 2006

No silver bullets for supply growth

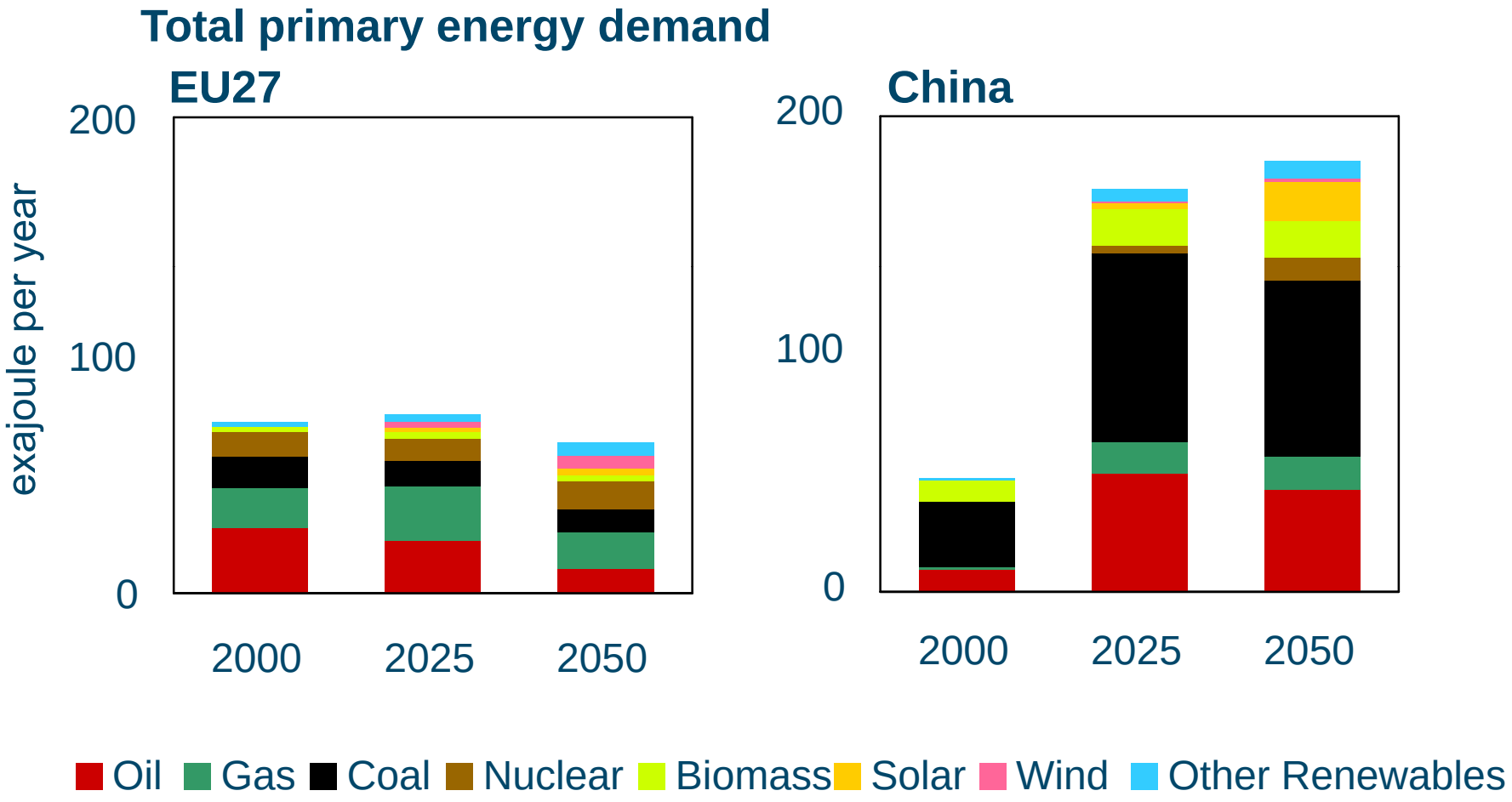
Environmental stresses are increasing

If "Business as usual", Direct CO_2 from energy could rise dramatically



Source: Shell International BV

Energy transitions are both inevitable and necessary

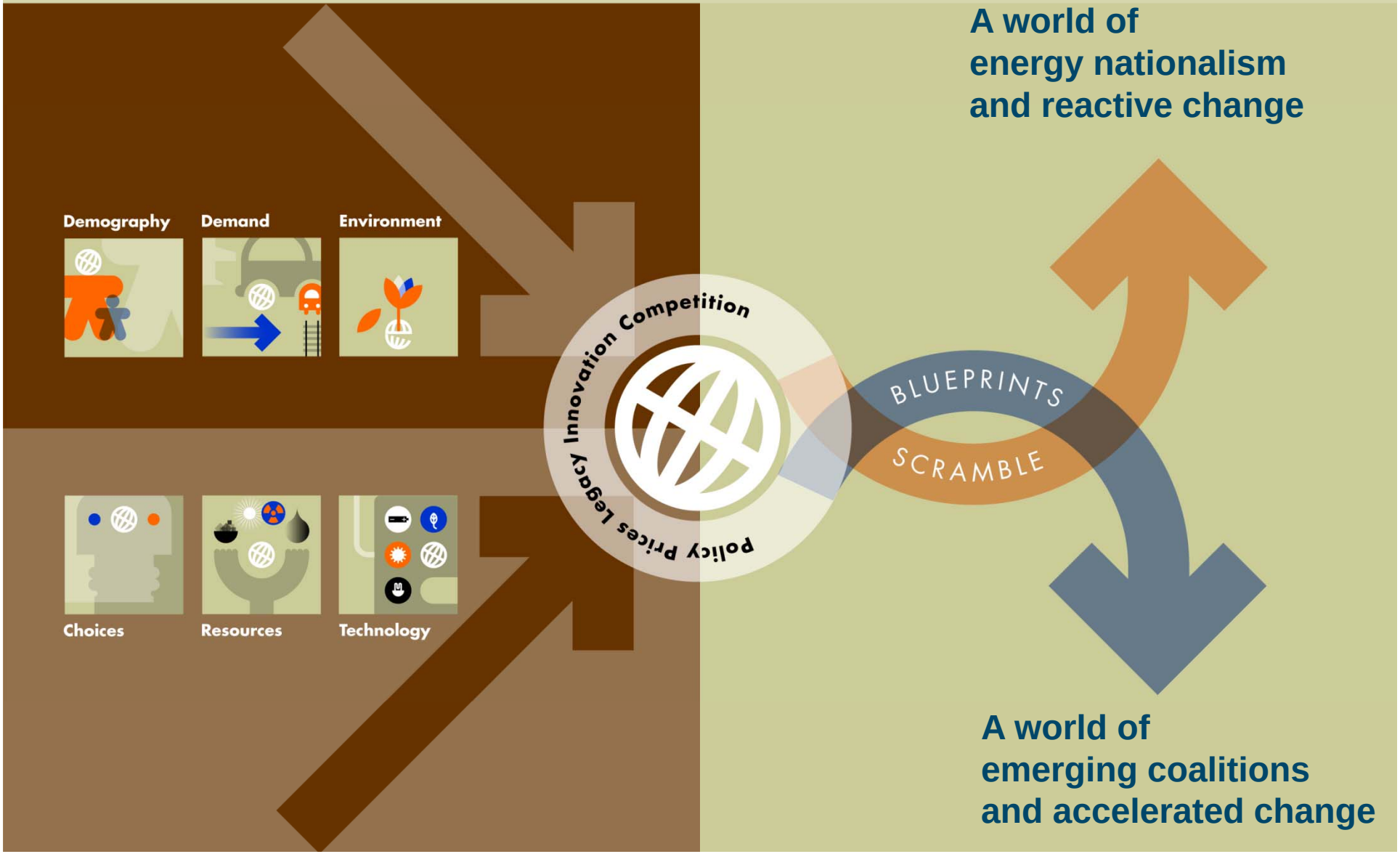


Source: Shell International BV and Energy Balances of OECD and Non-OECD Countries©OECD/IEA 2006

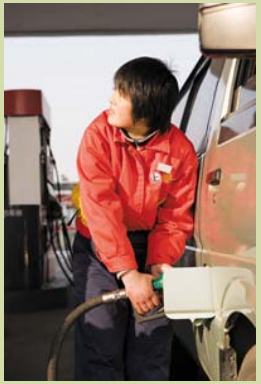
Three Hard Truths

- **Step-change in energy use**
- **Supply will struggle to keep pace**
- **Environmental stresses are increasing**

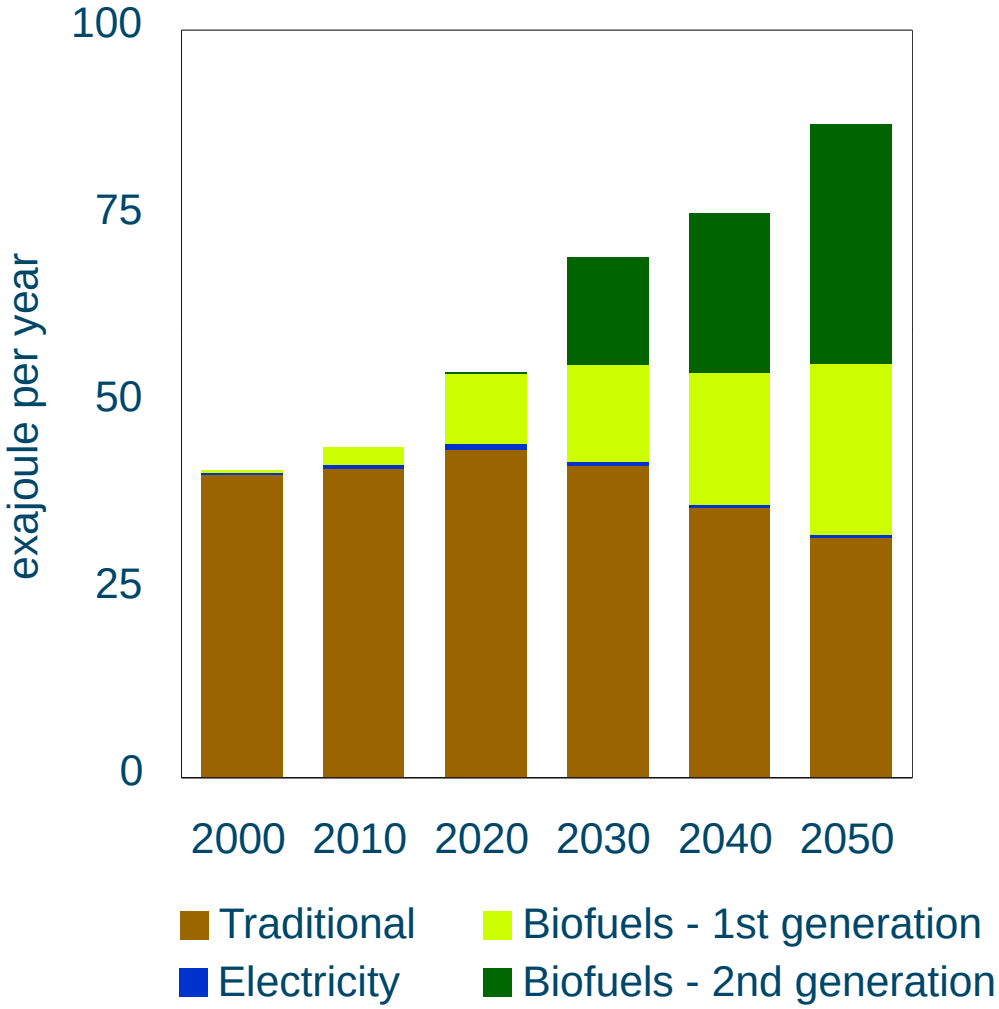
Shell energy scenarios help us to imagine alternative futures



Scramble - Security of supply and fear of losing economic growth



Scramble - Biomass diversifies liquid fuel mix

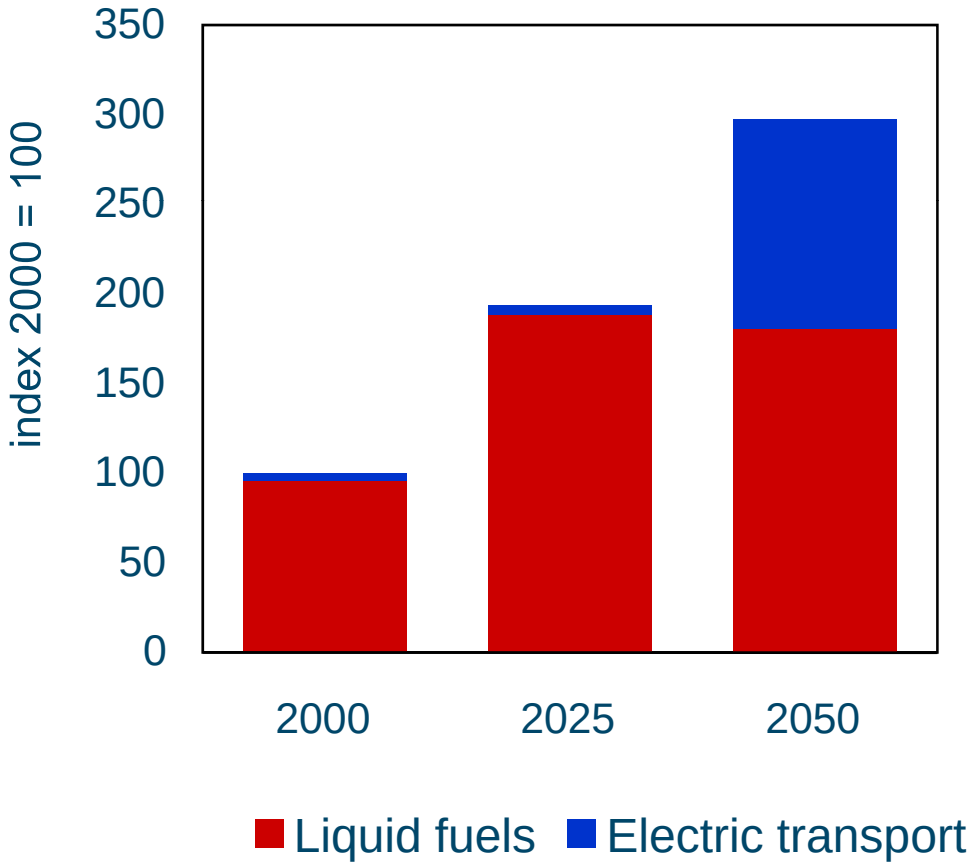


Source: Shell International BV and Energy Balances of OECD and Non-OECD Countries©OECD/IEA 2006

Blueprints – Energy security and sustainability

Blueprints - Efficiency and innovation in transport

Passenger distance travelled (world)



Source: Shell International BV and Energy Balances of OECD and Non-OECD Countries©OECD/IEA 2006

In summary

- The three hard truths are very hard
- Transition is both inevitable and necessary
- Technology plays a major role,
  but no silver bullets
- Political and regulatory choices are pivotal
- The next 5 years are critical

Tackling all three hard truths TOGETHER is essential for a sustainable future