IFRI Energy Breakfast roundtable

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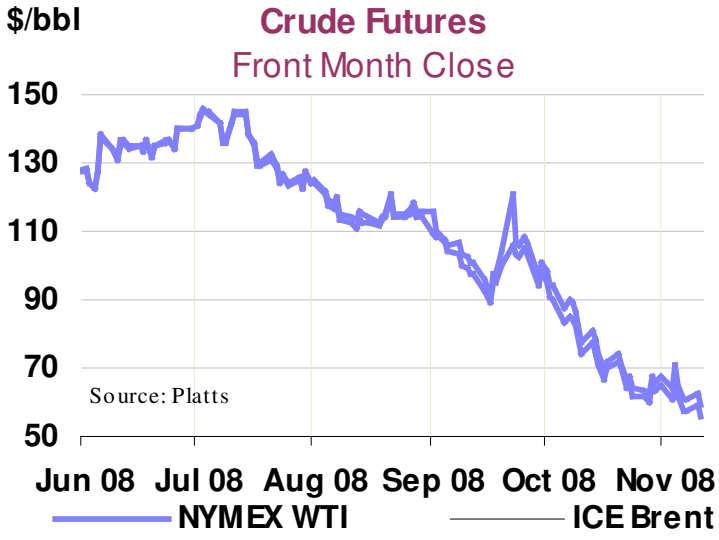
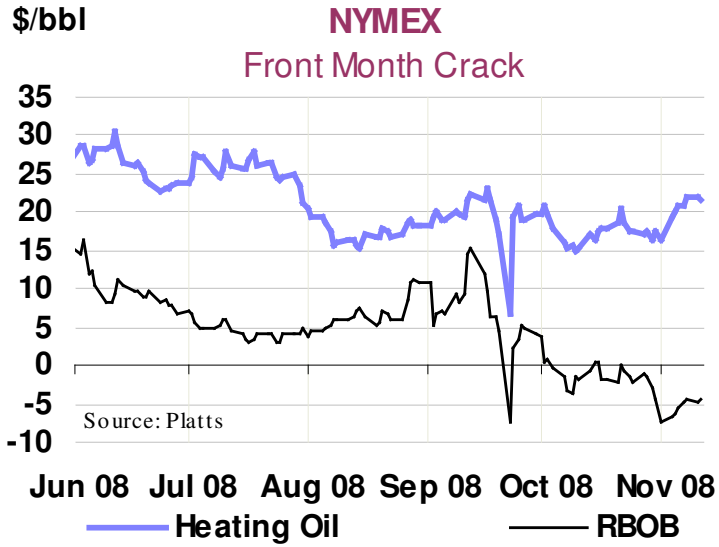
Prices continue to slide, but temporarily bottoming out?

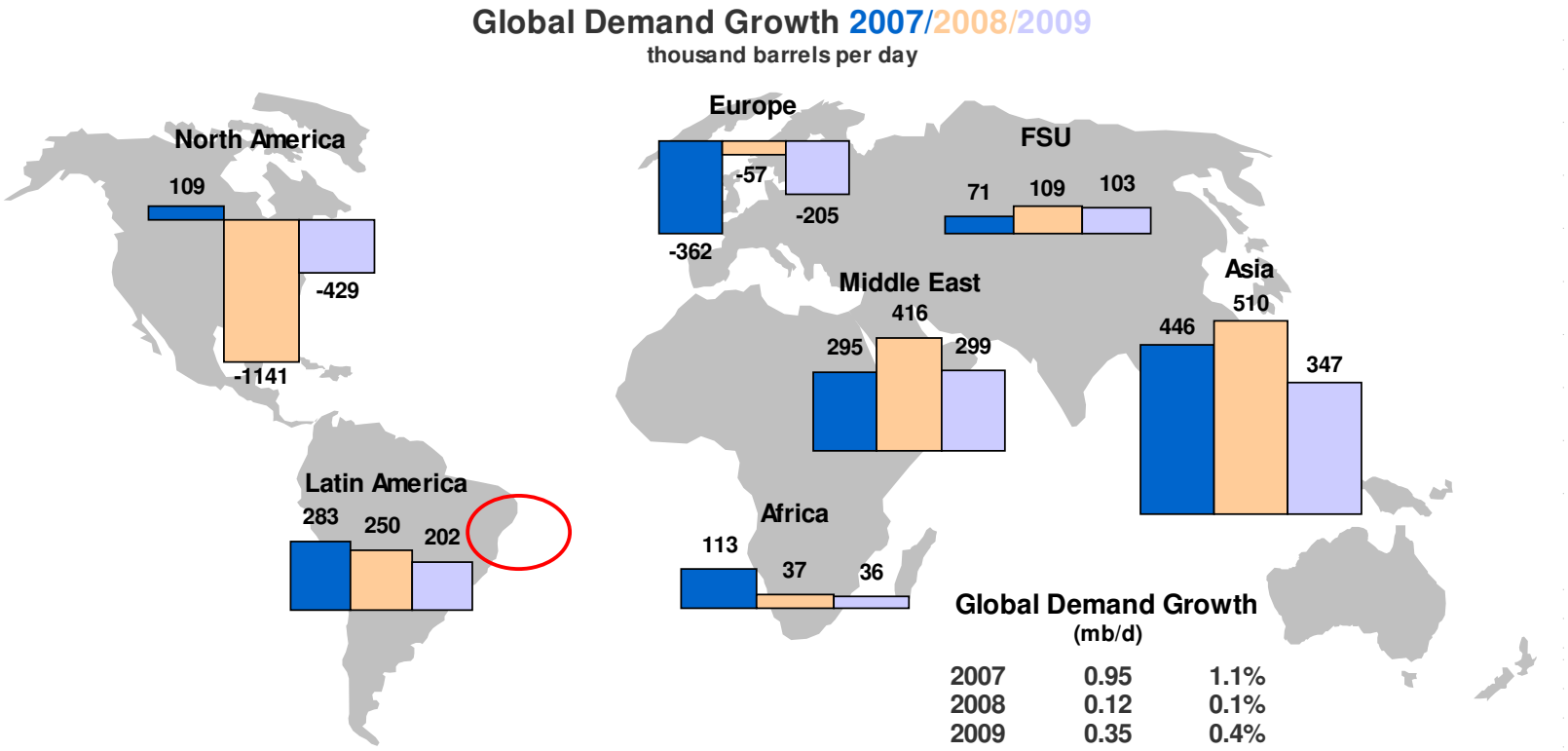




- Benchmark crude futures fall by another $30/bbl since last month, to around $55, amid strong volatility
  - Demand prospects weaken further, with lower August/September OECD data compounded by IMF-driven downward revisions
  - Prices temporarily stabilised around $60/bbl after OPEC decided on 24 October to curb its output target and amid signs of global concerted efforts to prevent recession/depression
  - Stronger dollar also having an impact

Source: IEA *Oil Market Report*

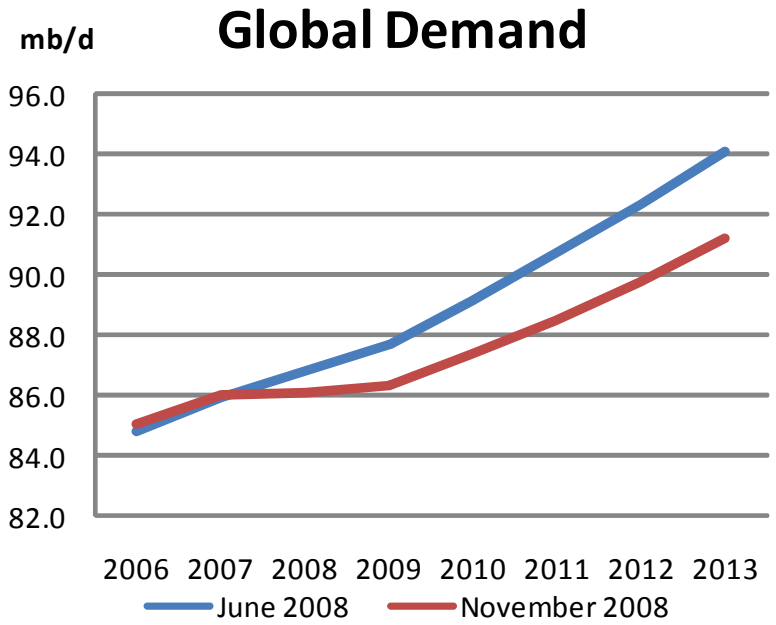
Global demand growth

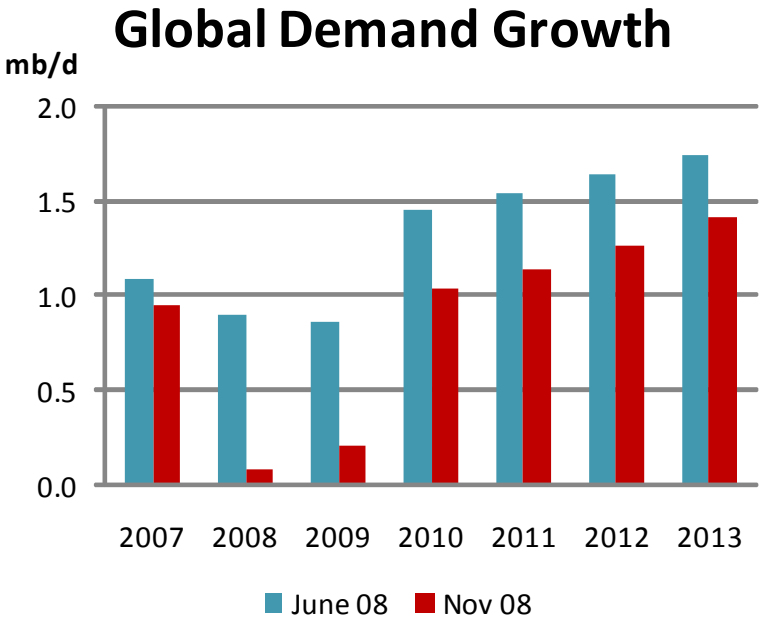


- **Global oil product demand** is expected to average **86.2 mb/d in 2008** and **86.5 mb/d in 2009**
  - **Yearly growth:** +0.1% (+100 kb/d) in 2008; +0.4% (+400 kb/d) in 2009
  - **Changes vs. last:** -330 kb/d in 2008, -670 kb/d in 2009
- **Revisions** prompted by weaker-than-expected **OECD demand** and **lower IMF economic assumptions (2.1% v prev 2.9% for 2009)**

Source: IEA *Oil Market Report*

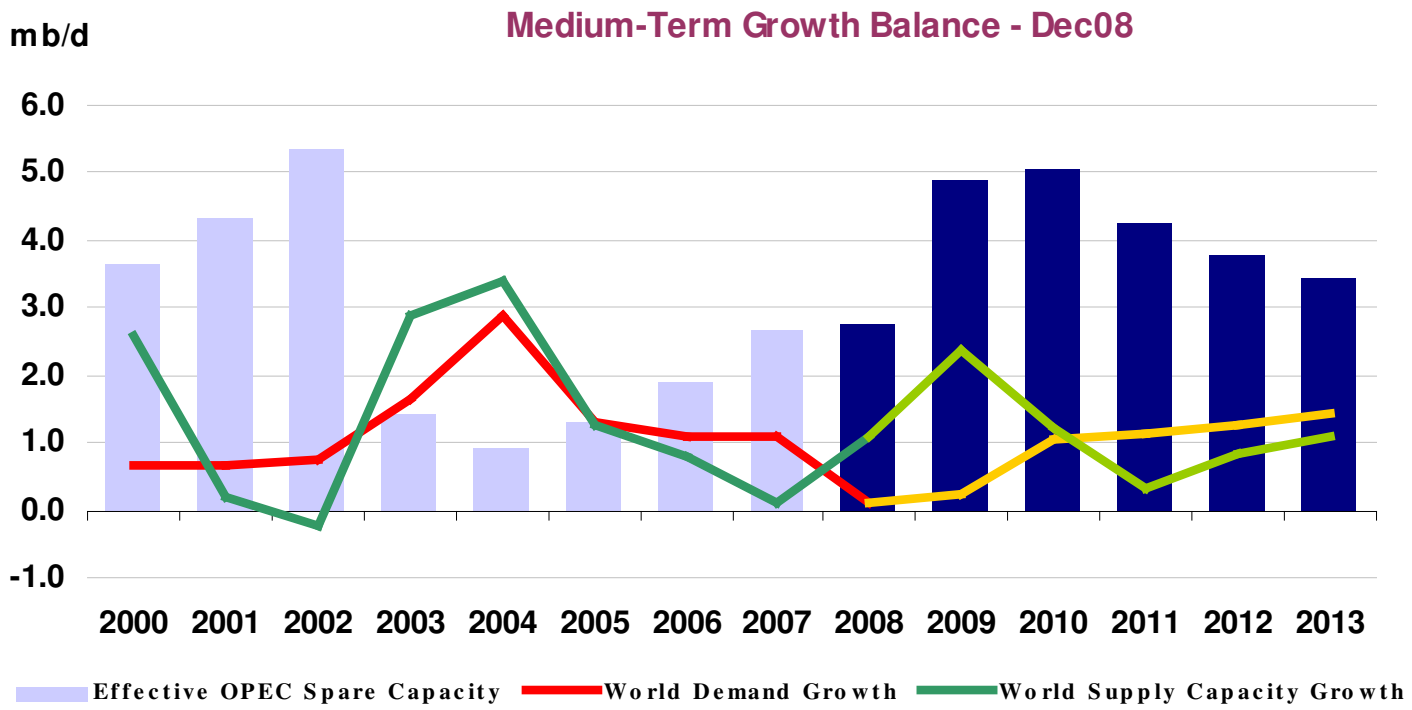
Demand - sharply lower growth since July





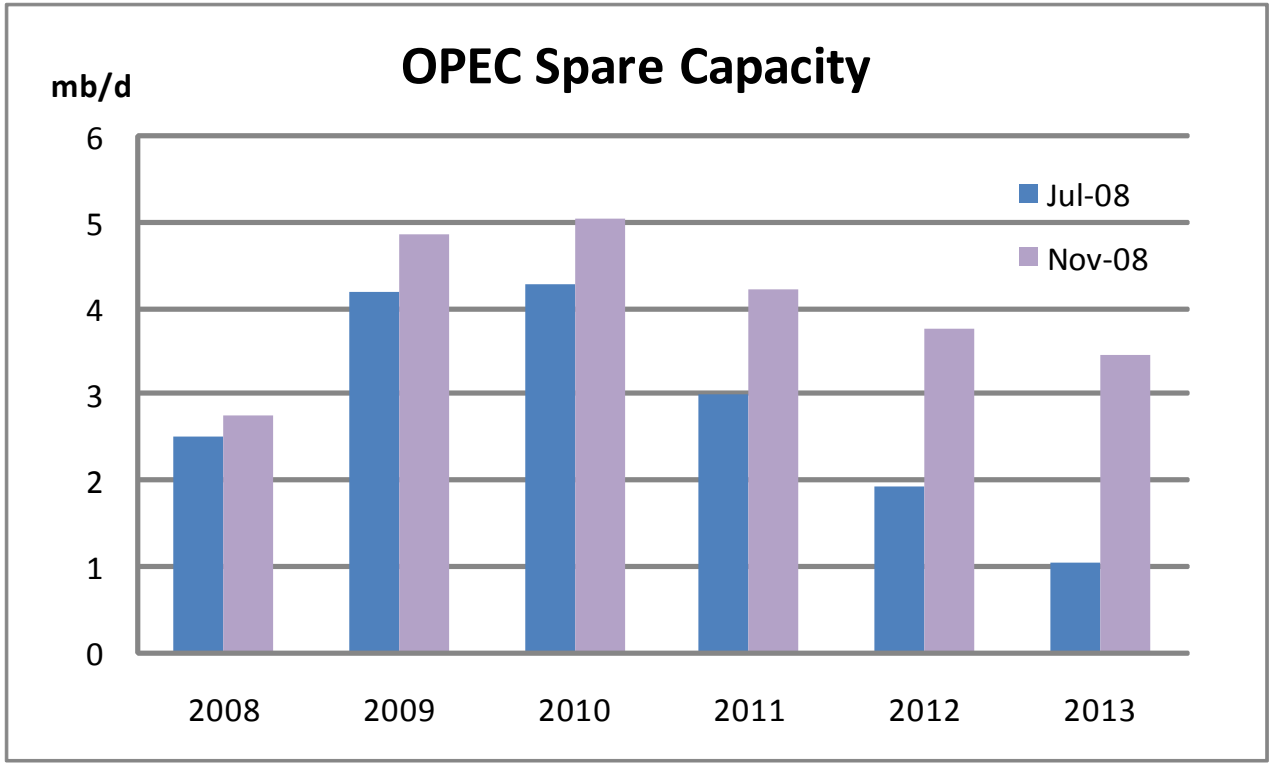
- 2013 demand grows by +5.1mb/d from 2008 to 91.25 mb/d
- This is 2.2 mb/d lower growth than projected in July and,
- Demand in 2013 is 2.9 mb/d less July MTOMR

Balance tightens after 2010



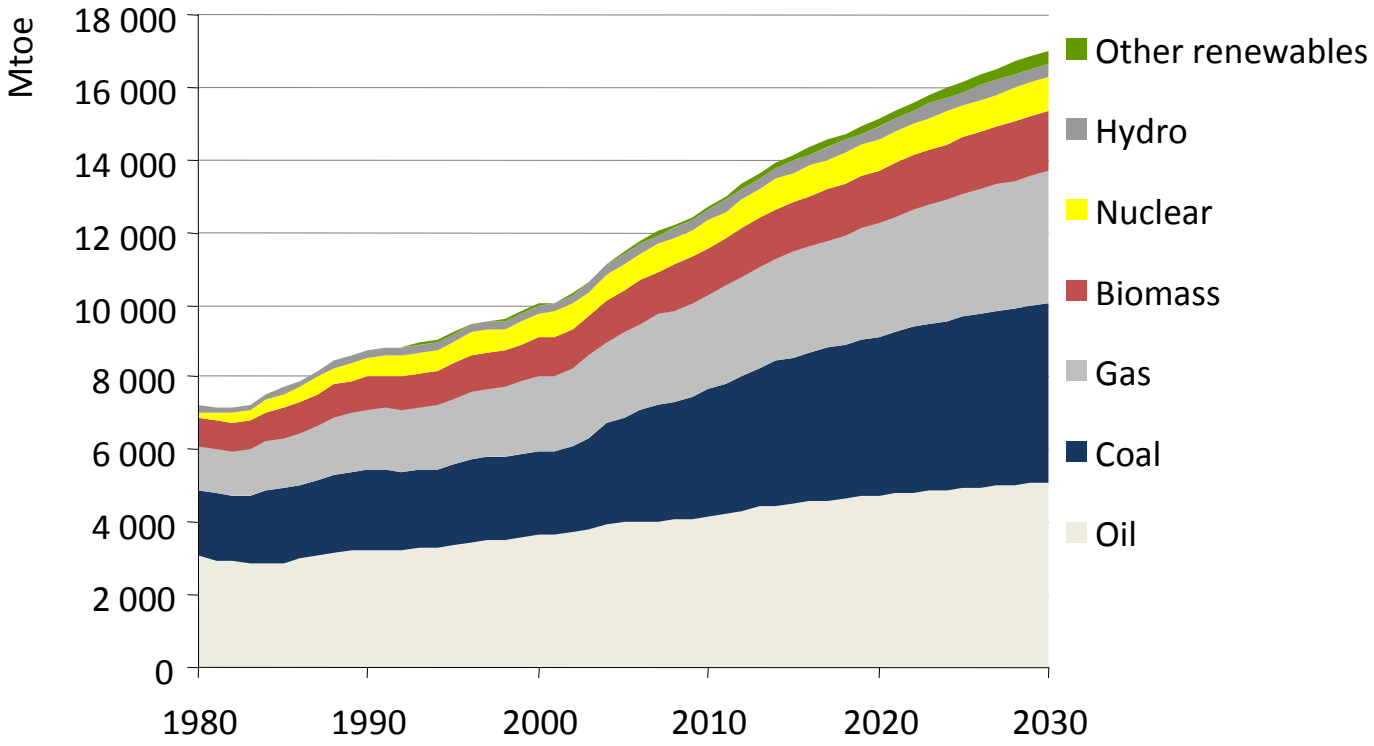
- OPEC (effective) spare capacity to increase from 2.7mb/d in 08,
- To more than 5.1 mb/d in 2010,
- Before falling to 3.5 mb/d in 2013
- ***Does not factor in credit crunch and lower oil price impacts***

OPEC spare capacity increases vs. MTOMR



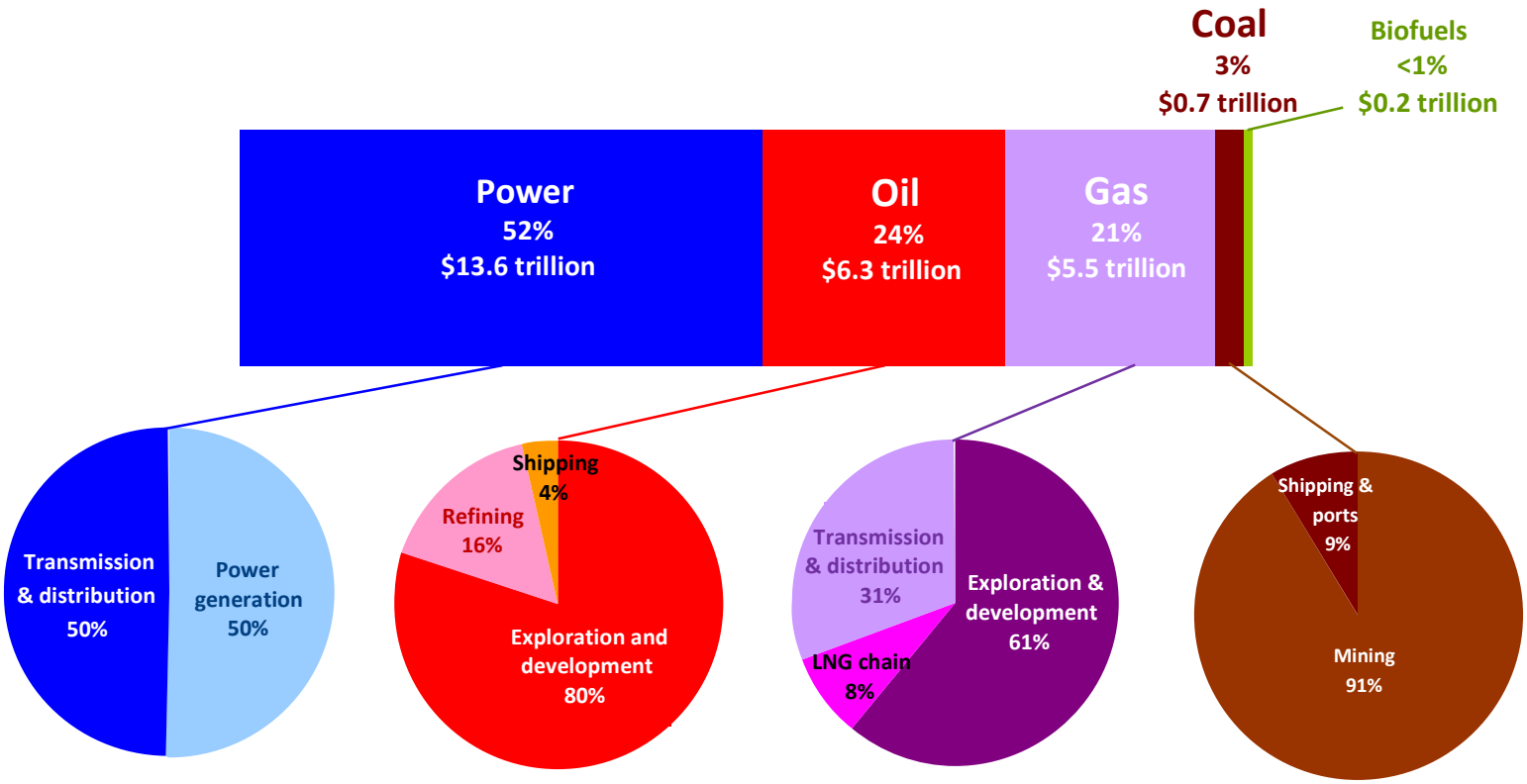
- OPEC effective spare capacity at 3.5 mb/d in 2013, compared to 1.0 mb/d seen in July
- Assumes OPEC does not indulge in “strategic slippage”

World primary energy demand in the Reference Scenario: this is unsustainable!



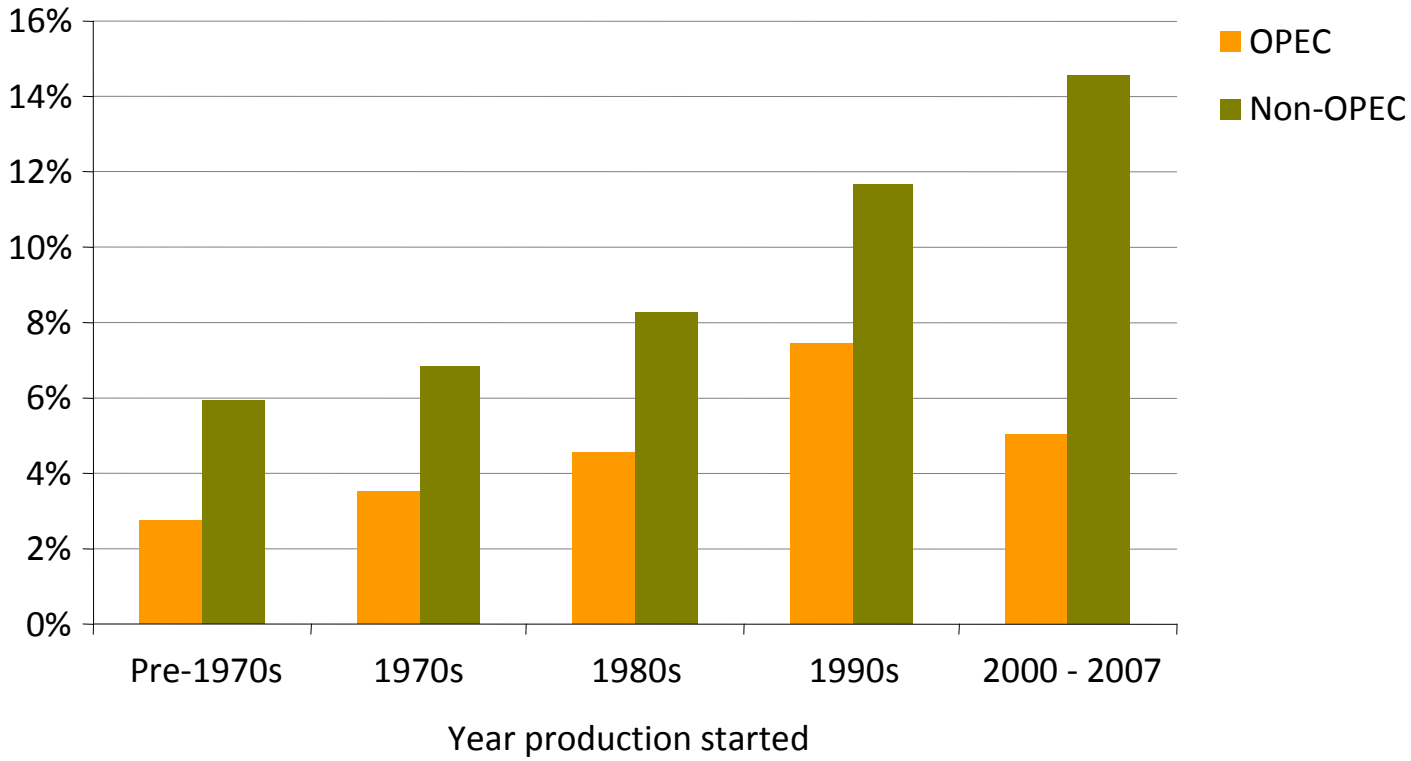
World energy demand expands by 45% between now and 2030 – an average rate of increase of 1.6% per year – with coal accounting for more than a third of the overall rise

Cumulative energy-supply investment in the Reference Scenario, 2007-2030



Investment of $26 trillion, or over $1 trillion/year, is needed, but the credit squeeze could delay spending, potentially setting up a supply-crunch once the economy recovers

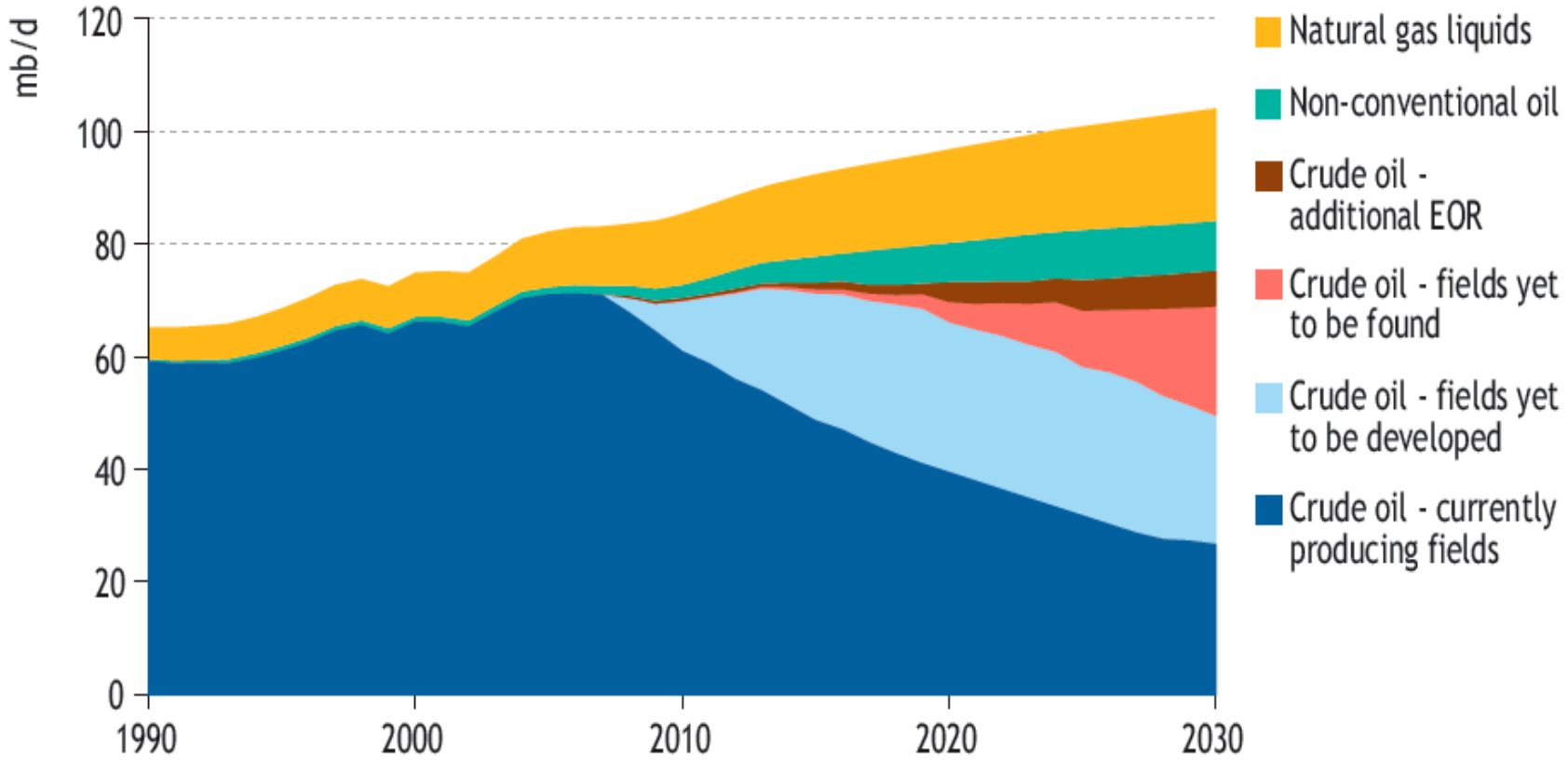
Average observed oilfield decline rates



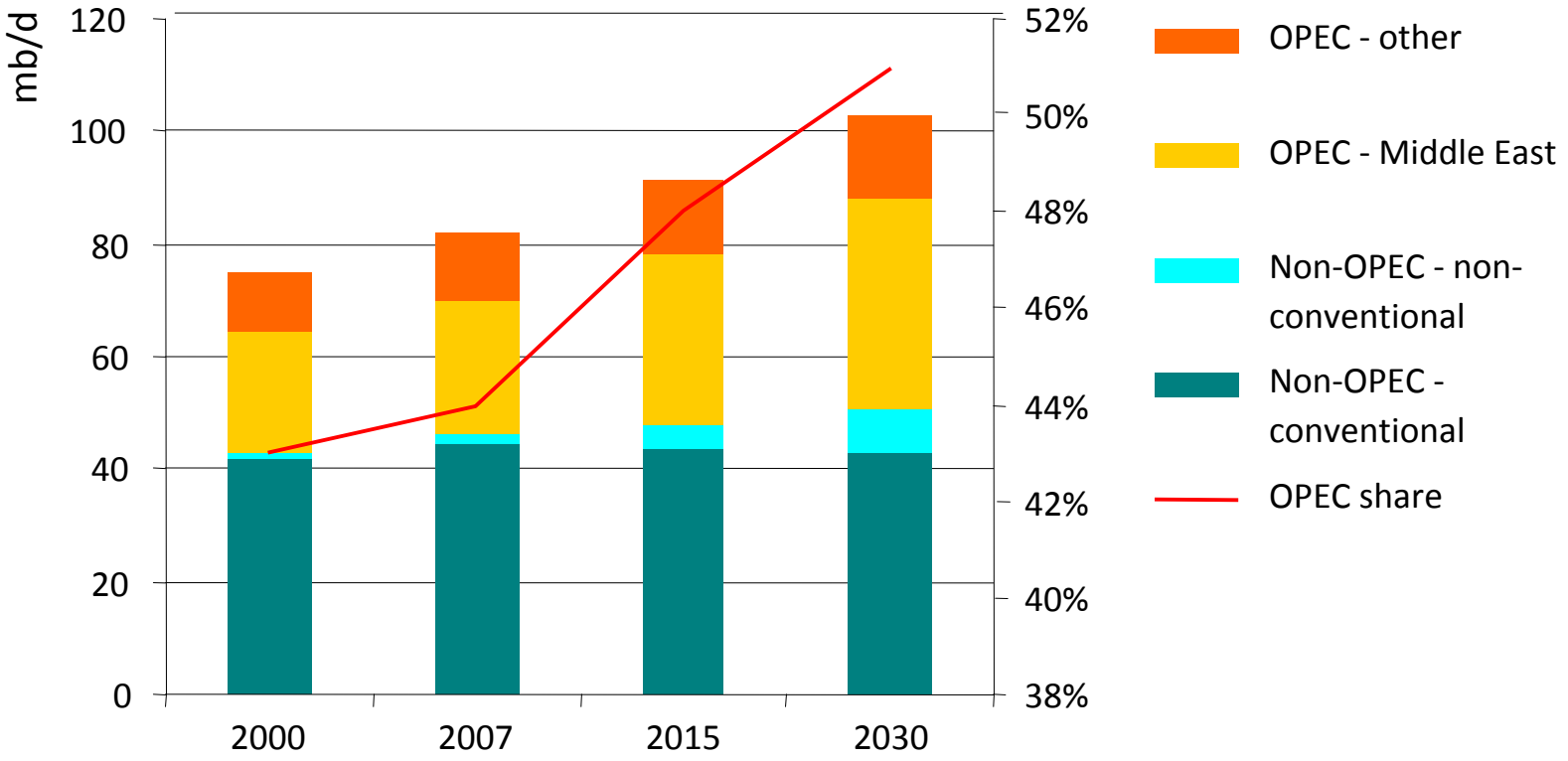
The production-weighted average decline rate worldwide is projected to rise from 6.7% in 2007 to 8.6% in 2030 as productions shifts to smaller oilfields, which tend to decline faster

Mind the gap……

Figure 11.1 • World oil production by source in the Reference Scenario

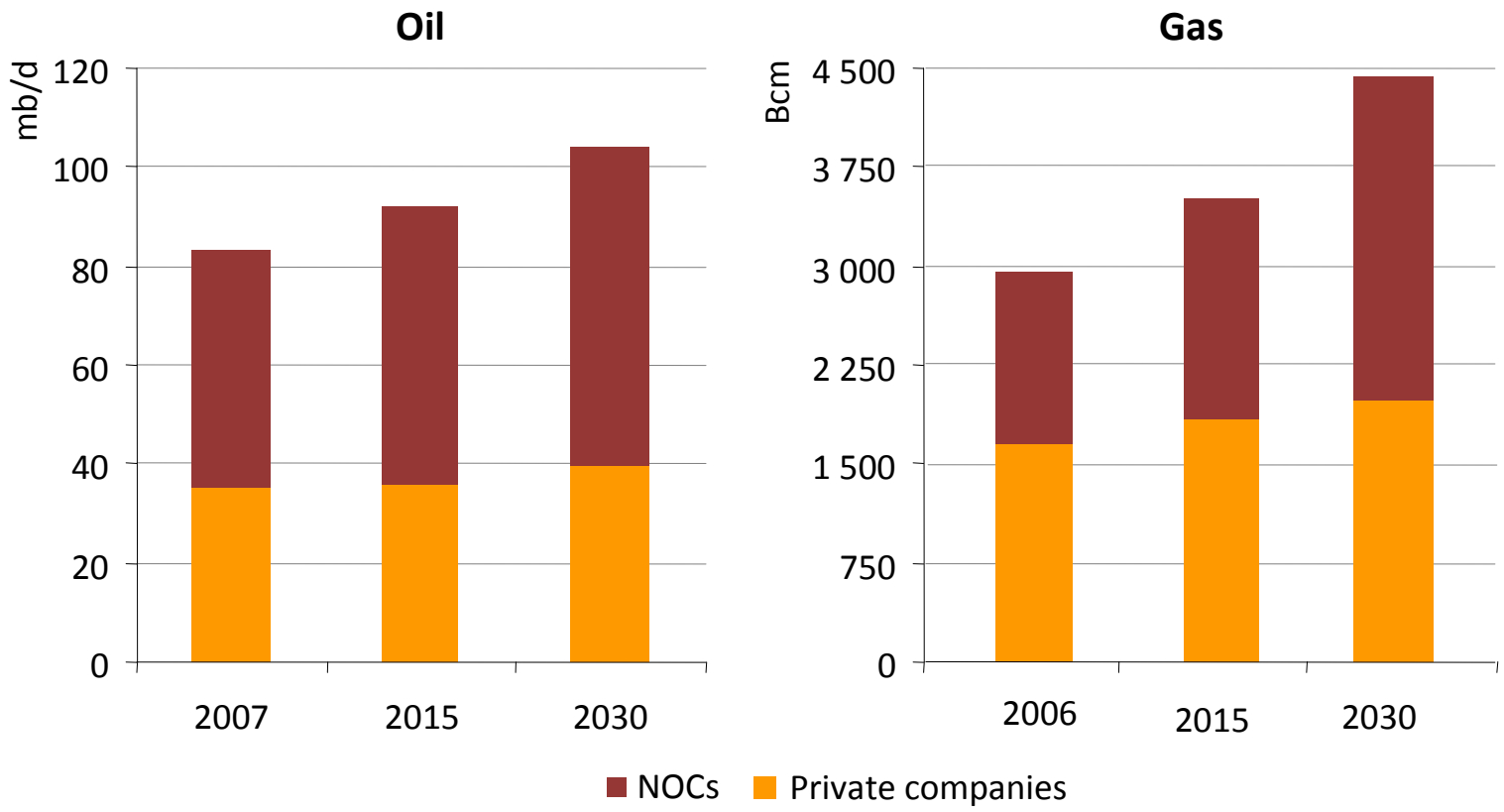


World oil production by OPEC/non-OPEC in the Reference Scenario



Production rises to 104 mb/d in 2030, with Middle East OPEC taking the lion's share of oil market growth as conventional non-OPEC production declines

A sea change: world oil & gas production by company type in the Reference Scenario



Almost 80% of the projected increase in output of both oil & gas comes from national companies – on the assumption that investment is forthcoming

What impact from the financial crisis ?

- Lower levels of futures trading diminishes price discovery

-Less liquidity in the physical market can lead to price distortion: limited stockbuild despite pronounced contango

-Higher price volatility on oil markets

More demand uncertainty ahead

- Economic growth: sharp reduction in oil demand in 2008 and 2009 but *MTOMR* assumes a rebound of global economy from 2010 onwards
- China growth : partially decoupled, but for how long ?

- Sea-changes in demand patterns? Demand suppression or demand destruction ?
- Peak demand for oil in OECD countries in 2008 ?
- Impact of the US Energy Act (December 2007) and of the new administration in Washington
- Evolution of the car fleet in Asian countries

And also on the supply side

Upside :

- modest easing in project cost inflation(raw materials, engineering, drilling, labour…)
- mature producers might ease access & contract terms (high prices deferred important decisions – Mexico, Russia etc)
- lower prices incentivize innovation : potential technological breakthrough ?

But mainly downside:

- Oil & gas companies hit by the credit crunch (Russia, independent US producers …)
- Uncertainty about future demand and lower prices may hamper new projects downstream and upstream (especially for unconventional oil)
- May amplify the contrast between easing fundamentals in the short term and tightening markets in the medium term.

The risk of a supply crunch in 5 to10 years much more serious if investment is lagging

What will be OPEC strategy in the short and medium term ?

- What price floor for Saudi Arabia ? For OPEC?
- OPEC capacity increasing sharply in 2009 as well as non OPEC
- Complicating factors – OPEC NGL v crude growth, and aspiration to become refining hubs
- What upstream investment strategy going forward?