



2008 International Wind-Diesel Workshop

Crude Oil. Supply, demand and price trends

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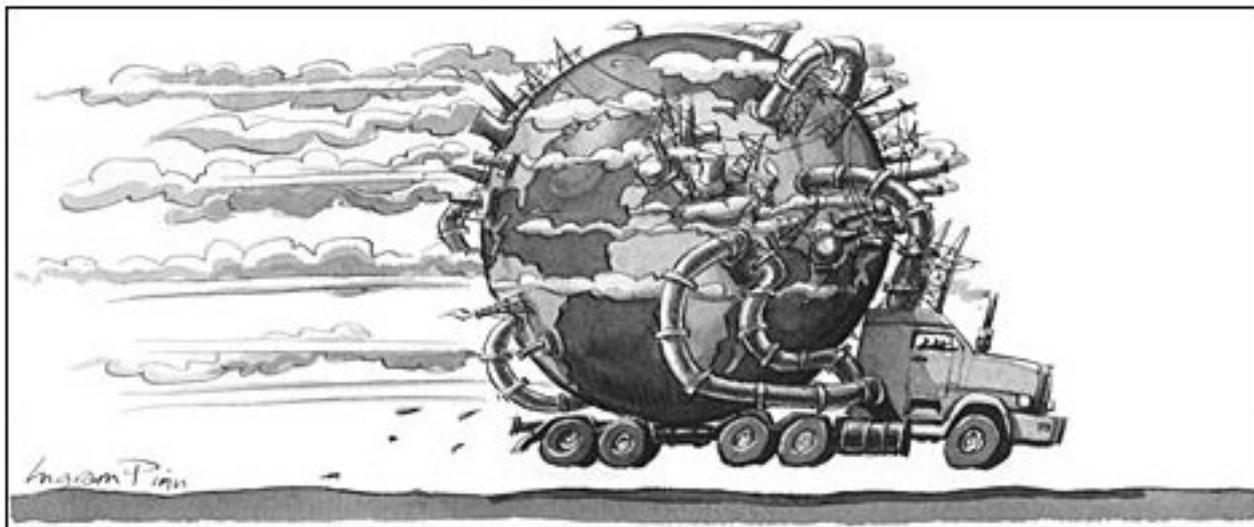


- Crude oil supply and demand
- Security of supply implications
- Implications for renewables



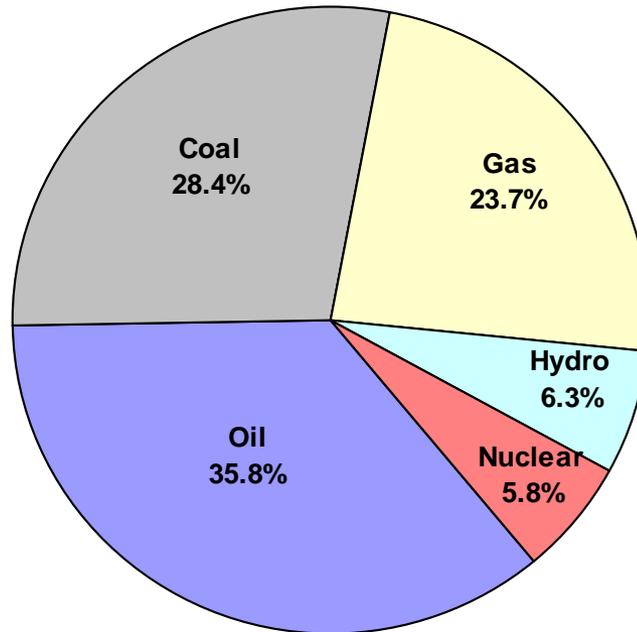
Financial Times

'Welcome to a World of runaway energy demand'. 13 November 2007





Global Primary Energy





The 'traditional' view

- Peter Davies (outgoing BP Chief Economist)
 - *“We don't believe that there is an absolute resource constraint. When peak oil comes it is as likely to come from consumption peaking, perhaps because of climate change policies or for some other reasons, as from production peaking.”*
- Oil reserves 1.2 tln bbl (R/P ratio = 40)
- Gas reserves at 181 tcm (R/P ratio = 60)



The 'non-traditional' view. Part 1

“WEO-2007 demonstrates more clearly than ever that, if governments don't change their policies, oil and gas imports, coal use and greenhouse-gas emissions are set to grow inexorably through to 2030 – even faster, in fact, than in last year's Outlook.

These trends would threaten energy security and accelerate climate change.”

Nobuo Tanaka. IEA Executive Director. Release of IEA World Energy Outlook 2007



The 'non-traditional' view. Part 2

“Reserves have never been so big.... However 100 mn bbl/day is now in my view an optimistic case.... 100 mn bbl/day is difficult, because in the 100 you already have additional production in Iraq, in Venezuela, [and] in Nigeria; you have additional production everywhere. And we now know today that those developments are not taking place”

Christophe de Margerie. Total CEO. 'Oil and Money' conference. London – October 2007

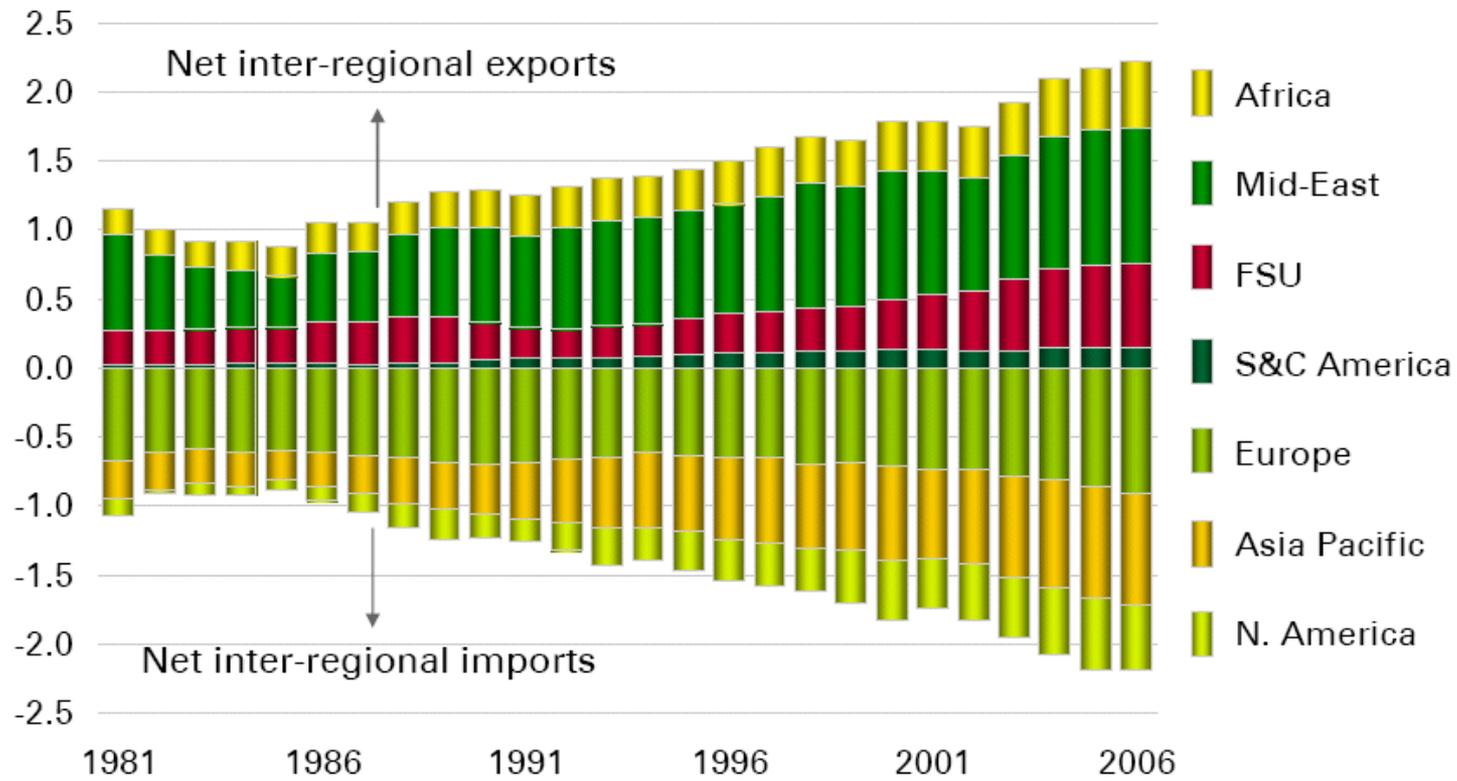
“We are confident that reserves will be enough to meet needs through 2030 and beyond but less confident that enough investments will be made.”

Nobuo Tanaka. IEA Executive Director. 'Oil and Money' conference. London – October 2007



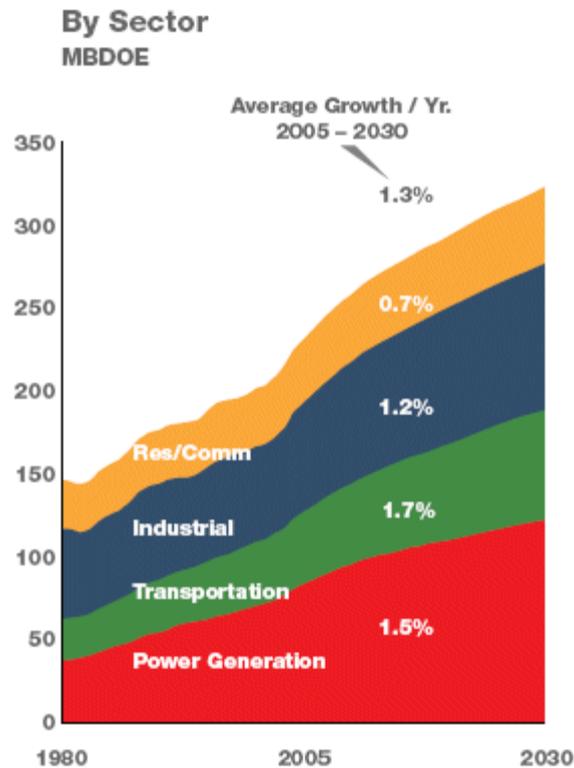
International Energy Trade

Billion tonnes oil equivalent



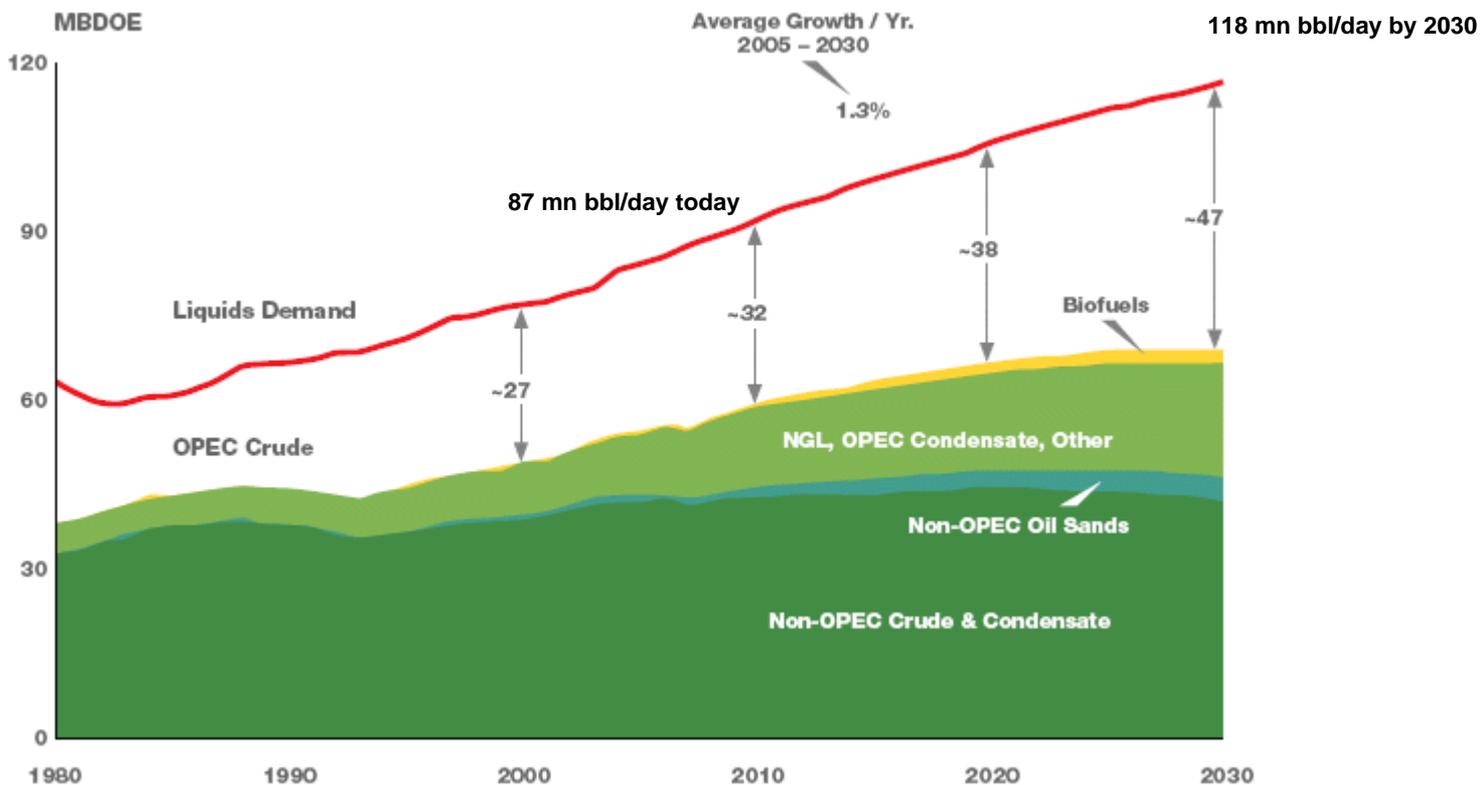


World Energy Demand to 2030





Liquids Supply & Demand to 2030

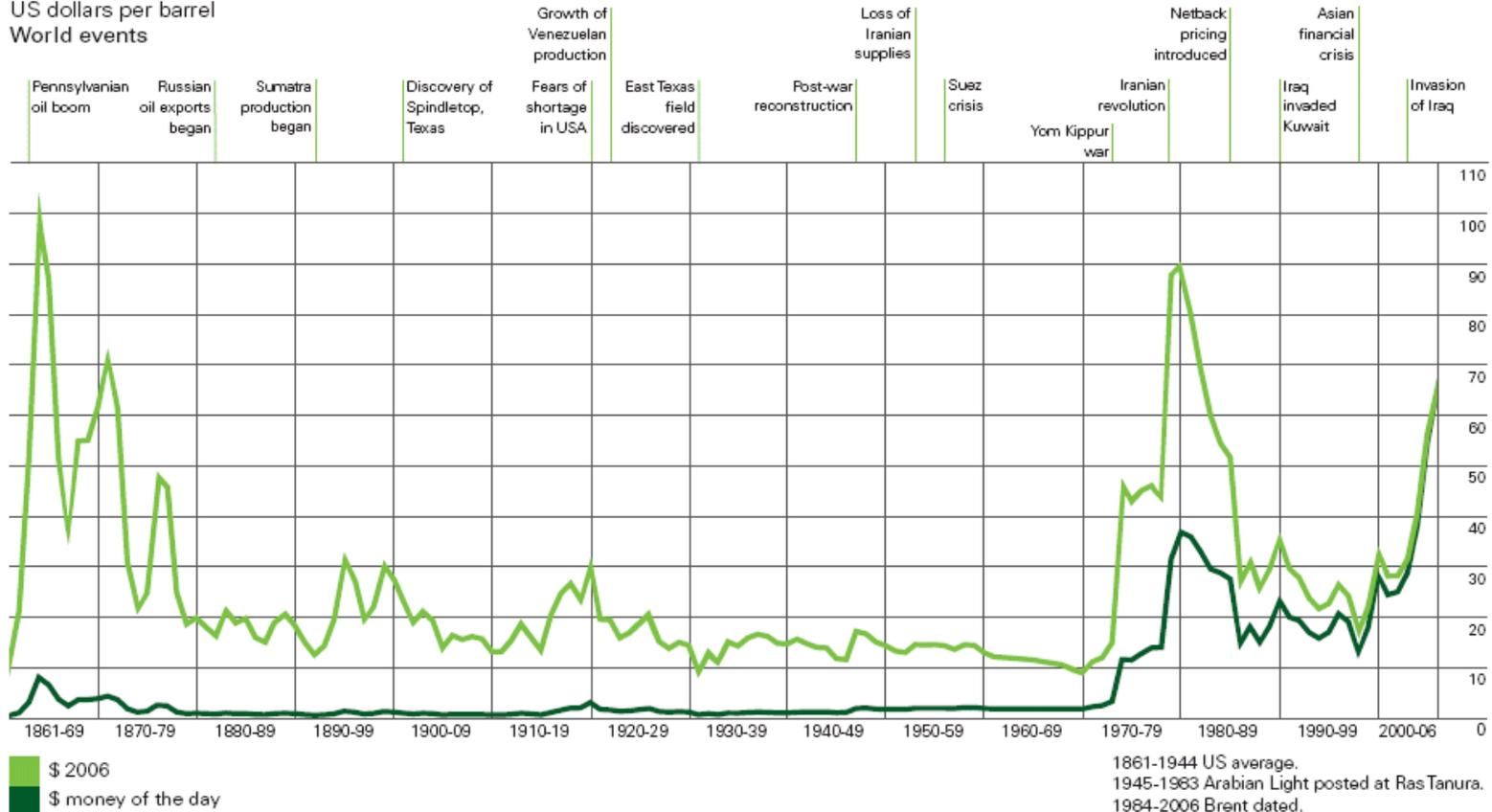




Crude oil prices. 1861-2006

Crude oil prices 1861-2006

US dollars per barrel
World events





Crude oil (WTI) prices. 2 April 2007 – 23 Apr 2008



Apr. 2, 2007 - Apr. 23, 2008

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Summary/Conclusions

- Stable and low energy prices are a thing of the past
- Hydrocarbon prices should reflect negative externalities

- Wind is here for geopolitical reasons that go beyond climate
- Where large wind has led; small wind & other DG will follow



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