Fun things you may not have noticed in WEO2012

C. Besson

Riyadh, 22nd January 2013
The surge in unconventional oil (& gas) production has implications well beyond the United States.
With currently known resources and technologies, LTO production in the US will peak in the 2020’s
Iraq oil poised for a major expansion

Iraq oil accounts for 45% of the growth in global production to 2035; by the 2030s it becomes the second-largest global oil exporter, overtaking Russia.
Gas moves from sideshow to centre stage

Iraq’s natural gas balance

Reductions in gas flaring & development of new gas fields will be needed to meet Iraq’s growing domestic needs & its export ambitions
Catching up with power demand

Oil helps to eliminate the power deficit in 2015. But without a longer-term shift to gas-fired power, Iraq would forego more than $500 billion in oil export revenue.
Iraqi Gas is Doubly Free!

Iraq’s natural gas balance

Economics of US shale gas as a function of NGLs content

NGLs pay for most gas developments in Iraq. This is a trend observed in other countries (US, Russia...). It implies a new sort of coupling between the oil and gas markets. It calls for more detailed understanding of long term NGLs markets.
Road Freight is responsible for the largest increase in oil demand.

World Transport Oil demand by sub-sector

- Road Freight
- PLDVs
- Domestic aviation
- International aviation bunkers
- International marine bunkers
- Other*

Road Freight has strong potential for efficiency gains and fuel substitution. Projections are more robust than for PLDVs.
Middle East oil to Asia: a new silk road

By 2035, almost 90% of Middle Eastern oil exports go to Asia; North America’s emergence as a net exporter accelerates the eastward shift in trade
By 2035, almost 90% of Middle East crude oil exports go to Asia; North America’s position as a net oil importer is reversed, and actual crude and products trade patterns will become ever more complex with new refining and export scenarios, leading to greater competition for products exports.
The projected increase in global renewables requires cumulative investment of $6.0 trillion (compared to 10 for upstream oil) and faces large uncertainties.
Energy is becoming thirstier in the face of growing water constraints

The energy sector’s water needs are set to grow, making water an increasingly important criterion for assessing the viability of energy projects
If oil is only a small part of Withdrawals, it is not so small for Consumption
Energy efficiency potential used by sector in the New Policies Scenario

Two-thirds of the economic potential to improve energy efficiency remains untapped in the period to 2035
The Efficient World Scenario relative to the New Policies Scenario

Change in world GDP, 2035

(0.4%)

<table>
<thead>
<tr>
<th>Sector</th>
<th>Change in Value-Added</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy-intensive industries</td>
<td></td>
</tr>
<tr>
<td>Construction</td>
<td></td>
</tr>
<tr>
<td>Services</td>
<td></td>
</tr>
<tr>
<td>Other manufacturing</td>
<td></td>
</tr>
<tr>
<td>Transport services</td>
<td></td>
</tr>
</tbody>
</table>

Efficiency gains boost GDP by 0.4% in 2035 relative to the New Policies Scenario. This is obtained by coupling the IEA energy sector model to the OECD general economic model. Something not done for CPS, NPS, and 450S.
Current & new policies increase global mean temperature

Greenhouse-gas concentration pathways (left) and probability distribution of equilibrium temperature increase (right)

Current policies result in a 50% likelihood of a long-term temperature increase of 5.3°C, the New Policies Scenario sees a median temperature increase of 3.6°C