Spare or stranded?*

Supply: US & Iraq in the lead

Global Liquids Growth 2012-18

- Crude
- US Light Tight Oil
- NGLs
- Non-Conv
- Biofuels
- Processing Gain

<table>
<thead>
<tr>
<th>OPEC*</th>
<th>Non-OPEC</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.4</td>
<td>2.8</td>
<td>8.4</td>
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<tr>
<td>1.8</td>
<td>2.3</td>
<td>6.0</td>
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<tr>
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<tr>
<td>0.5</td>
<td>0.5</td>
<td>1.0</td>
</tr>
</tbody>
</table>

* OPEC crude is capacity additions
Global Refinery processing gains included in Non-OPEC
Non-OPEC: American decade

Non-OPEC Supply - Yearly Change

mb/d


NAM LAM OECD EUR FSU China
Africa PG & Biofuels Other Non-OPEC Total

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OPEC capacity hurdles

Growth forecast cut to 1.75 mb/d, to 36.75 mb/d

- Forecast cut by 750 kb/d vs MTOMR 2012
- Security risks, instability in Africa in wake of ‘Arab Spring’
- Unattractive investment terms
- Project delays (Algeria, Libya and Nigeria)
Demand lags supply
Emerging markets lead growth

- Demand up 1.1 mb/d (1.2%) per annum 2012-18
- Aggregate gain of 6.9 mb/d, to 96.7 mb/d
- Non-OECD demand forecast overtake OECD in 2014
Transport drives demand growth

- Oil remains world’s top transport fuel
- Dieselisation marks pause
- Transport gas inroads
- Gasoline growth slows to 1.2%/year on efficiency gains, fuel switching
Crude trade: the great migration
Long-haul, Atlantic to Pacific trade grows in importance

Crude Exports in 2018 and Growth in 2012-18 for Key Trade Routes*
(million barrels per day)

* Excludes Intra-Regional Trade

North America
0.3 (-0.8)
1.2 (-0.3)

OECD Europe
3.1 (-0.6)
1.3 (-0.3)

Other Asia
1.7 (-1)
1.5 (+0.8)

OECD Pacific
2.9 (-1.4)
0.7 (+0.3)

China
6.2 (+0.8)

OECD
0.3 (+0.1)
0.7 (+0.3)

North America
2.9 (-1.4)
0.3 (+0.1)

Other Asia
1.6 (0.3)
2.9 (0.3)

North America
3.9 (-0.9)

Red number in brackets denotes growth in period 2011-18
Crude trade declines
Down 0.9 mb/d to 32.4 mb/d

Imports to non-OECD will surpass OECD in 2018

- North American imports drop as domestic supply grows
- Lower refining demand elsewhere in the OECD
- Increased imports to China and Other Asia
- Increased refining close to the wellhead
Global CDU capacity seen up 9.5 mb/d; refining capacity gets more sophisticated

Non-OECD account for all additions, OECD contracts

China leads expansions, but timing unclear
Where did the oil go?

**OECD Stocks plummet, Steepest monthly draw since 2011**

**Deficit to five-year average increased to 99.5 mb – widest since 2003**

- OECD oil stocks plunged 53.6 mb to 2,607 mb at end-November
- Crude down 20.3 mb on OECD throughputs jump
- Refined products down 32.9 mb
  - ‘Other products’ down 27.3 mb on propane exports petrochemical demand
  - Refined products deficit to 5-yr avg widened to 115.6 mb
- Preliminary data show seasonal draw of 42.5 mb in December
US Crude Output Tops 8 mb/d in Nov.

- Nov US crude production highest since Nov 1988
- 2014 US crude output growth seen at 780 kb/d, to average 8.26 mb/d for the year
2013 Non-OPEC Supply Up 1.35 mb/d y-o-y

Dec Non-OPEC Supply Dn 335 kb/d on Biofuels

- Offset by OPEC declines
- 2014 non-OPEC growth forecast at 1.7 mb/d, led by North America, with smaller growth in the FSU, South America, and Africa
Demand surprise

- US demand revised upwards in 4Q13
  - October revised up 585 kb/d to 19.3 mb/d
  - Petrochemical/agricultural demand for LPG
- +2.1% Growth in 2013, to 18.9 mb/d, 180 kb/d above month earlier forecast