OGJ Midyear Forecast
Bob Tippee, Editor
OGJ’s special reports used here

- Midyear Forecast: July 1, 2013
  - Conglin Xu, Senior Editor-Economics
  - Laura Bell, Statistics Editor
  - Alan Petzet, Chief Editor-Exploration
- Worldwide Gas Processing: June 3, 2013
  - Warren R. True, Chief Technology Editor
  - Christopher Smith, Senior Technology Editor
Global oil demand (MMbd)

Source: IEA

Red figures are forecasts from 2013 Forecast & Review (Jan.)
Global oil supply (MMbd)

Source: IEA; OGJ estimates for OPEC crude, 2013
### The call on OPEC crude (MMb/d)

<table>
<thead>
<tr>
<th></th>
<th>2013</th>
<th>2012</th>
</tr>
</thead>
<tbody>
<tr>
<td>Demand</td>
<td>90.6</td>
<td>89.8</td>
</tr>
<tr>
<td>Less non-OPEC supply</td>
<td>54.5</td>
<td>53.4</td>
</tr>
<tr>
<td>Less OPEC NGL</td>
<td>6.6</td>
<td>6.3</td>
</tr>
<tr>
<td>Equals zero stock-change call on OPEC</td>
<td>29.5</td>
<td>30.1</td>
</tr>
<tr>
<td>Plus/minus stock change (OGJ)</td>
<td>+1.2</td>
<td>+1.3</td>
</tr>
<tr>
<td>Equals call on OPEC crude (OGJ)</td>
<td>30.7</td>
<td>31.4</td>
</tr>
</tbody>
</table>

OPEC crude: 1Q13: 30.4 MMb/d; 4Q12: 30.7 MMb/d.
The market’s ‘cushions’ (EIA)

OPEC spare production capacity (MMbd)

OECD commercial crude oil stocks (days’ supply)
Non-OPEC supply growth (MMbd)

Source: OPEC Monthly Oil Market Report, July 2013
US oil product demand (MMbd)


Red figures are forecasts from 2013 Forecast & Review

- Other
- LPG, ethane
- Resid
- Jet fuel
- Distillate
- Gasoline

2008: 18.65
2009: 18.6
2010: 18.6
2011: 18.6
2012E: 18.6
2013F: 18.6

-0.6% to +0.2%
US transport fuels (MMbd)

Source: EIA for 2008-12; OGJ for 2013

Note: Gasoline includes ethanol. About 90% of distillate is 15 ppm S or below.
US liquids supply (MMbd)

Source: EIA for 2008-12.
US refining operations

US oil imports, (exports) (MMbd)

Source: EIA for 2008-12; OGJ for 2013.
US total gas consumption (tcf)

Source: EIA for 2008-12; OGJ for 2013.
US marketed gas production (tcf)

Source: EIA for 2008-12; OGJ for 2013.
US gas imports, (exports) (tcf)

EIA says US will become net exporter of natural gas about 2019.

Source: EIA for 2008-12; OGJ for 2013.
WTI crude vs. Henry Hub gas

EIA June projection for 2013 average: $93/bbl

EIA June projection for 2013 average: $3.92/MMbtu

Oil ($/bbl) to gas ($/MMbtu) ratio: 24:1
## Summary of US wells drilled

<table>
<thead>
<tr>
<th></th>
<th>2012E</th>
<th>2013F</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exploratory wells</td>
<td>2,118</td>
<td>1,809</td>
</tr>
<tr>
<td>Field wells</td>
<td>41,551</td>
<td>36,349</td>
</tr>
<tr>
<td>Total wells</td>
<td>43,669</td>
<td>38,158</td>
</tr>
</tbody>
</table>

- Gas-drilling retreat continues.
- Big 1H declines: N. La., Arkansas, parts of E. Tex., Penn., Mont., Calif.
- 1H increases: Ohio, Alaska, Offshore La.
Long-term: Shale dominates gas

Source: EIA Annual Energy Outlook
## Shale-related US gas plants*

<table>
<thead>
<tr>
<th>REGION</th>
<th>NUMBER OF PLANTS</th>
<th>CAPACITY (MMcfd)</th>
</tr>
</thead>
<tbody>
<tr>
<td>North, East Texas</td>
<td>3</td>
<td>355</td>
</tr>
<tr>
<td>West Texas, Perm. basin</td>
<td>9</td>
<td>955</td>
</tr>
<tr>
<td>South Texas</td>
<td>15</td>
<td>3,770</td>
</tr>
<tr>
<td>Okla.-Texas Panhandle</td>
<td>13</td>
<td>1,355</td>
</tr>
<tr>
<td>Ohio-Penn.-W.Virginia</td>
<td>26</td>
<td>4,613</td>
</tr>
<tr>
<td>North Dakota</td>
<td>10</td>
<td>885</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>76</strong></td>
<td><strong>11,933</strong></td>
</tr>
</tbody>
</table>

*Built, under construction, and planned as of Apr. 1, 2013. Based on company data and published information.

### Shale-related US fractionators*

<table>
<thead>
<tr>
<th>REGIONS</th>
<th>NUMBER OF PLANTS</th>
<th>CAPACITY (Mb/d)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Texas</td>
<td>20</td>
<td>1,208.5</td>
</tr>
<tr>
<td>Louisiana</td>
<td>3</td>
<td>55+ (one TBA)</td>
</tr>
<tr>
<td>Kansas</td>
<td>1</td>
<td>60</td>
</tr>
<tr>
<td>Ohio-Penn.-W.Virginia</td>
<td>13</td>
<td>525.5</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>37</strong></td>
<td><strong>1,849+</strong></td>
</tr>
</tbody>
</table>

*Built, under construction, and planned as of Apr. 1, 2013. Based on company data and published information.

New Y-grade transport capacity (Mbd)

- 60-135 - Bakken shale to Midcontinent
- 543-660 - Midcontinent to Gulf Coast
- 580-640 - W.Tex. to Gulf Coast
- 200-400 - Marcellus, Utica to Gulf Coast

US ethylene expansion

- 15 projects (grassroots, expansions, debottlenecking, restarts)
- Total identified capacity addition: 7.817 million tonnes/year
- Implied increase in total US ethylene capacity: 28%

Regional pipeline construction: 2013 only*

*Projects planned to be completed in 2013. Values are forecasts for given years.
Regional pipeline construction: 2012 and beyond*

*Projects under way at start of or set to begin in 2013 and be completed after 2013. Values are forecasts in given year.
North American oil surges (MMbd)

United States
Source: Energy Information Administration

Canada
Source: Canadian Association of Petroleum Producers
Oil flows shifting in N. America

Source: Canadian Association of Petroleum Producers
Canadian bottleneck looms

CAPP forecast: More transport capacity needed by 2014.

Source: Canadian Association of Petroleum Producers
Planned pipeline projects

Obama’s ‘carbon pollution’ speech

- CO₂ standards for new, existing power plants
- CO₂ threshold for Keystone XL
- More renewable energy mandates, subsidies
- End “tax breaks for big oil companies”
- Tighten energy efficiency standards
- End public financing of new coal plants overseas