U.S. data exchanges with international organizations

For
APEC Workshop
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Presented by
Bill Brown
Topics

• EIA’s domestic energy products
• EIA’s international energy products
• Observations
EIA’s domestic petroleum surveys and products
Mandatory data collection authority

• Federal Energy Administration (FEA) Act of 1974
  – Mandated establishment of the National Energy Information System
  – Created mandate to collect, assemble, evaluate, and analyze energy information by categorical groupings established by the Administrator
  – Provided data collection enforcement authority for gathering data from energy producing and major consuming firms

• Department of Energy (DOE) Organization Act of 1977
  – Created EIA and provides a broad scope to establish a central, comprehensive, and unified energy data and information program
  – …a central, comprehensive, …. energy data and information program which will collect, evaluate, analyze, and disseminate data and information …. relevant to energy resource reserves, energy production, demand, and technology, and related economic and statistical information, ….. to meet demands in the near and longer term future for the Nation’s economic and social need
EIA submits U.S. data to several international organizations to which the United States is a member

<table>
<thead>
<tr>
<th>Asia Pacific Economic Cooperative (APEC)</th>
<th>International Energy Agency (IEA)</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Monthly liquids, natural gas, electricity</td>
<td>• Annual and monthly Natural Gas</td>
</tr>
<tr>
<td>• Quarterly coal</td>
<td>• Annual and monthly Oil</td>
</tr>
<tr>
<td>• Annual Emissions</td>
<td>• Annual and monthly Electricity</td>
</tr>
<tr>
<td></td>
<td>• Annual Renewables</td>
</tr>
<tr>
<td></td>
<td>• Annual and quarterly Coal</td>
</tr>
<tr>
<td></td>
<td>• Annual Energy Efficiency Indicators</td>
</tr>
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<td></td>
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</table>

**Joint Organizations Data Initiative (JODI)**

- Monthly liquids
- Monthly natural gas
Petroleum supply data characteristics

• Weekly Data
  – Emphasis is on timely release within days of report period end
  – Best used as an early indicator of trends
  – Typically based on limited sample surveys and modeled estimates

• Monthly Data
  – Typically released within 60 days after the end of the report period
  – Accuracy is generally improved relative to weekly data
  – Usually based on a complete census of in-scope operators
  – Monthly data add detail not available from weekly reports

• Annual Data
  – Includes monthly revisions, and considered the most accurate data.
  – Some data are only available annually (e.g. refinery capacity, reserves).
10 weekly petroleum surveys support the WPSR

- EIA-800, Weekly Refinery and Fractionator Report
- EIA-801, Weekly Bulk Terminal Report
- EIA-802, Weekly Product Pipeline Report
- EIA-803, Weekly Crude Oil Stocks Report
- EIA-804, Weekly Imports Report
- EIA-805, Weekly Bulk Terminal and Blender Report
- EIA-809, Weekly Oxygenate Report
- EIA-877, Winter Heating Fuels Telephone Survey
- EIA-878, Motor Gasoline Price Survey
- EIA-888, On-Highway Diesel Fuel Price Survey
10 Surveys support PSM

- EIA-22M, Monthly Biodiesel Production Survey
- EIA-810, Monthly Refinery Report
- EIA-812, Monthly Product Pipeline Report
- EIA-813, Monthly Crude Oil Report
- EIA-814, Monthly Imports Report
- EIA-815, Monthly Bulk Terminal and Blender Report
- EIA-816, Monthly Natural Gas Liquids Report
- EIA-817, Monthly Tanker and Barge Movement Report
- EIA-819, Monthly Oxygenate Report
- EIA-856, Monthly Foreign Crude Oil Acquisition Report
- Plus exports data from U.S. Census Bureau
Analysis and 4 additional surveys supports PSA

- EIA-23L, Annual Report of Domestic Oil and Gas Reserves
- EIA-64A, Annual Report of the Origin of Natural Gas Liquids Production
- EIA-820, Annual Refinery Report
- EIA-821, Annual Fuel Oil and Kerosene Sales Report
Petroleum data by survey & location in supply chain
EIA’s international energy statistics are published annually for most fuels and monthly for liquids.

EIA’s international energy statistics are based on data from third-party sources:

- Among the larger sources are the International Energy Agency and the Joint Organisations Data Initiative (JODI).
- Hundreds of smaller sources are used to fill in missing data and for quality control purposes.
- Annual data are lagged two-years.
- Serves as the foundation for EIA’s outlooks and other EIA international analysis.

Latest update:

- Estimation of 1-year lagged data for certain fuels and regions.
Impressions using JODI: Assets of system

• The color coding of data's perceived reliability
• Data sourcing information is easily accessible and easy to understand
• Clear indication of system of measurement used to capture original data
• Level of detail
Impressions on using JODI: Possible considerations

• For near term data when available, Short-Term Energy Outlook (STEO) values may prove superior to the unmodified WPSR data as consideration for known adjustments are more likely to have been estimated and factored into STEO values.

• There may be more desirable alternatives to having unprocessed NGL assigned to the same category as crude burned at power plants.
Is there a more transparent way to track NGL flows?

Table 4.1: Example 1 of reporting Direct use of NGL

<table>
<thead>
<tr>
<th></th>
<th>NGL</th>
<th>Oil products</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(2)</td>
<td>LPG</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Other oil products</td>
</tr>
<tr>
<td>+ Production</td>
<td>100 (of which 50)</td>
<td>+ Refinery output</td>
</tr>
<tr>
<td>+ From other sources</td>
<td></td>
<td>10</td>
</tr>
<tr>
<td>+ Imports</td>
<td>25</td>
<td>+ Imports</td>
</tr>
<tr>
<td>− Exports</td>
<td></td>
<td>− Exports</td>
</tr>
<tr>
<td>− Products transferred /Backflows</td>
<td></td>
<td>+ Products transferred</td>
</tr>
<tr>
<td>− Direct use</td>
<td>50</td>
<td>+ Interproduct transfers</td>
</tr>
<tr>
<td>− Stock change</td>
<td>6</td>
<td>− Stock change</td>
</tr>
<tr>
<td>− Statistical difference</td>
<td>4</td>
<td>− Statistical difference</td>
</tr>
<tr>
<td>= Refinery intake</td>
<td>65</td>
<td>= Demand</td>
</tr>
<tr>
<td>Closing Stocks</td>
<td>Closing stocks</td>
<td></td>
</tr>
</tbody>
</table>

Source: JODI Oil Manual 2nd edition page 51
Could fractionators be “Gas” refineries?

<table>
<thead>
<tr>
<th></th>
<th>NGL</th>
<th>Petroleum Products</th>
<th>Total Products</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>LPG</td>
<td>(5) (6) (12) (13)</td>
</tr>
<tr>
<td>Production</td>
<td>100</td>
<td>+ Refinery Output</td>
<td>Oil 10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Gas 35 5 10</td>
</tr>
<tr>
<td>From Other sources</td>
<td>25</td>
<td>+ Receipts</td>
<td>50</td>
</tr>
<tr>
<td>Imports</td>
<td></td>
<td>+ Imports</td>
<td></td>
</tr>
<tr>
<td>Exports</td>
<td></td>
<td>- Exports</td>
<td>5</td>
</tr>
<tr>
<td>Products Transferred</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>/Backflows</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Direct Use</td>
<td>6</td>
<td>+ Interproduct Transfers</td>
<td>2</td>
</tr>
<tr>
<td>Stock Change</td>
<td>4</td>
<td>- Stock Change</td>
<td>2</td>
</tr>
<tr>
<td>Statistical Difference</td>
<td>4</td>
<td>- Statistical Difference</td>
<td>-2</td>
</tr>
<tr>
<td>Refinery Intake</td>
<td>65</td>
<td>Oil 65</td>
<td>40 5 10 55</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Gas 50</td>
<td></td>
</tr>
<tr>
<td>Closing stocks</td>
<td></td>
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</tr>
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</table>
Seeking clarification on

- Does IEA or JODI have a protocol to submit updates after initial submissions and is this ability is widely utilized by participants?

- Are there more efficient ways of providing subscribers and member nations access to larger “chunks” of data? Automating queries in the 20/20 browser has proved challenging.

Offering possible clarification

- Our weekly/monthly data difference likely lies more with the estimating techniques than any substantive difference in product definition

- We explicitly include sulfur recovered in our “miscellaneous products”
For more information

International Energy Statistics | www.eia.gov/beta/international/data/browser

Short-Term Energy Outlook | www.eia.gov/forecasts/steo

Annual Energy Outlook | www.eia.gov/forecasts/aoe

International Energy Outlook | www.eia.gov/forecasts/iae

Monthly Energy Review | www.eia.gov/mer

Automated Tools | www.eia.gov/opendata/

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