The Joint Oil Data Initiative
It’s history, today and future

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International Energy Forum
Part one: history
Data show higher Supply than Demand

Is Quality Deteriorating?

Table 1
WORLD OIL SUPPLY AND DEMAND (million barrels per day)

<table>
<thead>
<tr>
<th>Year</th>
<th>Total OPEC</th>
<th>Total Supply</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>29.9</td>
<td>74.4</td>
</tr>
<tr>
<td>1998</td>
<td>30.8</td>
<td>75.5</td>
</tr>
</tbody>
</table>

STOCK CHANGES AND MISCELLANEOUS

<table>
<thead>
<tr>
<th>Year</th>
<th>Reported OECD</th>
<th>Government</th>
<th>Industry</th>
<th>Total Stock Ch. &amp; Misc</th>
</tr>
</thead>
<tbody>
<tr>
<td>1997</td>
<td>69.3</td>
<td>3.1</td>
<td>0.7</td>
<td>73.3</td>
</tr>
<tr>
<td>1998</td>
<td>69.8</td>
<td>3.7</td>
<td>1.8</td>
<td>75.3</td>
</tr>
<tr>
<td>1999</td>
<td>70.5</td>
<td>3.7</td>
<td>1.7</td>
<td>74.7</td>
</tr>
</tbody>
</table>

Memo items:

- Total OPEC: Total demand from OPEC crude + stock change
- Total Supply: Total demand from OPEC crude + stock change + reported OECD
- Government: Government stock change
- Industry: Industry stock change
- Total Stock Ch. & Misc: Total demand from OPEC crude + stock change + reported OECD + government + industry

Miscellaneous to balance: 0.9 1.6 0.2 -0.3 0.0 0.5 0.1 0.1 1.4 0.7 1.9 1.0

Bilateral JODI Training Workshop, 10-11 December 2009, South Africa
A Short Background on JODI

There are many problems with definitions, units, methodology. Organisation can solve some of the problems. Involvement of countries is essential.

Politics:
- Ministers at the 7th IEF (13-14 Nov. 2000)

Technical:
- Decisions in Paris (13-14 Nov. 2000)
- Decision taken to launch a 6-month exercise (2-3 April 2001)

- Psychological:

There are many problems with definitions, units, methodology. Organisation can solve some of the problems. Involvement of countries is essential.

“Co-operation among relevant international organisations, as well as the participating countries, in improving and timely accessing to energy data is important for market assessment and transparency.”

Bilateral JODI Training Workshop, 10-11 December 2009, South Africa
What is the JODI Questionnaire?

A Simple Format (42 data points)

Choice of units left to organisations

Simple Definitions

Country: ___________
Month: ___________
Unit: ___________

Month -1 and Month -2

Petroleum Products

LPG  Gasoline  Kerosene  Gas/Diesel  Fuel Oil  Total Oil

Imports
Exports
Stocks  Closing  Change
Refinery Intake

Refinery Output

Demand
Decision to make the exercise a permanent reporting mechanism.

Decision to make the database public.

Focus on Data Quality: Prepare a JODI World Database.

Launch of the JODI: 55 countries.

Extended JODI: questionnaire.

Bilateral JODI Training Workshop, 10-11 December 2009, South Africa.

19 November 2005 Launch of JODI Database by King Abdullah.
Data Collection System

Participating Countries
- Member countries submit data to their organization

Partner organizations
- Data are checked and processed

IEF
- Data released on the JODI website

**JODI Questionnaire**

<table>
<thead>
<tr>
<th>Country:</th>
<th>Month:</th>
</tr>
</thead>
</table>

**Crude Oil**
- Production
- Imports
- Exports
- Stocks
- Refinery Intake

**Petroleum Products**
- LPG
- Gasoline
- Kerosene
- Gas/Diesel
- Fuel Oil
- Total Oil

**Production**
- Refinery Output

**Imports**
- Crude Oil

**Exports**
- Petrochemicals

**Stocks**
- Closing
- Change

**Refinery Intake**
- Demand

**Data are checked and processed**
- JODI Questionnaire

**Bilateral JODI Training Workshop, 10-11 December 2009, South Africa**
### Bilateral JODI Training Workshop, 10-11 December 2009, South Africa

#### JODI and Extended JODI

**Table 1: Crude Oil and Petroleum Products**

<table>
<thead>
<tr>
<th>Crude Oil</th>
<th>Refinery Output</th>
<th>Production</th>
</tr>
</thead>
<tbody>
<tr>
<td>LPG</td>
<td>Gasoline</td>
<td>Kerosene</td>
</tr>
</tbody>
</table>

**Summary Table**

<table>
<thead>
<tr>
<th>Country</th>
<th>Month</th>
<th>Unit</th>
</tr>
</thead>
</table>

**Notes:**
- NGL = Natural Gas Liquids
- Naphtha
- Product transfers
- Statistical Difference

**Source:** Joint Oil Data Initiative

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**Diagram:**

- Production
- Imports
- Exports
- Stocks
- Refinery Intake

**Table 2: Petroleum Products**

<table>
<thead>
<tr>
<th>Crude Oil</th>
<th>NGL</th>
<th>Other</th>
<th>Total</th>
<th>LPG</th>
<th>Naphtha</th>
<th>Gasoline</th>
<th>Jet Kerosene</th>
<th>Gas/Diesel Oil</th>
<th>Fuel Oil</th>
<th>Total Oil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Production</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stock</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Cells:**

- 138 cells or 86 new cells

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**Reference:**

- Bilateral JODI Training Workshop, 10-11 December 2009, South Africa

**Contributors:**

- Joint Oil Data Initiative
Part two: actions and progresses toward tree smiley faces
Established JODI Training Programme

**Objective**
Promote JODI, share experience on data validation, best practices on data collection issues and improve the quality of oil data reported in JODI

**Targeted participants**
- Officials in charge of oil statistics
- Representatives from oil industry

<table>
<thead>
<tr>
<th>JODI Training Workshops</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level:</strong> Region.</td>
</tr>
<tr>
<td><strong>Number of participants:</strong> 30-40</td>
</tr>
</tbody>
</table>

**Past Workshops:**
- Caucasus, Venezuela (August 2006)
- Johannesburg, S. Africa (January 2007)
- Alger, Alegria (October 2007),
- Bangkok, Thailand (September 2008)
- Ankara, Turkey (November 2009)

<table>
<thead>
<tr>
<th>JODI Internships</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Level:</strong> Country.</td>
</tr>
<tr>
<td><strong>Number of participants:</strong> 2-4</td>
</tr>
</tbody>
</table>

**Past Internships:**
- India,
- Vietnam,
- Azerbaijan,
- Myanmar
Broader dissemination of JODI Manual

Russian

Chinese

English

Spanish

Bilateral JODI Training Workshop, 10-11 December 2009, South Africa
Promotion of JODI - 1

- Monthly Data Report
- Regular JODI Newsletters
- JODI section for the IEF Newsletter
98 Participating Countries/Economies in JODI

Algeria
Angola
Argentina
Australia
Austria
Azerbaijan
Bahrain
Barbados
Belgium
Bolivia
Brazil
Brunei Darussalam
Bulgaria
Canada
Chile
China
Chinese Taipei
Colombia
Costa Rica
Croatia
Cuba
Cyprus
Czech Republic
Denmark
Dominican Republic

Ecuador
Egypt
El Salvador
Estonia
Finland
France
Gabon
Germany
Greece
Grenada
Guatemala
Guyana
Haiti
Honduras
Hong Kong, China
Hungary
Iceland
India
Indonesia
Iran
Iraq
Ireland
Italy
Jamaica

Japan
Kazakhstan
Korea
Kuwait
Latvia
Libya
Lithuania
Luxembourg
Malaysia
Malta
Mexico
Myanmar
Netherlands
New Zealand
Nicaragua
Nigeria
Norway
Oman
Panama
Papua New Guinea
Paraguay
Peru
Philippines
Poland

Portugal
Qatar
Romania
Russia
Saudi Arabia
Singapore
Slovak Republic
Slovenia
South Africa
Spain
Suriname
Sweden
Switzerland
Syria
Thailand
Trinidad & Tobago
Tunisia
Turkey
United Arab Emirates
United Kingdom
United States
Uruguay
Venezuela
Vietnam
Yemen
Global Participation of 98 countries

<table>
<thead>
<tr>
<th></th>
<th>Number of Smiley Faces</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>☺</td>
</tr>
<tr>
<td>Global Participation of</td>
<td>☺</td>
</tr>
<tr>
<td>98 countries</td>
<td>☺</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>2009 Jan-Jun</th>
<th>2008 Jan-Jun</th>
<th>Improvement (%) 2009 Jan-Jun/2008 Jan-Jun</th>
</tr>
</thead>
<tbody>
<tr>
<td>Submission</td>
<td>83</td>
<td>75</td>
<td>10.7%</td>
</tr>
<tr>
<td>Timeliness</td>
<td>59</td>
<td>53</td>
<td>11.3%</td>
</tr>
<tr>
<td>Completeness</td>
<td>68</td>
<td>60</td>
<td>13.3%</td>
</tr>
</tbody>
</table>

Source: Joint Oil Data Initiative

Bilateral JODI Training Workshop, 10-11 December 2009, South Africa
Completeness of questionnaire

- Latest month data are always less complete
- Compare to last year, visible progress in all production, Demand, and Stocks
Global data coverage 2st Q 2008

- JODI Data against the global production and demand data
- Update on quarterly basis
- 2nd Q 2008 situation after June 2008 data update
- First month of each quarterly update is less complete

Source: JODI WD, IEA, OPEC, Energy Intelligence
Global data coverage 2nd Q 2009

- Latest 2nd Q 2009 update after June 2009 data update
- JODI production reached nearly 90% of the global production
- JODI demand also reached beyond 80%

Source: JODI WD, IEA, OPEC, Energy Intelligence
Part three: 7th JODI Conference
Attendance – 7th JODI conference

The conference gathered —

– some 90 participants
– from 27 countries
– 8 International organizations
– 12 oil companies, representatives from financial as well as research institutions
Objectives

• Progress since 6\textsuperscript{th} JODI Conference
  – Activities
  – Database
  – User survey

• Feedback from participants
  – JODI users in the driving seat
  – JODI is already useful
  – It can be refined further

• Decisions on further actions
  – Extended JODI Questionnaire
  – Extension of the Initiative to Natural Gas
  – Collection of annual data

• Media outreach
User profile

Which is your sector of activity?

Survey Comparison

<table>
<thead>
<tr>
<th>Sector</th>
<th>This Survey</th>
<th>Last Survey</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Government / Administration</td>
<td>15%</td>
<td>34%</td>
<td>↓</td>
</tr>
<tr>
<td>Industry / Oil company</td>
<td>30%</td>
<td>18%</td>
<td>↑</td>
</tr>
<tr>
<td>Academic / Research institute</td>
<td>15%</td>
<td>23%</td>
<td>↑</td>
</tr>
<tr>
<td>Independent consultant</td>
<td>16%</td>
<td>23%</td>
<td>↑</td>
</tr>
<tr>
<td>Regional / Intl organization</td>
<td>4%</td>
<td>23%</td>
<td>↑</td>
</tr>
<tr>
<td>Other</td>
<td>19%</td>
<td>35%</td>
<td>↓</td>
</tr>
</tbody>
</table>

More users come from oil industry and research institutions, the majority are energy analysts.

Survey Comparison

<table>
<thead>
<tr>
<th>Occupation</th>
<th>This Survey</th>
<th>Last Survey</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researcher</td>
<td>19%</td>
<td>17%</td>
<td>↑</td>
</tr>
<tr>
<td>Oil / Energy analyst</td>
<td>55%</td>
<td>24%</td>
<td>↑</td>
</tr>
<tr>
<td>Statistician</td>
<td>13%</td>
<td>26%</td>
<td>↓</td>
</tr>
<tr>
<td>Other</td>
<td>13%</td>
<td>33%</td>
<td>↓</td>
</tr>
</tbody>
</table>

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JODI data is becoming more useful to fill data gaps. Users search more information in all categories, esp. data of foreign countries.
Feedback from participants

- JODI users in the driving seat
  - Voice from the user survey and the floor discussions
- JODI is already useful
  - Database for “Grown-ups”
  - Open to Non-OECD countries data
  - Key data source for demand growth
- It can be refined further
  - Trial period over last two years proves that the extension is feasible
Key suggestions from participants

- **Timeliness**
  - M-1 = M-1-18 days?
  - More frequent update

- **0 = “..” or “-”**
  - Modification in current reporting system

- **Metadata**
  - Definition differences among organisations

- **More active promotion of the database?**
Part four: JODIdata.org, JODI World Database
What’s new
Latest development at glance

Resources
Manuals, periodicals, guidelines, papers...

What is JODI WD?
Clear guidance to data users

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Database Structure

5 Dimensions:

- Flows: Production, trade, demand, refinery intake and output, and stocks.
- Products: All JODI products.
- Units: Tons (kmt), litres (kl), Barrels (kbl and kb/d) and conversion factors.
- Time: January 2002 to M-1 (Sep 2009).
- Countries: All participating countries. Currently, data for nearly 100 countries in the table.
Joint Oil Data Initiative

A Concrete Outcome of the Consumer - Producer Dialogue

Joint Oil Data Initiative - Windows Internet Explorer

Newsletters About JODI Access On-line Database

Bilateral JODI Training Workshop, 10-11 December 2009, South Africa

JODIdata.org – JODIdb.org

• No requirement for special software
• Suitable for quick ad-hoc data browsing
JODIdata.org – data download

Download in three formats
- world.txt
- world.csv
- world.ivt

Smooth database use for long time series back to Jan. 2002
Some key features of Beyond 20/20

Color code indicating data comparability (blue, yellow, white)
Some key features of Beyond 20/20

You can move dimensions
### Beyond 20/20 Visual Builder - Joint Oil Data Initiative (all data) (Read-only)

#### Unit: Thousand Barrels (kbbl)

<table>
<thead>
<tr>
<th>Country</th>
<th>Balance: Production/Refinery output</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria</td>
<td>21,669</td>
</tr>
</tbody>
</table>

#### Balance: Closing stocks

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Crude Oil</td>
<td>3,084</td>
<td>2,175</td>
<td>2,619</td>
<td>3,331</td>
<td>3,327</td>
</tr>
<tr>
<td>Liquefied Petroleum Gases</td>
<td>534</td>
<td>2,128</td>
<td>438</td>
<td>433</td>
<td>401</td>
</tr>
<tr>
<td>Motor Gasoline (incl. aviation gasoline)</td>
<td>1,477</td>
<td>1,138</td>
<td>1,300</td>
<td>1,414</td>
<td>1,560</td>
</tr>
<tr>
<td>Kerosene (incl. jetkero/other kero)</td>
<td>415</td>
<td>310</td>
<td>518</td>
<td>323</td>
<td>447</td>
</tr>
<tr>
<td>Gas/Diesel Oil</td>
<td>2,022</td>
<td>1,424</td>
<td>1,556</td>
<td>1,787</td>
<td>1,960</td>
</tr>
<tr>
<td>Residual Fuel Oil</td>
<td>568</td>
<td>429</td>
<td>623</td>
<td>1,181</td>
<td>627</td>
</tr>
<tr>
<td>Total Products</td>
<td>12,525</td>
<td>12,714</td>
<td>11,681</td>
<td>12,918</td>
<td>13,034</td>
</tr>
</tbody>
</table>

### Bilateral JODI Training Workshop, 10-11 December 2009, South Africa

#### Some key features of Beyond 20/20

- You can merge dimensions

#### Joint Oil Data Initiative

A Concrete Outcome of the Consumer - Producer Dialogue
Some key features of Beyond 20/20

Bilateral JODI Training Workshop, 10-11 December 2009, South Africa
Demand for Total Products

105 month time series

January 2002 - Sep 2009
Thank you

For more information at
www.jodidata.org