Use of JODI Data by OPEC

Presented by:

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Outline

• Importance of data transparency
• JODI data in energy market analysis
• Advantages of JODI data
• Shortcomings of JODI data
• Conclusion
Transparent data: essential for energy markets

- Support decision making
- Encourage investments in, often, long-term projects
- Reduce market volatility
- Facilitate improved short-term forecasts
- Oil market: Decisions based, among others, on oil fundamentals
  - Oil supply
  - Oil demand
  - Inventories
  - Refinery & oil trade related issues
  - Oil prices
Transparent data essential for oil market

Market Fundamentals

Demand

OPEC & Non OPEC production

Expectation of fundamentals is a tool to assess oil market
JODI data in oil market analysis

- **Demand**: Demand forecasts are based on consumption data subject to a certain time lag, among other factors – the accuracy of the base year is essential in estimating the year ahead.

- **Non-OPEC supply**: Non-OPEC supply forecast is based on adding growth projections to an existing baseline – the base is essential in estimating the year ahead.

- **OPEC production**: Added to non-OPEC supply, global supply indicates the status of the market when compared to total world oil demand.

- **Global stocks**: Oil inventories should reflect interaction between supply and demand forces – the global picture of stocks is the ultimate tool for checking supply and demand numbers.

- **Refining**: Refinery intake (crude oil, NGLs, other) partially derived from JODI data and a key component in deriving the world oil balance.
JODI data as input into Non-OPEC oil supply

- JODI database is an important source and utilized for updating oil supply information for a number of producing countries.

- JODI data are widely used, due to the following three possible reasons:
  
  - JODI data are used as the first estimate for some countries (e.g. Canada, Australia, India, Argentina).
  
  - Data for smaller producing countries are taken from JODI, after having been reviewed and compared with other national information, to ease and speed up the update (e.g. smaller producing OECD countries, e.g. Austria, France, Germany, Japan).
  
  - For some producing countries, no other genuine information than JODI is available at reasonable costs (e.g., Bolivia, Tunisia).
JODI data used to estimate global oil stocks

- **Availability** of key Non-OECD data in JODI directly relevant to oil market developments

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**Bar Chart:**
- Comparison of OECD and Non-OECD oil stocks between 2Q18 and 3Q18.
- 2Q18:
  - OECD: 2816 mb
  - Non-OECD: 2090 mb
- 3Q18:
  - OECD: 2866 mb
  - Non-OECD: 2134 mb

**Pie Chart:**
- 3Q18 Non-OECD oil stocks by region:
  - Asia: 347 mb
  - Latin America: 247 mb
  - China: 406 mb
  - Africa: 276 mb
  - FSU: 100 mb
  - Middle East: 718 mb
  - Non-OECD Europe: 40 mb
Advantages of JODI data

- JODI data – official and direct information with comprehensive metadata country notes
- Monthly data (2 months time lag)
- **Freely** accessible
- JODI contains unique information that cannot be accessed elsewhere (for some countries/region)
- Provide data on fundamental oil flows
  - Production
  - Demand
  - Trade
  - Storage
  - Refinery
- **Good coverage**
JODI oil data global coverage

- **Crude oil production**: Large coverage, about 92% of total crude oil production
- **Demand**: Around 83% of total demand, including some of the new consuming countries
- **Inventories**: In addition to the OECD, a large number of non-OECD countries
- **Refinery**: Around 86% of total refinery intake & output
- **Trade**: Large coverage, about 88% of total oil exports & imports
JODI data as feed to world oil demand

Data for main petroleum categories in Non-OECD essential for understanding oil market i.e. Thailand
Inter-relation between oil & natural gas markets

- **Interaction between oil & natural gas** markets is expected to further increase in future
  - Gas-to-liquid (GTL) plants
  - Petroleum products from gas plants
  - Fuel substitution

- **JODI gas** offers global coverage of gas production, imports, exports, stocks and demand on a monthly basis, covering 77 countries representing nearly 90% of global gas markets

- There are **industry reference data sources** including BP statistics, Cedigaz, IEA statistics and EIA statistics. However, **none of these** natural gas data sources **cover monthly data** with such **extensive geographical coverage** as the JODI gas as World Database
Interaction between natural gas & oil: JODI data

Example: Iraq

Direct crude use
Natural gas consumption: electricity generation
Shortcomings & challenges of JODI oil data

• **Coverage** could be further *improved* in terms of products & countries

• **Lack** of key data for some *main producing/consuming countries*
  – Oil demand & stocks in *China*

• Discrepancies:
  – Discrepancies between stock changes & supply/demand balance

• Drawbacks in *timeliness* of reported data

• **Revisions** in reporting organizations/agencies using oil data
Late reporting

Indonesian crude production, kb/d
Conclusion

- **JODI oil & gas** databases contain official country data and valuable information, which cannot be found easily elsewhere.
- **Substantial usage** of JODI oil data by OPEC in oil market related research
  - As feed to historical baseline data for key oil variables (Non-OPEC Supply, Demand, Stocks, Refining, etc.)
- Utilization of **JODI** natural gas data mostly in relation to oil markets
- Quality of **JODI** oil & gas data can always be improved
  - Granularity
  - Reported time lag
  - Coverage
- **Expansion** of JODI to cover other energy commodities to obtain deeper insight into energy markets
Thank You.