Benefits of JODI for OPEC
A focus on natural gas data

Presented by:
OPEC Secretariat
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Outline

• OPEC’s contribution to JODI
• JODI natural gas data & their importance for OPEC
• JODI natural gas data usage in OPEC research
• Interaction between energy commodities & data transparency
• Conclusion
JODI: A manifestation of the producer-consumer dialogue

7th IEF Meeting in Riyadh 2000
- OPEC as one of the participating organizations
- Strong support from the very early days of the Initiative
- Efforts to increase oil data transparency for the benefit of producers & consumers

Launching of Joint Oil Data Exercise (JODE) - 2001
- Designing the original oil data questionnaire a challenge
- Substantial contribution to the methodology & overall design
- OPEC - one of the founder organizations

March 2012 (Kuwait): Launch of the extended JODI world oil database

November 2005 (Saudi Arabia): Launch of JODI world oil database

May 2014 (Moscow): Launch of JODI world gas database

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OPEC’s strong support to JODI continuous

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**Training workshops**

**Technical cooperation**

**Capacity building**

**Dialogue**

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### OPEC Member Countries JODI Oil Smiley Faces for Period January-June 2019

<table>
<thead>
<tr>
<th>Country</th>
<th>Sustainability</th>
<th>Timeliness</th>
<th>Completeness</th>
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<tbody>
<tr>
<td>Angola</td>
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<tr>
<td>Gabon</td>
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<td>Equatorial Guinea</td>
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<td>Kuwait</td>
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<td>Venezuela</td>
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### OPEC Member Countries JODI Gas Smiley Faces for Period January-June 2019

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<tr>
<td>Kuwait</td>
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</tbody>
</table>

*No data available
OPEC MCs are key players in natural gas

- **OPEC proven natural gas reserves**: The chart shows a significant increase in proven natural gas reserves with a peak of 72,676 billion scu m in 2018, which is 35% of the total world reserves.

- **OPEC marketed natural gas production**: There is a steady increase in production from 1.7% in 1960 to 16.2% in 2018.

- **OPEC natural gas demand**: The demand for natural gas has been growing, with strong domestic consumption and a notable substitution for oil.

- **OPEC natural gas net exports**: OPEC has been continuous net exporters, with a peak net export of 69 billion scu m in 2018.

Source: OPEC Annual Statistical Bulletin (ASB) 2019
Natural gas strongly interacts with oil...

- Oil market assessment requires assessment of natural gas markets; increasing interaction also with other commodities

![World energy demand by energy commodity in 2018](chart.png)

- Oil: 34%
- Natural Gas: 27%
- Coal: 7%
- Nuclear: 4%
- Hydro electric: 4%
- Renewables: 24%

![World natural gas & NGLs production](chart2.png)

Source: OPEC Secretariat & BP Statistical Energy Review 2019
...both in primary & secondary side

- Natural gas & oil interaction
  - Primary side (NGLs)
  - Secondary side (all products, specifically the lighter, LPG, naphtha)
  - Petrochemical industry

Share of total world NGLs in natural gas production

Production of petroleum products Shares derived from natural gas

Source: OPEC Secretariat
JODI is complementary for OPEC research

**OPEC RESEARCH**
- Pioneer in energy data collection
- Data driven research & decision making
- Comprehensive information system to support decisions

**JODI**
- Essential for energy data transparency
- Official freely accessible country data
- Oil & natural gas fundamental flows
- Wide coverage of oil & natural gas flows
- Technical metadata
JODI oil is very rich in coverage

- Unique information, not accessible elsewhere
  - NGLs.
  - Naphtha.
  - Direct use.

Official data from 100+ countries

Coverage of all oil flows

Short reporting lag

Complete oil balance

Coverage of main oil products
JODI gas provides most recent official data and is continuously improving

- 85+ countries
- All main flows
- Monthly gas balance
- Metadata
- Definitions
- Manuals

As for oil, the JODI natural gas database is an important data source and utilized for updating natural gas production, demand and trade information;
- There are industry reference data sources including BP statistics, Cedigaz, IEA statistics and EIA statistics, but
- None of these natural gas data sources provide monthly data.

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JODI data used by OPEC to assess natural gas markets

- **Natural gas production**: Natural gas production forecasts based on historical consumption data; as interaction between natural gas and oil is significant, oil forecasting accuracy depends partly also on natural gas forecasting accuracy.

- **Natural gas demand**: Natural gas demand forecast is based on adding growth projections to an existing baseline – similar issues as for natural gas production.

- **Natural gas demand for electricity generation**: Natural gas serves as substitution for residual fuel and crude direct use.

- **Natural gas trade**: Natural gas trade flows; in particular LNG and pipeline trade.

- **Natural gas stocks**: Inventories reflect interaction between supply and demand.

For all the above flows, JODI provides the most recent information – on monthly basis.
JODI data used by OPEC to assess natural gas markets

Jan-19 to Aug-19 natural gas production by country

Jan-19 to Aug-19 natural gas demand by country

Aug-19 closing stocks

Source: JODI natural gas world database

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JODI data used by OPEC to assess natural gas markets

Natural gas demand for electricity generation by Non-OECD country

Source: JODI natural gas world database
JODI data used by OPEC to assess natural gas markets

Source: JODI natural gas world database

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Interaction between energy commodities

• Natural gas & oil:
  - Well established JODI initiatives
  - Monthly detailed data available

• Coal: Need for more granular data identified
  - Work already established within JODI

• Other energy commodities: Similarly important

Better understanding of energy transition when data transparency is applied to all energy commodities
Looking ahead: more data required ...

Oil & gas trade by origin/destination

- International bunkers, petchem feedstocks
- More products – asphalt, coke, lubricants
- Other energy commodities
- LNG trade by destination
Conclusion

- JODI oil & gas databases are widely used within the industry.
- JODI is the central platform & benchmark for official energy data.
- Further success of the Initiative will strongly depend on the
  - Usability, relevance & accuracy of available energy information
  - Cooperation between all relevant energy market players – countries, organizations and the industry.
- Ultimate goal is to achieve global energy markets data transparency.
- OPEC & its Member Countries will continue their strong commitment towards JODI, particularly focusing on oil & gas data quality as well as supporting the expansion of the Initiative to cover other energy commodities.
Thank You.