Annual and Monthly Data Relationship
the IEA, an example

Erica Robin – Head of Section - Oil and Natural Gas Statistics - IEA
Energy Data Transparency Workshop – 30 April 2019, Cape Town
Relationship between Annual and Monthly data

- The IEA data collection system
- Reasons for collecting monthly data
- Challenges of collecting monthly data/JODI
IEA – the oil data collection system

- Monthly (OECD/Supply): MOS (M-2), JODI (M-1), emergency

- Annual: Y-2 (World/Supply and demand)
  Y-1 (OECD/supply preliminary) & Non-OECD production estimates

Annual data (Y-2)
- 56 countries including all OECD
- 87 countries
- Rest
  Ministries and Statistical Agencies

with questionnaires
Direct communication National publications
UNSD

World Oil supply and demand

April 2019: OECD 2017
July 2019: World 2017 OECD 2018p

Oil Information (July) and many other publications
Annual and Monthly oil statistics

- Refinery Fuel
- International Marine Bunkers
- Exports
- Products Transferred
- Inland Deliveries
- Stock Change
- Interproduct Transfers
- Imports
- Recycled Products
- Primary Products Receipts
- Gross Output
- Refinery Fuel

- Transformation
- Energy sector
- Distribution losses
- Transport
- Industry
- Residential, commercial, agriculture etc.
The IEA monthly oil data system

- MOS

- JODI

- Emergency data collection (IEA countries)
  - QuE – Standard Modules: Data requirements depend on the nature of the oil supply disruption -> flexible questionnaire designed to facilitate this

OECD countries

Large amount of data

M-2

M-1

Broad geographic scope

Limited amount of data
Why collect monthly oil data?

- Transparency in the oil market
- Improved analysis and policies
- Energy security

News headlines:

- Alberta wildfires prompt oil firms to suspend production and evacuate staff
- Oil rises as Kuwaiti strike cuts output for third day
- Hurricane Harvey forces even more Texas oil refineries to close
- Shell Nigeria declares force majeure on Nigerian light oil exports
- Fire halts operations at Pemex’s Salina Cruz refinery
Why collect monthly oil data?

- **Transparency in the oil market**
  - Short-term/Trend indications
  - Seasonality
  - Impact of events (planned or unplanned)
  - Data validation

- **Improved analysis and policies**
  - Preliminary source of information
  - Basis for comparison with annual data

- **Energy security purposes**
  - Recent/quick assessment of markets
  - Size of a supply disruption
  - Ad-hoc assessment
  - Monitoring of a country’s ability to face a disruption
Why collect monthly oil data - Transparency in the oil market

Short term – Trend indicators

OECD - Total Product Demand

OECD - Total Oil Stocks
Why collect monthly oil data – Transparency in the oil market

**Seasonality**

**Greece – Jet Kerosene Demand**

**UK – Other Kerosene Demand**
Why collect monthly oil data - Transparency in the oil market

Impact of events - Scheduled maintenance

Austria – Crude, NGL + Feedstocks
Refinery Intake

Austria – Total Products
Refinery Gross Output
Why collect monthly oil data - Transparency in the oil market

**Impact of events - Detailed visualization of the effects of unplanned events**

- Example: France 2016 - Impact of strike on oil markets / oil industry

**Gasoline demand**

**Refinery outputs**

Source: IEA, Monthly oil data service
Why collect monthly oil data - Transparency in the oil market

Data validation - Detailed visualization of possible data issues

Reinery Losses (Annual data)

% - Refinery losses as a percentage of refinery intake
A negative refinery loss implies a refinery gain

Reinery Losses (monthly data)

Source: IEA, Monthly oil data service, Oil Information 2017
Why collect monthly oil data - Improved analysis and policies

Preliminary source of information

LNG imports from major exporters to OECD regions in 2017 in million cubic meters
Why collect monthly oil data – Improved analysis and policies

Preliminary source of information

OECD Natural gas deliveries to power generation and gross deliveries in 2016 and 2017
(selected European countries)
Why collect monthly oil data - Improved analysis and policies

Basis for comparison with annual data

### South Africa - Total Gasoline - Demand

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<th>BES</th>
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**Notes:**
- JODI-AOS as % of JODI
- # of JODI months with data

1. Number of months per year in which JODI Mux data are present

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Why collect monthly oil data – Improved analysis and policies

Basis for comparison with annual data

Nigeria - Crude Oil - Production

- Choose a product:
  - Crude Oil

- Choose a flow:
  - Production

Time Series: ▼ ▼ ▼

Nigeria - Crude Oil - Production

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1. Number of months per year in which JODI Maxi data are present
Why collect monthly oil data – Improved analysis and policies

Basis for comparison with annual data
Quick assessment of markets
Why collect monthly oil data - Energy Security Purposes

Monitoring of a country’s ability to face a disruption

Country A - EMR Calculation Seasonal

Country B - Days of Net Imports Split
Challenges in collecting monthly data

- Timeliness can be a factor
- The data collection system of a country also matters (voluntary v. mandatory)
- Confidentiality issues

In this example, monthly deliveries data does not cover private operators.