JODI-Gas Data Quality Assessment

Mohamed Arafat, Databank Analyst

Joint Organisations Data Initiative (JODI)
15th Regional Training Workshop
Background: **GECF Vision & Mission**

Supporting the rights and interests of the Member countries on gas resources

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**Vision**

- To become an authentic platform for Gas activities
- A Credible reference in gas studies and debate
- A center for exchange of data and information on gas
- A center for policy debate on gas and energy
- A center for exchange of experience on Gas

**Mission**

To promote the use of Gas as a clean fuel and contribute to the clean environment and sustainable development;

- To increase the market share of Gas in the global energy mix;
- To contribute to the stability of the global gas market;
- To exchange data, information and experience among member countries;
- To develop Dialogue with all stakeholders, including other producers and consumers.

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GECF Secretariat: 47th, 48th Floor, Tornado Tower, West Bay, Doha, Qatar, Website: www.gecf.org
## Quality Indicators: Sustainability of Submission

### GECF DEM: Monthly Questionnaire (MQs) Sustainability*

<table>
<thead>
<tr>
<th>Year</th>
<th>Algeria</th>
<th>Bolivia</th>
<th>Egypt</th>
<th>Eq. Guinea</th>
<th>Iran</th>
<th>Libya</th>
<th>Nigeria</th>
<th>Oman</th>
<th>Qatar</th>
<th>Russia</th>
<th>Trinidad and Tobago</th>
<th>United Arab Emirates</th>
<th>Venezuela</th>
<th>Grand Total</th>
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<td><strong>25</strong></td>
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</tbody>
</table>

**Red** <= 25% of the expected questionnaires  
**Yellow** > 25% & < 75% of the expected questionnaires  
**Green** > 75% of the expected questionnaires

*Sustainability: refers to the continuity of submitting monthly gas questionnaire data to GECF, regardless of the timeliness of submission or completeness of data.

Suitability is measured as number of monthly questionnaires received from a country per year.
Quality Indicators: Timeliness

Timeliness

Month-Year

No of Countries

January, 2015
July, 2015
January, 2016
July, 2016
January, 2017

M-1  M-2  M-3  M-4  M-5 or more  No Data
Quality Indicators: Completeness (GE CF Questionnaire)

Completeness (GE CF)

- 0%-50%
- 60%-90%
- 90%-100%
- No Data

Month-Year

- January, 2015
- July, 2015
- January, 2016
- July, 2015
- January, 2017

No of Countries
## Quality Indicators: Timeliness and Completeness

### Data Quality Assessment

<table>
<thead>
<tr>
<th>Country</th>
<th>Questionnaire</th>
<th>Timeliness (Days)</th>
<th>Completeness (%)</th>
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<tr>
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<td>2016 January</td>
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<td>92 ▲</td>
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### Participation Assessment _ Smiley Face Approach – July to Dec 2015

**From July to Dec 2016**

*for JoDI-Gas Monthly Questionnaire Format & M-2*

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<thead>
<tr>
<th>Country</th>
<th>Sustainability</th>
<th>Timeliness</th>
<th>Completeness (%)</th>
<th>Sustainability</th>
<th>Timeliness</th>
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<td>Venezuela</td>
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<td>0%</td>
</tr>
</tbody>
</table>
Unified GECF monthly questionnaire and related products and flows definitions are in place.
A Focal Point can browse, group, search, filter, sort monthly questionnaire data of all GECF countries.

<table>
<thead>
<tr>
<th>Country</th>
<th>MQ Date</th>
<th>Indigenous Prod.</th>
<th>Reinjection</th>
<th>Flared</th>
<th>Shrinkage</th>
<th>Market Production</th>
<th>Imports Pipeline</th>
<th>Import LNG</th>
<th>Export Pipeline</th>
<th>Export LNG</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bolivia</td>
<td>Sep 2014</td>
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<tr>
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</tr>
</tbody>
</table>
DEC data Accessibility: Simple and Advanced Filter

Filter by one or more columns

Build a complex query with several conditions
Export data into different file formats including Excel.
MC Focal Point can fill the monthly questionnaire template in Excel file or directly update the web-based Data Exchange Center (DEC).
DEC  Data Quality: Country Specific Data Entry Validation Rules

Questionnaire
- Questionnaire Type: GECF Monthly
- Country: Bolivia
- MQ Date: 12/1/2014
- Status Type: Planned
- Unit:user
- Unit: LNG

Validation Rule
- Country: Algeria (Count=6)
- Country: Bolivia (Count=13)
- Questionnaire Type: GECF Monthly (Count=13)
  - Domestic Consumption Heating Cooling: NA, 1/1/2011
  - Export LNG: NA, 1/1/2011
  - Export Pipeline: Yes, 1/1/2011
  - From Other Resources: NA, 1/1/2011
  - Import LNG: NA, 1/1/2011
  - Imports Pipeline: NA, 1/1/2011
  - Indigenous Production: Yes, 1/1/2011
  - Industrial Use: Yes, 1/1/2011
  - Market Production: Yes, 1/1/2011
  - Plants Own: Yes, 1/1/2011
  - Power Generation: Yes, 1/1/2011
  - Rejection: NA, 1/1/2011
  - Shrinkage: Yes, 1/1/2011

Country: Egypt (Count=10)
Country: Eq. Guinea (Count=9)
Country: Iran (Count=14)
Country: Libya (Count=13)
DEC Data Quality: Country Specific Data Entry Validation Rules

Problems were detected during data validation. Please read the information below:

1/1/2015 12:00:00 AM
- Combination of the following properties must be unique: Country, Q

1/1/2015 12:00:00 AM
- "Export Pipeline" must not be empty.
- "Indigenous Prod." must not be empty.
- "Industrial Use" must not be empty.
- "Market Production" must be less than "IndigenousProduction".
- "Power Generation" must not be empty.

Questionnaire

Questionnaire Type: GECF Mont
Country: Bolivia
MQ Date: 1/1/2015
Status Type: Planned

Questionnaire Details

Indigenous Prod.
Associated
Non-Associated
From Other Resources
Reinjection
Flared
Shrinkage
Plants Own Use and Losses
Market Production
Data Quality Visual Check: Time-Series

Oman Pipeline Import & Export

Oman Domestic Consumption By Sector
Data Quality Visual Check: Time-Series 2: Definitions

Domestic Consumption By Sector

Production & Consumption
Data Quality Visual Check:

Production & Consumption

- Ind. Production
- Market Production
- Domestic Consumption (Obs.)

PipeLine Import & Export

- Export Pipeline
- Import Pipeline
Data Quality Visual Check: Monthly Growth Rate

Monthly Growth Rates 1
- % Indig. Prod.
- % Marketed Prod.
- % Domestic Cons./Obs.

Monthly Growth Rates 2
- % Export_Pipeline
- % Export_LNG
- % Imports_Pipeline
- % Imports_LNG
Data Quality Visual Check: Monthly Growth Rate

Production & Consumption

- Industrial Production
- Market Production
- Domestic Consumption (Obs.)

Domestic Consumption By Sector

- Power Generation
- Industrial Use
- Petrochemicals
- Refineries
- Residential
- Heating Cooling
- LNG Vehicles
- Derivatives
Mapping GECF to JoDI-Gas

JoDI-GAS Quest.

- Production
- Receipts from Other Sources
- Imports
  - LNG
  - Pipeline
- Exports
  - LNG
  - Pipeline
- Stock Change
- Gross Inland Deliveries (Calculated)
- Statistical Difference (Calculated)
- Gross Inland Deliveries Observed
  - of which: Electricity and Heat Generation
- Closing stocks

GECF Quest.

- Balance
- Indigenous Production
  - Associated
  - Non-Associated
- Production From Other Sources
- Backflows
  - Reinjection
  - Flared
- Shrinkage
- Plants Own Use & Losses
- Marketed Production
- LNG Production
- LNG Plant Self Consumption & Losses

- Imports
  - LNG
- Exports
  - LNG
- Stock Change
- Statistical Difference
- Domestic Consumption
  - of which by sector
    - Power Generation
    - Heat Generation / Cooling
    - Industrial Use
    - Refineries
    - Petrochemicals
    - Domestic Sector
Thank You for Your attention

www.gecf.org