



## **Report on JODI related activities**

Extraordinary IEF Ministerial Meeting

22 February 2011, Riyadh, Saudi Arabia

## I – Executive Summary

1. The objective of the Joint Oil Data Initiative (JODI), now relabeled Joint Organisations Data Initiative, a concrete achievement of the energy producer-consumer dialogue, is to achieve a step change in provision of timely, **high quality and transparent oil market data** which is essential to the **stability of oil markets**.
2. The Initiative, which started as a basic monthly oil data collection exercise conducted by six international organisations (the Asia-Pacific Economic Co-operation (APEC), the European Union through Eurostat, the International Energy Agency (IEA), the Latin-American Energy Organisation (OLADE), the Organisation of Petroleum Exporting Countries (OPEC) and the United Nations through their Statistics Division) expanded its geographical coverage rapidly with **98 countries/economies participating today in the Initiative** and feeding monthly oil data to the JODI World Database.
3. While reaffirming their commitment to providing timely and accurate data to JODI, Energy Ministers have envisaged co-operation in **expanding, in due course, the initiative** to include data on other sources of energy that are important in the world energy mix, and disseminate other data relevant to the energy markets such as annual data on investment in oil and gas upstream and downstream.
4. Given the trend towards globalisation in the gas market, Energy Ministers indicated at the 11<sup>th</sup> IEF Ministerial in April 2008 that it was time to progressively **extend JODI to natural gas** and encouraged the IEF Secretariat to take the initiative to make this happen<sup>1</sup>, working together with other relevant international organisations and to report to the 12<sup>th</sup> IEF Ministerial meeting in 2010, progress made in this regard. The extension was also advocated during the Ad-Hoc Energy Meeting in Jeddah in June 2008 and then later endorsed by Heads of State at the G8 Summit in L'Aquila (July 2009) and the G20 Summit in Pittsburgh (September 2009). IEF Ministers at the 12<sup>th</sup> IEF Ministerial Meeting in Cancun, Mexico (30-31 March 2010), welcomed the progress made in preparing the extension of JODI to cover monthly natural gas data. This is now well under way, including cooperation with the Gas Exporting Countries Forum (GECF), and will hopefully result in the first launch of JODI-gas before the end of 2011.
5. Over the last two years, numerous meetings and events have called for the extension of JODI to cover **annual data on upstream and downstream capacities and expansion plans**. The Jeddah Energy Meeting (June 2008) Joint Statement emphasised that “the quality, completeness and timeliness of oil data submitted through the Joint Oil Data Initiative (JODI) should be enhanced. In order to further improve market transparency

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<sup>1</sup> “Given the trend towards globalisation of the gas market, it is time to progressively extend JODI to natural gas. Ministers encouraged the IEF Secretariat to take the initiative to make this happen, working together with other relevant international organisations”. 11<sup>th</sup> International Energy Forum, Rome, 20-22 April 2008.

and stability, the seven organisations involved in JODI (APEC, Eurostat, IEA, IEF, OLADE, OPEC and UNSD) are called upon to start work to cover annual data that includes, among other things, upstream and downstream capacities and expansion plans". Six months later, participants in the London Energy Meeting"emphasised the importance of annual data on investment plans and welcomed the IEF's plans to implement the collection and publication of this data as soon as possible". At the 12<sup>th</sup> IEF Ministerial Meeting in Cancun, Ministers welcomed the progress made in preparing the extension to annual data on upstream and downstream capacities and expansion plans. The work on extension to investment will start with oil and is currently under way, with first results expected at the earliest in 2012.

6. JODI partner organisations are committed to the objectives of JODI and are sparing no effort to ensure sustained delivery of this visible accomplishment of the consumer-producer dialogue. JODI is now enjoying increasing interest from market players, and internationally recognized for its contribution to oil market stability. Towards this end, JODI partner organisations will **continue their efforts in training statisticians in charge of JODI data** compilation and submission in participating countries/economies; **develop new tools and practices**, both at country and organisations level, **to regularly check JODI data and streamline data submission**; enhance **interaction with data users**, in particular **market analysts**; **upgrade JODI related platforms** such as the JODI website, JODI database accessibility and usefulness;
7. However, successful collection and dissemination of sound data in timely manner cannot be achieved without full participation of data providers; i.e. participating countries/economies. Therefore, JODI organisations call on participating countries/economies to ensure that administrations and organisations in charge of energy data collection are **better equipped and staffed**; to implement **appropriate regulations** that ensure industry is fully engaged in the process of data submission with the required detail and format; to **address confidentiality issues** and reduce, if not eliminate, them.
8. IEF countries need to further boost the quality, timeliness and reliability of the JODI Database to achieve a target of **3 smiley faces by the end of 2011**.

## II – JODI-Oil

### II.1. Achievements to date

Since the opening of the JODI Database to the public in November 2005, Partner organisations have been cooperating closely with all stakeholders to improve the reliability, timeliness and completeness of JODI data and **substantial progress has been made** on many aspects, covering the whole data collection and dissemination process, from primary data providers (industry and participating countries/economies) to data users (market players);

- A **JODI Manual** was released in 2006<sup>2</sup> with the objective of helping data collectors and users *to understand the methodology and definitions used in the JODI questionnaire*.
- Recognizing *the importance of interaction with primary JODI data providers*, JODI partner organisations also organise regular **regional JODI training workshops** for participating countries/economies. Six regional training workshops have been delivered so far; for Latin-American countries in Caracas in August 2006; for Sub-Saharan African countries in Johannesburg in January 2007, for Middle Eastern and North African countries in Algiers in October 2007, for Asia Pacific countries/economies in Bangkok in September 2008, for Eastern and Central European countries in Ankara in November 2009 and Latin-American countries in Bogota in July 2010. Such training workshops offer a unique opportunity for participants to be updated on JODI progress, to share experiences and benefit from best practices in collecting data.
- JODI organisations also offer **short-term internships** at the IEF headquarters in Riyadh for developing countries' officials in charge of oil statistics collection and dissemination. Participants are invited to complete their countries' JODI database and present their national oil data collection system, which helps partner organisations *to identify areas where improvement could be implemented to streamline data submission*.
- While the Initiative was called for by governments, launched and developed by JODI organisations, the spread of its use among market analysts and other data users makes it now a **user-driven initiative**. The **user survey** conducted by JODI organisations reveals a strong interest from oil data users for *more data to be reported through JODI*.
- The JODI ethos is also being conveyed to countries/economies that are not yet part of the initiative with the aim of increasing JODI geographical coverage. JODI partner organisations are taking all opportunities to inform **non participating countries/economies**, at Ministerial and administrations level, about *the benefit of being part of this unique initiative*. Non participating countries/economies are invited to attend JODI regional workshops to interact with participating countries/economies to gain firsthand knowledge of the JODI cooperative work.
- JODI partner organisations are also making use of all **possible channels of communication (relevant international conferences, press conferences, JODI website, etc.)** to spread *the call for more data transparency and inform stakeholders about the role of JODI*. The **JODI website** ([www.jodidata.org](http://www.jodidata.org)) and **regular newsletters** provide a continuous update on JODI partner organisations' activities and progress of the Initiative.

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<sup>2</sup> The JODI Manual is available in English, Chinese, Spanish, Russian and French.

## II.2. Assessment of countries/economies participation in JODI

JODI aims at making a full set of critical data available in a timely manner to data users on a monthly basis. Currently, JODI organisations conduct a half-yearly data quality assessment which consists of three assessment criteria: **timeliness**<sup>3</sup>, **completeness**<sup>4</sup>, and **sustainability**<sup>5</sup> (of submission).

The Initiative's latest assessment of participation in JODI shows that, sustainability of submission of JODI data was assessed as good for 79 countries/economies out of 98 participating in JODI. 69 countries/economies were successful in terms of completeness and 62 countries/economies achieved the same rating for timeliness. Submission, timeliness and completeness have all improved since the 11<sup>th</sup> IEF Ministerial (Rome, April 2008), at 5.3%, 15.1%, and 17.0% respectively.

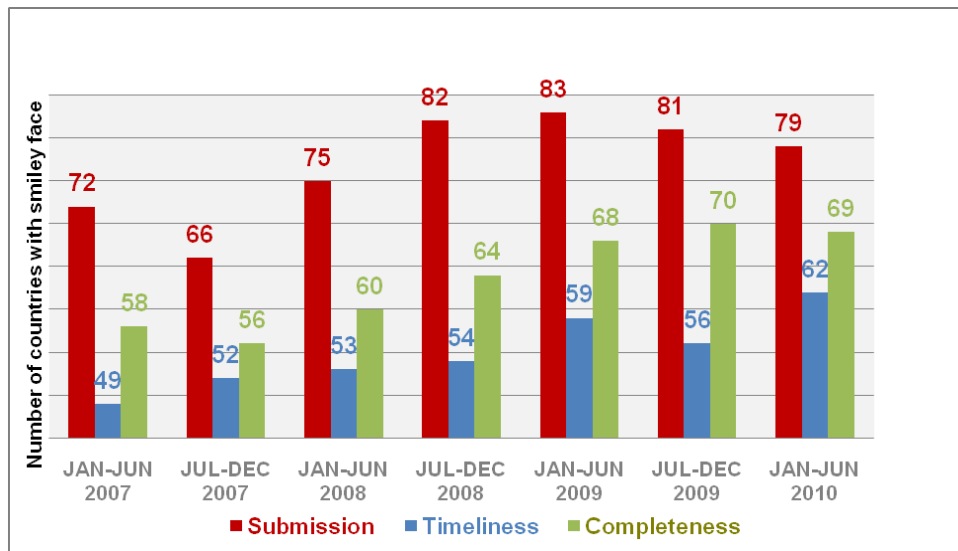
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<sup>3</sup> The timeliness criteria assess whether submissions were made by countries/organisations at the set deadline. Ratings are as follows over each six months of assessment period: "good" when 6 submissions received within two months after the end of the reference month; "fair" when 4 or 5 submissions received; "less reliable" when less than 4 submissions received. The data collection mechanism requires participating countries to submit a standard data table (questionnaire) every 25th of the month for the two most recent months (M-1 and M-2). At country level, national administrations in charge of oil statistics gather the required information from relevant stakeholders (companies in charge of oil production, oil refining, oil and oil products transportation and storage, etc.). The respective organisation compiles and checks the data, then sends it to the IEF. The IEF manages the JODI World Database. A timetable for submission is set for the whole year and posted on JODI website.

<sup>4</sup> The maximum number of data point for each country is determined based on structure of the oil industry in respective countries. "Good" when more than 90% of the data are given for production, trade, stock change/closing and demand; "Fair" when between 60% and 90% of the data are given;"Less reliable" when less than 60% of the data are given. Completeness measures the number of expected data points to be filled out of the maximum 42 points in the initial JODI questionnaire.

<sup>5</sup> Sustainability measures the number of the monthly JODI submissions within the six-month period covered by the assessment."Good" if the 6 questionnaires have been submitted; "Fair" if 4 or 5 questionnaires have been submitted; "Less reliable" when less than 4 questionnaires have been submitted.

**Figure 1**  
Assessment of participation (all countries/economies) in JODI since the 11<sup>th</sup> IEF Ministerial



- a) **Timeliness:** Due to the long chain of data collection, submission<sup>6</sup> and validation at all stages, **timeliness of submission can be a challenging task when data are to be collected monthly.**

Despite such a challenge, timeliness improved over the last years, **with an average of over 62 countries/economies submitting the most up-to-date data in 2010, up from 53 in 2008.**

- b) **Completeness:** Many reasons can explain incomplete data submission; non availability of data required or non availability of data in the appropriate format, for example due to insufficient detail of statistics collected, confidentiality of data, hesitation on definitions of products and/or flow to be used, etc. Non availability of data can also result of inexistent or insufficient legal framework making reporting of energy data mandatory through well designed channels and instruments to ensure the compilation of high quality energy statistics.

Thanks to efforts of all stakeholders involved in JODI data collection, **completeness improved from 60 countries/economies submitting complete set of data in the first semester of 2008 to 69 countries/economies in the first semester of 2010.**

<sup>6</sup> From industry to national administrations, and from national administrations to organisations, and ultimately from organisations to the IEF.

- c) **Sustainability (of submission)**: Interruption in submission of monthly data to JODI may result from a number of factors; turnover of staff in charge of JODI data compilation, check and submission, non replacement of statisticians, absence of required IT equipments or their failure, etc.

It is worth noting that the quest of timely submission of data to JODI can be, to some extent, at the expense of completeness, as some data may take longer to collect and process and can sometimes only be available after the submission deadline. Unexpected events such as strikes or supplies disruption can also lead to delays in data collection and submission by participating countries/economies.

Like timeliness and completeness, submission improved over the last three years with some 79 countries/economies showing a good rate of submission, compared to 75 countries/economies in the first semester 2008. However, **submission was assessed as good for 83 countries/economies during the first semester of 2009, which means that submission deteriorated significantly in first half of 2010 when compared to the first half of 2009.**

#### JODI-Oil extended Questionnaire

Following several assessments of JODI data use and interaction with market analysts which express strong need for *more data to be reported through JODI*, JODI partner organisations worked on an **extended JODI questionnaire** which is presently being assessed by JODI organisations and their member countries for possible implementation during the months ahead. JODI organisations agreed to assess shortly the quality of the additional flows submitted by participating countries/economies through the extended questionnaire. Should such assessment prove to be satisfactory, JODI organisations agreed to release to public some of the additional data points by the next JODI-Oil Conference (fall 2011).

### **III - JODI Data quality improvement**

Regular interaction between JODI organisations and various stakeholders (participating countries/economies on the occasion of JODI training programme, JODI data users through direct contacts or on the occasion of regular user surveys, etc.) revealed that **there are many reasons behind data quality issues for some countries/economies**. JODI organisations have already undertaken action to improve data quality and timeliness among which training statisticians from participating countries/economies, developing tools that shorten submission delays and check data, etc. JODI partner organisations will continue to do so but participating countries/economies have a role to play as well in terms of ensuring that data collection and dissemination is given full attention and that administrations in charge of data collection are adequately equipped and staffed.

*i- Addressing resources shortage in statistical divisions (both at countries and JODI organisations level)*

Participating countries/economies can only provide accurate and timely data if their administrations in charge of energy statistics have the adequate computing and communication tools as well as sufficient and well trained human resources.

Many national administrations in charge of gathering energy data face **budgetary constraints. This happens at a time when more resources are needed to collect energy related data due to the changes brought by market liberalisation in some countries or regions.** This leads to increasing difficulty in obtaining data given the **growing number of participants in energy industries** and the commercial sensitivities around the data disclosure in an ever more competitive market.

The high frequency of **staff turnover in many national administrations results in a loss of knowledge** to complete the questionnaire and impacts the timeliness of data submitted and its quality.

Availability of **adequate IT and computing equipment** can contribute significantly to the improvement of timeliness. Countries that are successful in timeliness often have an efficient database management system to overcome human resource limitations while some countries still rely mainly on fax to gather necessary information from nation-wide data sources.

The extension of JODI to provide market analysts with extended set of data (expanded questionnaire) is adding an extra burden on both participating countries/economies and JODI organisations.

*ii- Building statistical capacity, experience sharing and transfer*

The success and utility of JODI are defined by the quality of data received and processed. Frequent staff turnover and inadequate qualifications of staff in charge of data collection have a significant impact on data submitted to JODI. To further improve the data submitted to JODI, and to build statistical capacity among its participants, the JODI organisations will continue to plan and implement the JODI training programme in the form of regional training workshops and internships, and will develop an online tutorial system.

**Regional training workshops** offer statisticians and experts from participating countries/economies an opportunity to improve their knowledge of definitions, data quality assessment and oil data issues. The workshops also offer a platform for JODI data providers to share their experiences and communicate best practices for oil data management. JODI regional workshops include concrete exercises on how to fill JODI questionnaires and check data submitted by the industry. Participants also make extensive presentations on their own country's oil data collection structure as well as on issues identified that may require corrective actions by national administrations and/or JODI organisations.



JODI's training efforts continue with the IEF hosting regular **JODI Internship** sessions at its Headquarters in Riyadh for officials from developing countries with direct responsibility for oil statistics. This classroom-based immersion course facilitates rapid assimilation of the historical knowledge base accumulated by the IEF and JODI partner organisations.

To adapt to the extended JODI oil questionnaire, training material have been adjusted and updated. The JODI organisations are currently working on the 2<sup>nd</sup> edition of JODI manual to incorporate explanations on reporting newly added products and flows.

Aside from updating the JODI manual and training materials, an **online tutorial system** will be built to keep statisticians in participating countries/economies updated with the latest changes in JODI reporting system and methodologies. The online tutorial system will allow for on hand virtual JODI training enabling the training of remotely located and newly appointed statisticians who previously would have been dependant on the regional training workshops.

*iii- Setting an appropriate regulatory framework*

**JODI can only be successful if an energy data collection system is already in place.** The existence of a strong **legal framework** is one of the most important prerequisites for establishing a sound national statistical system in general and a national system of energy statistics in particular. The legal framework is provided by the statistical and other applicable national laws and regulations which, to different degrees, specify the rights and responsibilities of entities that collect data, provide data, produce statistics or use statistical outputs. Improvement of data transparency requires supportive regulatory frameworks that favour transparency and facilitate industry participation in initiatives such as JODI.

*i- Addressing confidentiality issues*

Some countries consider certain data to be confidential. While confidentiality can be understood when it impacts commercial activities, hampers market positions or for energy security reasons, it has the negative effect of not disclosing to market players existence of **significant part of the supply or demand** and therefore can contribute to market volatility.

*ii- Providing factual information to support the numbers (metadata)*

In addition to statistics submitted by data providers, **metadata (country notes) is an important element that supports data interpretation.** When a national administration has different definitions of products and flows from the Initiative's definitions these are recorded as metadata. Due to the voluntarily simplicity of the initial JODI questionnaire, there are apparent imbalances in data submission from some countries which have sophisticated and complex oil and gas industries. Such information has to be carefully stated as metadata. Metadata also can include outstanding developments in the oil industry when data shows sudden operational changes, facilities shutdowns, etc.

The extended questionnaire provides a more comprehensive set of data, allowing users to cross check data provided, but it also makes metadata even more important due to the more detailed nature of the extended coverage.

*iii- Conduct more regular data checks*

After each monthly update of the JODI Database, JODI organisations are conducting a data quality check which aims at detecting missing data and inconsistencies. Data checking methodologies used are based on data consistency checks which are suggested in the JODI manual. To further enhance the reliability of data, these **data checking procedures need to be revised regularly to match ongoing development of oil industry** in every participating countries/economies.

*iv- Enhanced interaction with users*

Feedback from JODI data users is crucial; a **dedicated JODI mailbox** allows JODI data users, market analysts in particular, to post their comments on JODI data, which *provide a valuable indication on means to improve JODI data quality, collection and submission*. User surveys are also conducted on the occasion of International JODI Conferences but could be conducted more frequently.

#### **IV - JODI-Gas**

The globalisation of the natural gas business means that markets everywhere today are influenced by changes in supply and demand in all parts of the world, as well as by local events. Producers, consumers and traders of gas are finding it more difficult to understand and to react to conditions in their local markets, as they lack information that is timely and consistent from elsewhere in the world. **Market analysts** in all regions of the world now **have an interest in seeing an improvement in the quality of information and data that is freely available, which would improve market transparency.**

The JODI process involves the submission of official statistics on oil supply and demand from 98 countries/economies, 72 of which produce and/or consume natural gas. **JODI therefore offers a unique and natural platform on which to build the equivalent information resource for natural gas.**

Data quality is often a problem in the presentation of natural gas statistics. Even in the best-managed databases there are problems of measurement, particularly with volume-calorific conversions, and problems of reporting, particularly in the lack of standardization of units. Issues of confidentiality and problems with identifying transit volumes compound the difficulties in some countries/economies. **The extension of JODI to natural gas will effectively have to ‘inherit’ some of these difficulties and inconsistencies from the reporting sources,** and cannot be expected to resolve all the problems. However, the process itself will provide an educational opportunity for statistical staff in a number of countries.

Despite challenges identified by a feasibility study conducted by the IEF, JODI partner organisations responded to calls by Energy Ministers and worked actively on the extension of JODI to collect monthly natural gas data. **The JODI partner organisations have already started such extension and are testing member countries' ability to report most relevant information on natural gas (supply, demand, imports and exports both liquid and gaseous) on a regular basis.**

The first Gas Data Transparency Conference was held in Moscow, Russian Federation on 26 October 2010 to discuss the globalisation of gas markets, their progressive liberalisation and the impact of such development on gas data availability, in particular on a monthly basis, reviewed experiences of gas data collection at local, regional and international level, and necessary conditions of establishing a monthly gas data mechanism exercise at the global level. The Moscow conference indentified the following actions leading to the establishment of a JODI-like data collection mechanism in the very near future. JODI organisations agreed to:

- **assess the ongoing exercise of gas data collection** to which contribute some **42 countries and economies** with the view of opening the gas database to public as soon as feasible;
- continue their **work with member** countries in order to increase the number of countries submitting the gas questionnaire;
- assist Gas Exporting Countries Forum (GECF) in **establishing a collection mechanism through which GECF members** can start participating in the JODI-Gas.

The ongoing work will be continued as planned (as per the decision of the last JODI Inter-Secretariat meeting in Paris, 21 October, 2009), in cooperation with other relevant organisations such as the GECF and will hopefully result in the first launch of JODI-gas before the end of 2011.

## **V - JODI-Investment**

Continued volatility in the oil market is unsettling for normal day-to-day activities and hampers sound upstream and downstream investment planning for the future. Lack of or incomplete data can have a substantial effect on the projection of the future capacities, both upstream and downstream, and hence on future market stability and predictability. **Lack of or vague data on upstream and downstream capacities and expansion plans spread the fear that the world may be running out of oil**, sowing the seeds of unstable markets and price spikes.

Data on the upstream and downstream capacities and expansion plans are important factors in assessing future oil supply and refining capacities. Regular and timely data on upstream and downstream capacities and future expansion plans are essential for a transparent, stable and predictable oil and gas market. The availability of these data will help in improving the analyses of the oil market trends and outlooks. In addition, the provision of additional information will

enhance transparency through data sharing among all stakeholders in the oil and gas industry, and, as a result, promote global market stability.

The organisations recognised that annual data collection on upstream and downstream capacities and expansion plans will be **another challenging and resource intensive process**, but agreed to examine feasible means to achieve this Minister-recommended goal. However, unlike monthly oil data, data on upstream and downstream capacities and expansion plans are not always collected by administrations, and if they are, not in the format adopted by JODI organisations. Therefore, **JODI partner organisations agreed to start working on the collection of annual data on investment for oil before moving to natural gas, aiming at presenting a tangible progress on this front to Ministers when they will gather at the 13<sup>th</sup> IEF Ministerial in Kuwait in 2012.**

## **VI - JODI becomes Joint Organisations Data Initiative**

With the Initiative expanding to other forms of energy and other data than monthly oil flows, JODI partner organisations agreed to redefine the meaning of the letter “O” in “JODI” to be “Organisations” rather than “Oil”. Thus, the full wording represented by the JODI acronym is now “Joint **Organisations** Data Initiative”. This important step builds on “JODI’s” existing brand capital established over a period of years. JODI is now firmly fixed in the minds of all stakeholders; Ministers, industry, administrations, data users, etc.. The new definition of “JODI” directly references the **co-operative nature of the initiative** and allows us to be both clear and flexible in communicating and presenting the different elements of the expanding JODI family (Oil, Gas, Investment).

The established JodiData.org website will now set as the top tier of the brand with users arriving at the JodiData.org site which acts as a jumping-off point to other elements of the JODI family. The “JodiData” page will inform users of the history / background of JODI and the partner organisations, and provide access to Monthly Oil Database (“JodiOil”) or Monthly Gas Database (“JodiGas”) and later on to an Annual Upstream / Downstream Investment Database.

## **VII - Conclusion**

The importance of exchanging data as a means to enhance global oil market transparency and hence energy security proved to be beneficial to energy producers and energy consumers alike. But it is worthwhile to be reminded that **JODI success requires a strong and continuous commitment of all stakeholders**. Poor data quality leads to unsound assessments by market players and fuels uncertainty which is the main driver of oil market volatility.

As stated in the Cancun Declaration, “the steady improvement of JODI, a concrete outcome of the producer-consumer dialogue, and the development of monthly gas data collection and annual investment data in cooperation with JODI partner organisations is highly commendable. Indeed, the JODI model is an effective one that can be further improved and enhanced to achieve greater market transparency“.

JODI organisations are committed to the objectives of JODI and are sparing no effort to make this visible accomplishment of the consumer-producer dialogue. JODI is now enjoying increasing interest from market players, being internationally recognized in contributing to oil market stability.

Towards this end, JODI partner organisations will:

- **Continue their efforts in training statisticians in charge of JODI** data compilation and submission in participating countries/economies;
- **Develop new tools and practices**, both at country and organisations level, **to check regularly JODI data and streamline data submission**;
- Enhance **interaction with data users**, in particular **market analysts**;
- **Upgrade JODI related platforms** such as JODI website, JODI database accessibility and usefulness;

However, successful collection and dissemination of sound data in timely manner cannot be achieved without full participation of data providers; i.e. participating countries/economies. Therefore, JODI organisations call on participating countries/economies:

- To ensure that that administrations and organisations in charge of energy data collection are **better equipped and staffed**;
- To implement an **appropriate regulation** that ensures that industry is fully engaged in the process of data submission with the required detail and format;
- To **address confidentiality issues** and reduce, if not eliminate, them.

IEF countries need to further boost the quality, timeliness and reliability of the JODI Database to achieve a target of **3 smiley faces by the end of 2011**.