Shifting perceptions and strategies among producers and consumers of natural gas

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Gas Arabia Summit

Dubai | 15 January | 2015

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Tracking the energy dialogue on natural gas: key observations, questions and insights from 2012

October 2012
1. **Asia Pacific** will drive future natural **gas demand**. 2. An **integrated global gas market** is **not likely** in the near term. 3. The logic for establishing a **regional gas-pricing hub in Asia** is **questionable**. 4. **Oil-indexation of gas prices** has clear merits, but some sellers have won business by applying a **more flexible formula**. 1. It is **difficult to talk about gas in isolation** because of its links to electricity, coal and renewables.

Tracking the energy dialogue on natural gas: key observations, questions and insights from 2012

October 2012

6. **Destination clauses** in LNG contracts are ironclad and **non-negotiable**.
7. There are **conflicting messages** about gas in the marketplace (e.g., clean fuel versus *fracking* concerns).
8. Companies entering into joint ventures with US-based unconventionals players **will benefit from technology transfer**, accelerating the spread of the unconventionals revolution.
9. In the wake of the Fukushima disaster, **Japan will cease using nuclear power indefinitely**.

Third IEF-IGU Ministerial Gas Forum | November 2012

Focus on interdependence, fuel switching, climate change, and contracts

- **Markets remain interdependent** despite the recent 're-regionalisation' of gas markets.
- **Coal-to-gas switching** in the US engendered **gas-to-coal switching** in the EU.
- **Long-term contracts** help ensure security of supply and demand, but **there may be room for contracts to reflect more short- to long-term market signals.**

IEF Roundtable on Unconventionals | January 2013

Focus on the prospects for unconventionals beyond the US

- When analysing the potential of US unconventionals production at the **national level**, one must remember to focus on the unique aspects of **each individual state**.
- Only in America? If so many nations have been able to develop **conventional oil and gas**, is it so implausible to think that they will eventually target **unconventonals?**

Fifth Asian Ministerial Energy Roundtable | October 2013

Focus on Asian demand drivers and regional convergence

- Future **gas demand levels for transportation,** notably in China and India, remain a “known unknown”, or a identified variable that **warrants close monitoring and more analysis.**
- Regional **gas prices may converge** not only as a function of **future trade volumes but also of policies.**

Asian consumer and producer strategies | Fall 2013

	Consumers	Producers
1. Size and composition of market		
2. Vertical integration		
3. Competition and contracts		
4. Cooperation and partnerships		

Asian consumer and producer strategies | Fall 2013

	Consumers	Producers
1. Size and composition of market	• Improve operational capability to receive all LNG grades • Develop various gas demand types • Procure through a single aggregator	• Improve operational capability to provide all LNG grades • Develop various gas supply types
2. Vertical integration	• Expand participation in upstream segment • Expand participation throughout LNG value chain	• Expand participation in downstream segment • Expand participation throughout LNG value chain
3. Competition and contracts	• Diversify supply sources by geography and substitutes • Remove destination restrictions • Review and diversify contract types • Develop spot markets	• Diversify demand sources by geography • Keep destination restrictions • Keep long-term contracts
4. Cooperation and partnerships	• Create multilateral study group	• Experience sharing through GECF • Signaling and awareness campaigns

IEF-Gastech Roundtable on Unconventional Gas | March 2014

Focus on contract evolution

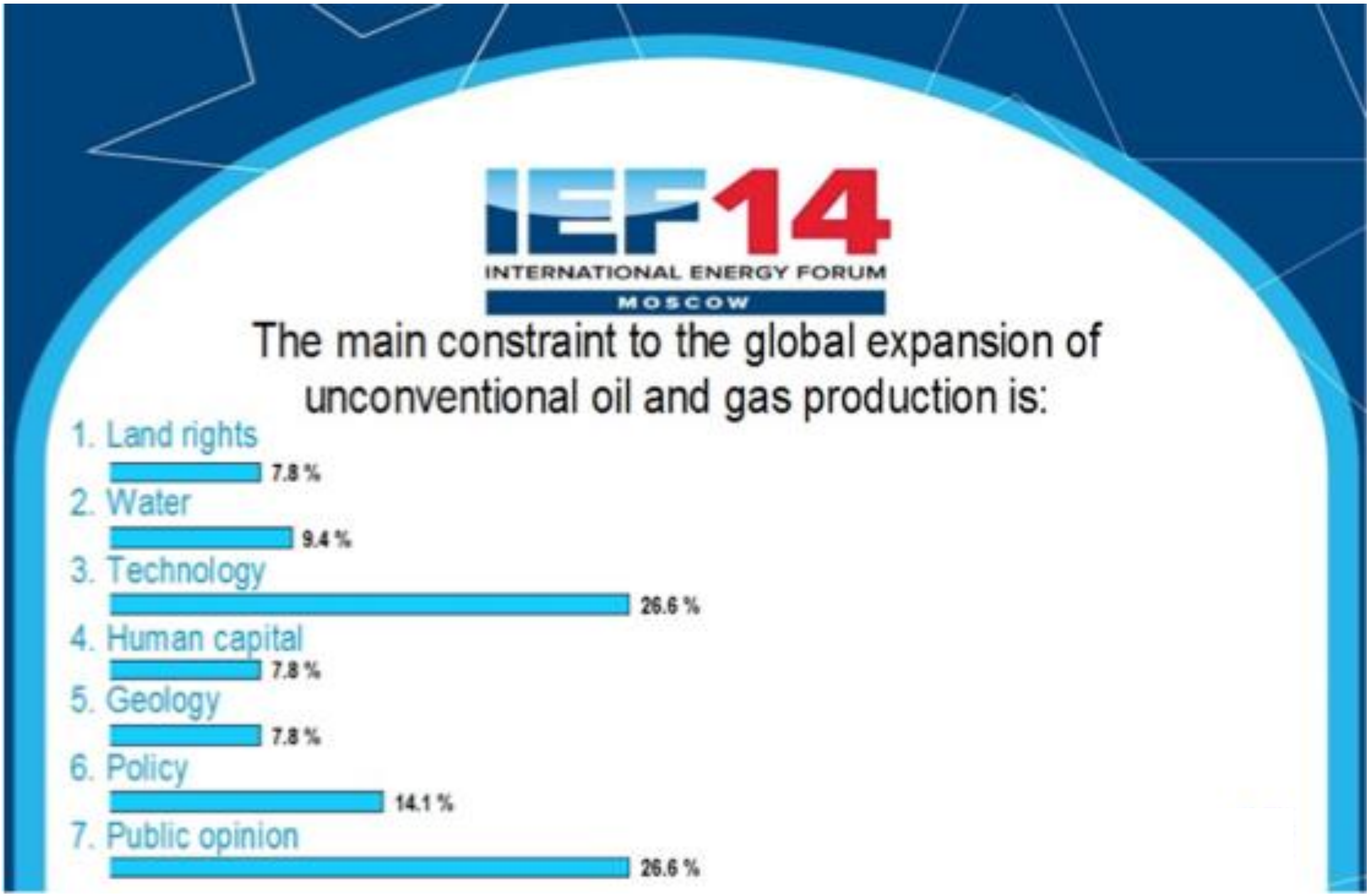
- By some accounts, **destination clauses are already becoming a thing of the past**. New LNG contracts between Middle Eastern suppliers and Asia buyers appear **to incorporate more flexibility**.
- Recent requests from some Asian LNG importers to renegotiate the terms of their contracts **signal a need for more dialogue between buyers and sellers**. Through dialogue, both sides may well increase the upside to each deal.

The 14th IEF Ministerial | May 2014

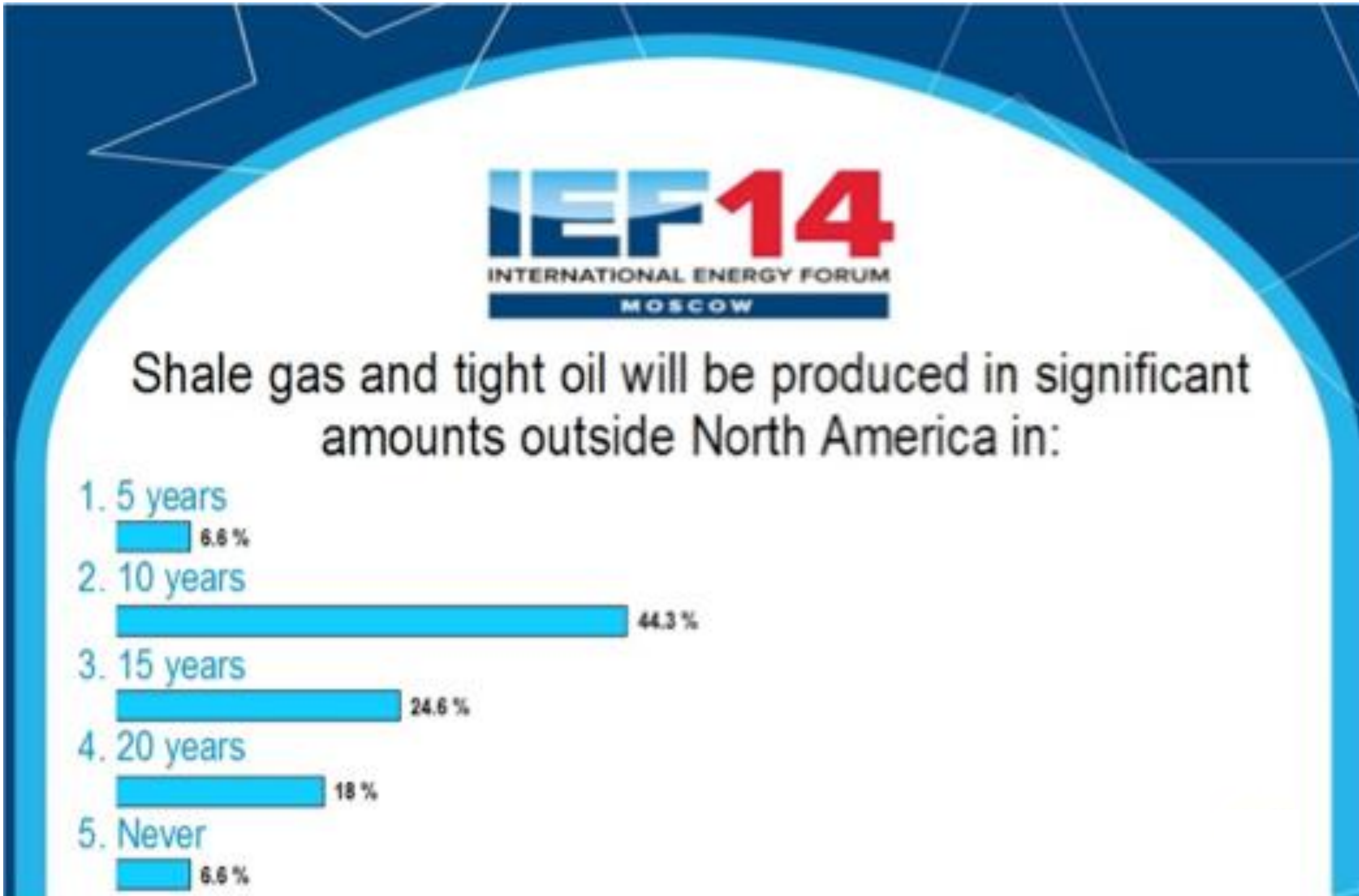
Focus on the impact of unconventionals

- **Controversy around unconventional gas persists**. Additional dialogue among various stakeholders is required to understand its full short-, medium- and long-term implications for world energy markets.

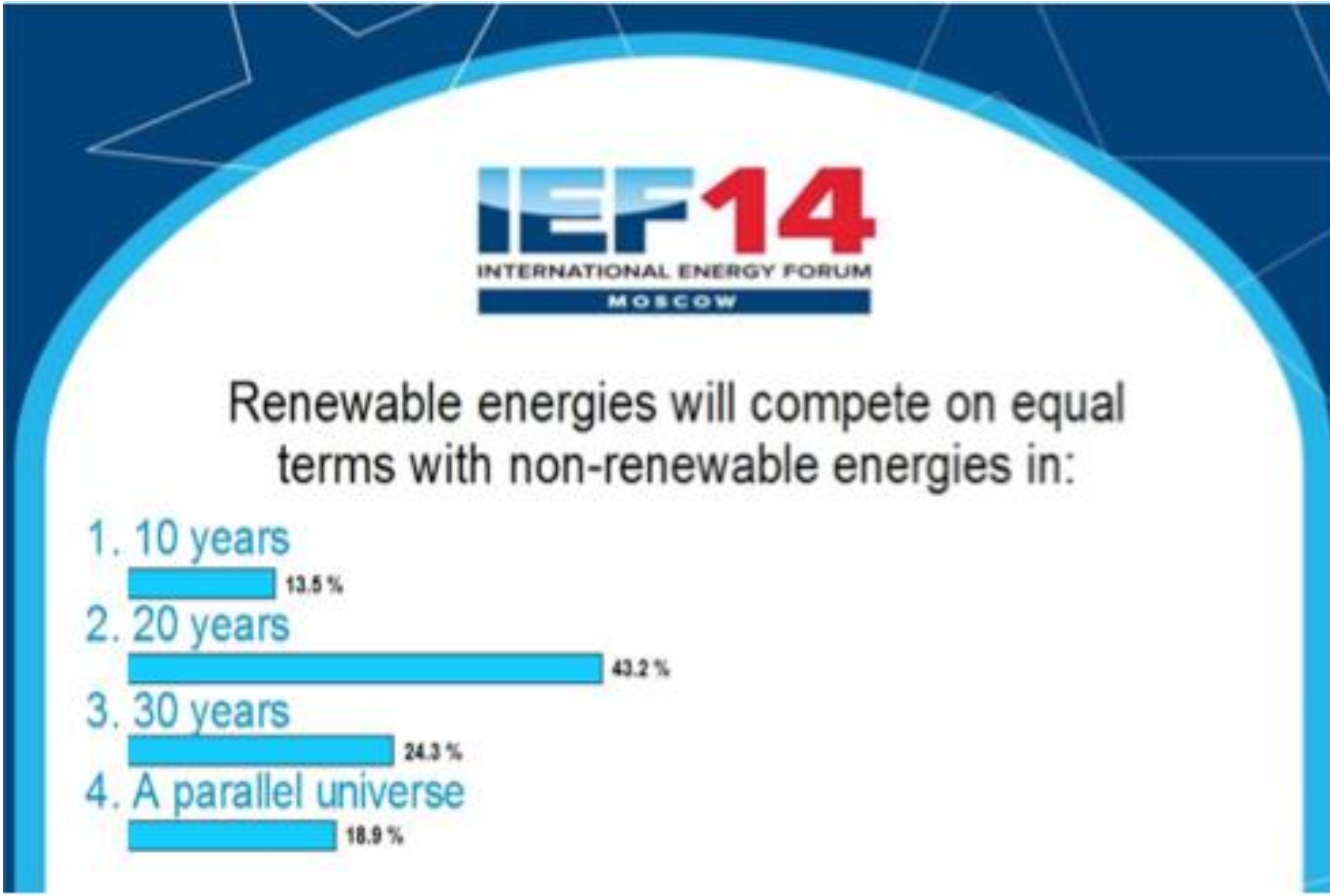
Survey on gas at the 14th IEF Ministerial | May 2014



Survey on gas at the 14th IEF Ministerial | May 2014



Survey on gas at the 14th IEF Ministerial | May 2014



IEF-KEEI Roundtable on the rise of unconventional gas and LNG trade | June 2014

Focus on LNG trade growth

- **Concerns of an LNG supply glut appear exaggerated**, given the fact that virtually all of the new LNG coming on stream has already been purchased.

- Rather than focusing on concerns of over supply, **it may well be more likely that there will not be enough supply** to meet the expected rise in LNG demand from China, Japan and Korea.

Fourth IEF-IGU Ministerial Gas Forum | November 2014

Focus on fuel competition, policy, Asian demand and the "social license"

- Key variables to observe are the **future path of nuclear power**, how the **carbon policy debate** will play out, and how to improve forecasts **on Chinese energy demand.**
- The "**social license**" is indispensible and will become more so for the progress of new gas ventures.
- **Policy consistency,** including on **domestic content**, will be key to the success of the industry.

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What has changed in the global energy dialogue on natural gas?

October 2012	December 2014
1. Asia Pacific will drive future natural gas demand.	**1. Unchanged.**
2. An integrated global gas market is **not likely** in the near term.	**2. Unchanged**, though talk has begun of a possible LNG spot price.
3. The logic for establishing a regional gas-pricing **hub in Asia** is **questionable**.	**3. Unchanged**, though several countries continue to push for this.
4. Oil-indexation of gas prices has clear merits, but some sellers have won business by applying a more **flexible formula**.	**4. Unchanged**, with the trend towards greater flexibility on the part of LNG exporters.
5. It is **difficult to talk about gas in isolation** because of its links to electricity, coal and renewables.	**5. Unchanged**, though gas is more a complement than a competitor.

Then and now: what has changed in the global energy dialogue on natural gas?

October 2012	December 2014
6. **Destination clauses** in LNG contracts are ironclad and non-negotiable.	6. **Changed**: European Commission ruling, greater exporter flexibility.
7. There are **conflicting messages** about gas in the marketplace (clean fuel versus fracking concerns).	7. **Changed**: gas has gained prominence as a clean fossil fuel.
8. Companies entering into joint ventures with US-based unconventionals players will **benefit from technology transfer**, accelerating the spread of the unconventionals revolution.	8. **Changed**: geology is so different from play to play within the US that the transfer of knowledge to China and beyond is not so straightforward.
9. In the wake of the Fukushima disaster, Japan will **cease using nuclear power indefinitely.**	9. **Changed**: Japan likely to bring some nuclear back on line in 2015.

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Progress on JODI-Gas as of December 2012

- JODI-Gas was an exercise.
- 55 countries/economies were submitting data on an irregular basis.
- Two Gas Data Transparency Conferences gathered key stakeholders and discuss challenges to enhanced data transparency and related countermeasures.

Shared Progress on JODI-Gas since October 2012

JodiGas™

Joint Organisations Data Initiative

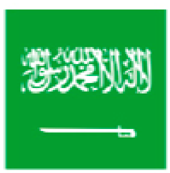
▪ JODI-Gas became a **permanent initiative**	October 2012
• **68 countries/economies** participating in JODI-Gas	January 2013
• **Access to the JODI-Gas database granted** for participating countries	January 2013
• **JODI-Gas Regional Training Workshop** for Asia-Pacific Region	October 2013
• **JODI-Gas Regional Training Workshop** Central Asia & MENA	February 2014
• The **Gas Exporting Countries Forum (GECF)** became the 8th JODI Partner	March 2014
• **JODI-Gas Manual** prepared and published	April 2014
• **Public launch** of the JODI-Gas database at the IEF14	May 2014
• **New JODI website** unveiled	May 2014
• **77 countries/economies** participating in JODI-Gas	December 2014
• Continue to enhance the JODI-Gas database and increase participation	On-Going

INTERNATIONAL ENERGY FORUM

GLOBAL ENERGY SECURITY THROUGH DIALOGUE

Watch **IEF14 Ministerial** highlights

WWW OF ENERGY	OUTLOOKS	ENERGY INSIGHTS	CYBER SECURITY	DATA VISUALISATION



"The IEF is a very crucial and important organisation. I hope that the IEF in the future will be the main organisation for all energy issues."

HE Ali bin Ibrahim Al-Naimi,

Minister of Petroleum and Mineral Resources, Saudi Arabia