



Joint IEA-IEF-OPEC Report

on the Workshop

**"Understanding the New Dynamic: How do the Physical and
Financial Markets for Energy Interact?"**

&

the Forum

"Energy Market Regulation: Clarity and Coordination"

22 & 23 November 2010, London

Executive Summary

Major fluctuations in energy prices in general and oil prices in particular have attracted heightened attention to the functioning of energy markets. The Jeddah and London Ministerial ad hoc energy meetings, held in June and December 2008, respectively, led to a collaborative effort aimed at exploring ways and means to enhance the process of producer-consumer dialogue and address the issue of extreme volatility in energy markets.

In this connection, and given the dual role that crude oil now plays as both a physical commodity and a financial asset, the International Energy Agency (IEA), the International Energy Forum (IEF) and the Organization of the Petroleum Exporting Countries (OPEC) recognized the need to improve understanding of the interlinkages between the physical and financial markets for energy, and agreed to jointly hold workshops on energy markets functioning and meetings of energy regulators. These events form part of a wider joint programme of work agreed by the three organisations and included at the 12th International Energy Forum (Cancun, March 2010) as part of the Cancun Declaration.

The Joint IEA/IEF/OPEC Workshop on “Understanding the New Dynamic: How do the Physical and Financial Markets for Energy Interact” and the Forum on "Energy Market Regulation: Clarity and Coordination" were convened in London on 22nd and 23rd November, 2010, respectively.

The first day’s Workshop was organized around four sessions that looked at i) the recent evolution of physical markets, including crude benchmarks; ii) the evolution of energy-related financial markets; iii) “over-the-counter” trading and its impact on price discovery and volatility; and iv) the relationship between oil products and paper markets. The wrap-up session discussion focused on the interaction between physical and financial markets for energy.

The second day’s Forum of regulators examined the current framework of regulation for commodity futures and derivatives markets and the objectives and extent of the proposed reforms. The potential impacts of regulation on hedging and risk management, as well as on improving the transparency of regulated exchanges and OTC transactions, were discussed. The last session covered international coordination for market regulation.

The events brought together over one hundred experts from industry, research, government, and the financial and regulatory sectors. Discussions were held under the Chatham House Rule. The agendas of the two events are attached as Annex to the present Report.

Overall, the Workshop and the Forum provided rich and diverse views from distinguished experts with different backgrounds and affiliations. The diversity of the opinion expressed in the two events reflected, to a large extent, the differences of opinion regarding the linkages between physical and financial markets, the relative impacts of physical and financial markets on the price of oil and its volatility and the

complexity of the different market layers for price discovery and risk transfer, from spot to derivatives. It also reflected the diverse views regarding the benefits, consequences and costs of various regulation proposals.

The participants underlined the importance of sound market data in contribution to oil market stability and commended the international efforts to increase market data transparency, such as the JODI process, and stressed the need to continue these efforts.

The Forum recognized that regulations have important effects on market functioning and participants' behaviour and emphasized the need for appropriate regulation and the release of more frequent and high quality market data, which would benefit all market participants. The Forum commended the international coordination on financial market regulation.

The participants recognized that continued cooperation and active dialogue are important elements in improving the understanding of the concerns of all parties and in enhancing oil market stability.

At the end of the events, the participants noted the successful outcome of the Workshop and the Forum, as well as the positive and constructive nature of the dialogue among energy stakeholders. It was recommended that similar events covering the interlinkages between the physical and financial energy markets, as well as energy market regulation, be held on a regular basis in order to promote a deeper understanding and dialogue on these complex and important issues.

I. **Introduction**

Major fluctuations in energy prices, in general, and oil prices, in particular, have attracted heightened attention to the functioning of energy markets. The Jeddah and London Ministerial ad hoc energy meetings, held in June and December 2008, respectively, led to a collaborative effort aimed at exploring ways and means to enhance the process of producer-consumer dialogue and address the issue of extreme volatility in energy markets.

In this connection, and given the dual role that crude oil now plays as both a physical commodity and a financial asset, the International Energy Agency (IEA), the International Energy Forum (IEF) and the Organization of the Petroleum Exporting Countries (OPEC) recognized the need to improve understanding of the interlinkages between the physical and financial markets for energy, and agreed to jointly hold workshops on energy markets functioning and meetings of energy regulators. These events form part of a wider joint programme of work agreed by the three organizations and included at the 12th International Energy Forum (Cancun, March 2010) as part of the Cancun Declaration.

The Joint IEA/IEF/OPEC Workshop on “Understanding the New Dynamic: How do the Physical and Financial Markets for Energy Interact” and the Forum on "Energy Market Regulation: Clarity and Coordination" were convened in London on 22nd and 23rd November, 2010 respectively.

II. **The Workshop on "Understanding the New Dynamic: How do the Physical and Financial Markets for Energy Interact?"**

The objective of the Workshop was to improve the understanding of the linkages between physical and financial markets, and to identify key influences from both markets as regards energy prices.

The Workshop was organized around four sessions that looked at i) the recent evolution of physical markets, including crude benchmarks; ii) the evolution of energy-related financial markets; iii) “over-the-counter” trading and its impact on price discovery and volatility; and iv) the relationship between oil products and paper markets.

Recent evolution of physical markets

The discussion in this session focused on the evolution of the physical markets over the last decade in terms of crude and products, quality, regional demand, trade patterns and price formation. The session also addressed the current benchmark crudes and their validity, trading volumes and possible alternatives. Finally, the session examined the role of price assessment by information publishers.

The evolution of energy-related financial markets

The participants discussed in this session the evolution of the energy-related financial markets over the last decade, in terms of structure, size, participants, financial products and their functioning. The session also discussed the impact of other asset classes, such as equities and currencies on the paper oil market and other commodity markets. Furthermore, this session examined the impacts that investment strategies of market participants, such as hedgers, money managers and index traders, were having on the functioning of energy markets, in particular in terms of price discovery and volatility. It also addressed the impact of the structure of the futures market on the price behaviour. Finally, the participants deliberated on improving market transparency, in particular in over-the-counter markets.

Over-the-counter (OTC) market functioning and its impact on price discovery and volatility

The participants in this session discussed the development of the OTC market over the last decade, in terms of size, participants, products and operation. The discussions also focused on the objectives and strategies of the OTC participants, as well as the costs and benefits for them to trade on the OTC versus a regulated exchange. In addition, the session addressed the interaction between the OTC and exchange-traded futures markets, their influence on each other, their degree of transparency and the information flow between the two. Finally, the session examined the impact of the OTC market on oil price discovery and volatility, as well as the influence of speculators in OTC markets.

The relationship between oil products and paper markets

This session discussed the price developments in the products markets and its impact on the oil market as a whole. The session also addressed the hedging strategies used by refiners and main end-users. In addition, the session discussed the relationship between inventories and price changes, as well as the impact of regular release, revision and availability of inventory data on crude oil price levels and volatility. Finally, the session discussed the impact of changing crude slate, evolving product demand, emerging trends in refinery capacity availability, and differentiated quality specifications on the market.

Summary of the discussions

The workshop highlighted the increasing interaction of the physical and financial energy markets, as well as the significant potential for even greater interaction. In this connection, the Workshop noted that this needs a better understanding of the functioning of each of these markets, as well as the interaction between the physical and financial markets.

The workshop noted the key developments that have taken place in the oil market over the last decade. These include the shift of the centre of demand growth from the industrialized countries to the emerging economies, particularly China and India, with a

corresponding need for better physical data on these markets; the emergence of oil as an asset class and the influence of financial markets on prices; the shift to electronic trading on the Nymex and ICE exchanges; and the sharp growth in the unregulated OTC markets. Downstream market bottlenecks, and the price inelasticity of both demand and supply in the short term, were also noted as key influences on price behaviour.

With regard to the magnitude of the impact of the derivatives markets (either exchange-traded derivatives or OTC derivatives) on petroleum prices and volatility, there was no consensus:

- Some participants underlined the role of excessive financial speculation in the surge in prices and volatility;
- Other participants, especially those involved in price reporting, felt that spot markets set their own prices, independently of any influence from financial markets;
- A third group recognized that it is difficult to isolate the effect of the physical layers from the financial layers in the current oil pricing system and, therefore, it is difficult to construct theoretically and test empirically whether the financial market drives the physical or the other way around.

During the discussions, it was noted that the oil market, as a whole, has been fortunate in having a period of relative stability in 2010, and every effort should be made to avoid any repeat of the excessive volatility experienced in 2008. While it was recognized that volatility cannot be eliminated, violent swings were seen to be undesirable. It was also noted that, even under the excessive volatility seen in 2008, the market continued to function, with no disruption in physical supply, thus pointing to the essential resiliency of the crude oil market.

One view stressed that, with the emergence of oil as an asset class, hedging against commodity price risk has become more complex, as futures markets are influenced by non-fundamentals, in addition to prompt oil market fundamentals. Another view acknowledged the essential nature of the futures markets aiming at enhancing price transparency, lowering transaction costs, and ensuring market liquidity, thus fulfilling its price risk transfer function.

The Workshop commended international efforts to increase market data transparency, such as the JODI process, and stressed the need to continue these efforts. There was general agreement that too little information is currently available on OTC derivatives trading. The Workshop also acknowledged that the move to clearing services in the OTC markets has reduced credit risk and has increased liquidity into the market as new investors, including hedge funds, have been attracted to this market; this also could help facilitate greater transparency.

A few participants raised the concern that the futures are based on a small volume of trading in associated benchmark physical market, recognizing the need for more representative physical benchmark crudes.

The Workshop also recommended the enhancement of the international cooperation on market data transparency, such as the promotion of JODI. In this respect, the Workshop commended the role of the IEF in promoting and facilitating the dialogue among producing and consuming countries, both developed and developing, increasing awareness of their common interest in transparency, stability and predictability of energy markets.

III. **Forum on "Energy Market Regulation: Clarity and Coordination"**

The objective of the Forum was to invite market regulators and participants to exchange views about recent regulatory developments and their impacts on market functioning, to share lessons and best practices, identify new challenges and discuss near-term prospects for regulatory evolution. The Forum also explored the need, potential and best means of coordinating energy market regulation globally.

The Forum examined the current framework of regulation for commodity futures and derivatives markets and the objectives and extent of the proposed reforms. The potential impacts of regulation on hedging and risk management were discussed. The last session covered international coordination for market regulation.

The perspective of market regulators

This session discussed the current framework of regulation and the intended effects of the proposed reforms on improving the transparency of exchange-traded and OTC derivatives markets. The session also discussed the impacts of establishing position limits and moving OTC activity onto the regulated exchanges on market functioning. Finally, the session addressed the future development of regulation in countries/regions.

The perspective of market participants

The participants addressed the potential changes that the market participants would like to see in the current or proposed regulation. They also brought issues regarding the impact on competitiveness or market functioning to the attention of regulators, as well as definitional issues that needed further clarification. The session discussed whether physical hedging and financial hedging should be treated equally. Finally, the session considered whether commercial hedgers could potentially be disadvantaged by the new regulations.

International coordination for market regulation

The final session focused on the international coordination on market regulation, as well as the costs and benefits of such a coordinated effort. The session also addressed ways and means to facilitate communication between regulators.

Summary of the discussions

The Forum recognized that regulations have important effects on market functioning and participants' behaviour and emphasized the need for appropriate regulation and oversight in the financial energy markets, including the release of more frequent and granular market data.

The Forum also acknowledged the significant legislative and policy response already in place for all financial markets and also to commodities-specific matters, including the work of the IOSCO Commodity Markets Task Force.

There was wide acknowledgment that several useful actions could be undertaken by the relevant regulation authorities to improve market transparency, reduce volatility, mitigate risk and improve market functioning. These include more information and transparency regarding financial market transactions in both exchange-traded and OTC derivatives markets. In this respect, the Forum took note of the G20 roadmap to strengthen regulation, in particular the objective to have all standardized OTC derivative contracts traded on exchanges or electronic trading platforms, where appropriate, and cleared through central counterparties by end-2012 at the latest.

There was no consensus on potential benefit/impact of tighter regulations on market transparency, market efficiency, oil price stability and cost; however, there was general agreement on improving market transparency, visibility, reducing risks and keeping adequate liquidity in the market.

There were diverse views on the desirability of exempting "end users" (i.e. those whose principal activity is trading physical commodities, not derivatives) from new regulations, as provided in the Dodd-Frank Act. Many participants pointed out that a distinction between purely-physical and purely-financial players on energy markets would be difficult to apply, since so many players participate simultaneously in physical and derivative markets. On position limits, some participants see it useful to set limits on trade with the participation of all relevant markets to avoid creating regulatory arbitrage; however, it was not clear how to set them and on which basis. Some others expressed reservations on position limits in terms of market liquidity and expressed a preference for 'lighter touch' position management.

The Forum commended the international coordination on financial market regulation and noted that financial regulation is already highly internationally coordinated, through international, regional and bilateral cooperation in many areas. The Forum recognized that the OTC derivatives markets are global markets and, therefore, the reforms will only be effective if there is a high level of international consistency. In this regard, the Forum

commended the G20 commitment to improve transparency in derivatives markets and mitigate systemic risk. The forum also commended the work to be conducted by IEA, IEF and OPEC following the G20 Seoul Summit asking these three organizations, in cooperation with IOSCO, to prepare a report by April 2011 on how the oil spot market prices are assessed by oil price reporting agencies and how this affects the transparency and functioning of oil markets.

IV. **Conclusion**

The participants noted the increasing interaction of the physical and financial energy markets. They recommended to continue the ongoing effort to better understand the functioning of each of these markets, as well as the interaction between the physical and financial markets.

The participants also recommended the enhancement of the international cooperation on market data transparency, such as the promotion of JODI.

The forum recognized that regulations have important effects on market functioning and participants' behaviour and emphasized the need for appropriate regulation and the release of more frequent and high quality market data, which would benefit all market participants.

The participants commended the international coordination on financial market regulation.

At the end of the two events, the participants noted the successful outcome of the Workshop and the Forum, as well as the positive and constructive nature of the dialogue among energy stakeholders.

It was recommended that further similar events covering the interlinkages between the physical and financial energy markets, as well as energy market regulation, be held again in future in order to promote a deeper understanding of, and dialogue on, these complex and important issues.

Annex I

Understanding the New Dynamic: How do the Physical and Financial Markets for Energy Interact?

22 November 2010, London

Monday, November 22, 2010	
8:30 to 9:00	Registration, Coffee and Networking
9:00 to 10:30	<p>Opening Remarks HRH Abdulaziz bin Salman bin Abdulaziz Al Saud, <i>Chairman of the IEF Expanded High Level Steering Group</i></p> <p>Session I: How the physical markets have evolved in recent years?</p> <ul style="list-style-type: none"> • How have the physical markets evolved over the last decade, in terms of crude and products, quality, regional demand and trade patterns? • How has price formation in the physical markets evolved? • Are the current benchmarks still valid? What sort of bearing does the declining liquidity in WTI, Brent, Oman and Dubai have on price formation? What would the market gain or lose in shifting to alternatives? • How has the role of price assessment by information publishers, such as Platts and Argus Media, evolved? <p><u>Moderator:</u> Tatsuo Masuda, <i>Professor, The NUCB Graduate School, Japan</i></p> <p><u>Panelists:</u> Jorge Montepeque, <i>Senior Editor, Platts</i> Ken Koyama, <i>Director, Institute of Energy Economics of Japan</i> Bassam Fattouh, <i>Director, Oil and Middle East Programme, Oxford Institute for Energy Studies</i> Adeeb Y. Al-Aama, <i>Corporate Advisor, Economic and Energy Outlook, Saudi Aramco</i></p>
10:35 to 11:45	Coffee and Networking
10:45 to 12:15	<p>Session II: How have energy-related financial markets evolved?</p> <ul style="list-style-type: none"> • How have the energy-related financial markets evolved over the last decade, in terms of structure, size, participants, financial products and their functioning? • How do developments in other asset classes, such as equities and the currency markets, affect the paper oil market and other commodity markets? • How do the investment strategies of market participants, such as hedgers, money managers and index traders, impact markets' functioning, in particular in terms of price discovery and volatility? • What impact does the structure of the futures market have on price behaviour? Who are active in the far-forward months and how does this activity influence front-month prices? What type of trade and post-trade information is needed to improve transparency, in particular in over-the-counter markets? <p><u>Moderator:</u> Jean-Marie Chevalier, <i>Professor, University of Paris-Dauphine</i></p> <p><u>Panelists:</u> Michael Masters, <i>Managing Member, Masters Capital</i> David Bicchetti, <i>Associate Economic Officer, UNCTAD</i> Philip Wiper, <i>Director, PVM Oil Associates Ltd</i> Eugen Weinberg, <i>Senior Commodity Analyst, Commerzbank</i></p>
12:15 to 13:30	Lunch

13:30 to 15:00	<p>Session III: OTC market functioning and impact on oil price and volatility</p> <ul style="list-style-type: none"> • How has the OTC market developed during the last decade, in terms of size, participants, products and operation? • What are the OTC participants' objectives and strategies? What are the costs and benefits for participants to trade on the OTC versus a regulated exchange? • How do the OTC and exchange-traded futures markets interact and influence each other? What is their degree of transparency? How does information flow between the two? • How does the OTC market impact oil price discovery and volatility? What is the influence of speculators in OTC markets? <p><u>Moderator:</u> Jeff Harris, <i>Former CFTC Chief Economist, University of Delaware</i></p> <p><u>Panellists:</u> Joel Couse, <i>Head of Trade and Shipping, Total</i> Vincent Kaminski, <i>Professor, Jesse H. Jones Graduate School of Business, Rice University, Houston.</i> David Peniket, <i>President of ICE Futures Europe</i></p>
15:00 to 15:15	Coffee Break
15:15 to 16:45	<p>Session IV: The relationship between the products and paper markets</p> <ul style="list-style-type: none"> • How do price developments in the products markets impact the oil market as a whole? • What are the hedging strategies used by refiners and main end-users? • How has the relationship between inventories and price changed? How does the regular release, revision and availability of data on inventories influence crude oil price levels and volatility? • What impact has the changing crude slate, evolving product demand, emerging refinery surplus, and differentiated quality specifications had on the market? <p><u>Moderator:</u> Ms. Amy Myers Jaffe, <i>Associate Director, Rice University Energy Program</i></p> <p><u>Panellists:</u> Philip Verleger, <i>The David E Mitchell /EnCana Professor of Management, Owner of P.K. Verleger LLC</i> Hans-Werner Polzin, <i>Director Risk Management & Emission Trading , HAM MT Lufthansa</i> Ian Bourne, <i>Editor-in-Chief, Argus Media</i> Jayaraman Rajaraman, <i>Vice President, Head, Crude Oil & Feedstock Trading, Reliance Industries</i></p>
16:45 to 17:45	Wrap-up: How do the Physical and Financial Markets for Energy Interact?
17:45 to 18:00	<p>Closing Remarks HRH Abdulaziz bin Salman bin Abdulaziz Al Saud, <i>Chairman of the IEF Expanded High Level Steering Group</i></p>

Annex II

Energy Market Regulation: Clarity and Coordination

23 November 2010, London

Animator: John Gault, Co-Director, Executive Masters Program, The Graduate Institute, Geneva.

Tuesday, November, 23, 2010	
8:30 to 9:00	Registration, Coffee and Networking
9:00 to 10:30	<p>Opening Remarks HRH Abdulaziz bin Salman bin Abdulaziz Al Saud, <i>Chairman of the IEF Expanded High Level Steering Group</i></p> <p>Session I: Regulators</p> <ul style="list-style-type: none"> Assessment of current framework of regulation and oversight What are the intended effects of the proposed regulation and exactly how will this be achieved? How will current proposals improve transparency on the regulated exchanges and the OTC? What impacts will efforts such as establishing position limits and moving OTC activity onto the regulated exchanges have on market functioning? Where do you see regulation heading in your respective countries/regions? <p><u>Panelists:</u> Scott O'Malia, <i>Commissioner, Commodity Futures Trading Commission (CFTC)</i> Alexander Justham, <i>Director of Markets, Financial Services Authority (FSA)</i> Maria Teresa Fabregas, <i>Deputy Head of Unit, Securities Markets, European Commission</i> Eric Salomons, <i>Associate Director of Markets, Dubai Financial Services Authority (DFSA)</i></p>
10:30 to 10:45	Coffee and Networking
11:00 to 12:15	<p>Session II: Market participants</p> <ul style="list-style-type: none"> What changes would you like to see to the proposed or current regulation? Why? What impacts on competitiveness or market functioning might regulators not be completely aware of? Should physical hedging and financial hedging be treated equally? How do the views of commercial hedgers differ and why? If regulation is implemented, would commercial hedgers be disadvantaged? What definitional issues would the financial sector like to see clarified? <p><u>Panelists:</u> Luigi Sampaolo, <i>Head of Political and Institutional Scenarios and Analysis International Public Affairs, ENI</i> Frederic Baule, <i>General Manager, Risk Management Services, Total</i> Zhang Qi, <i>Senior Energy Analyst, CNPC</i></p>
12:15 to 13:30	Lunch
13:30 to 15:00	<p>Session III: International coordination</p> <ul style="list-style-type: none"> What can be coordinated and how? What are the costs and benefits of international regulation? How can regulators better communicate? <p><u>Panelists:</u> John Parsons, <i>Executive Director, MTI Centre for Energy & Environment Policy Research, MIT, Sloan</i></p>

	<i>School of Management</i> Thomas Helbling , Advisor, <i>Research Department, IMF</i> Jonathan Hill , Advisor to the Co-chair, <i>IOSCO Commodity Futures Markets Task Force</i> Sarah Casey Otte , Member of the Secretariat, <i>Financial Stability Board</i>
15:00 to 15:15	Coffee Break and Networking
15:15 to 16:15	<p>Wrap-up session (with regulators)</p> <p>Regulators are invited to comment on views and suggestions expressed by market participants in session II and by participants in session III (international coordination).</p> <p>Closing Remarks HRH Abdulaziz bin Salman bin Abdulaziz Al Saud, <i>Chairman of the IEF Expanded High Level Steering Group</i></p>