



36th Executive Conference and Related Events
March 6–10, 2017 | Houston, Texas

Pace of Change: Building a New Energy Future



CERAWEEK 2017 in Review



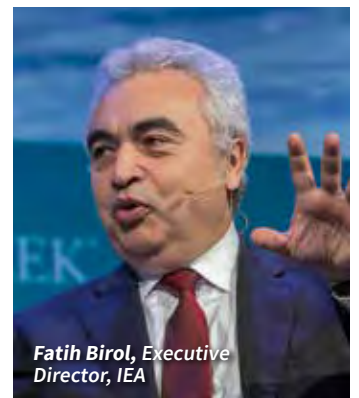
HE Khalid A. Al-Falih, Minister of Energy, Industry, and Mineral Resources, Kingdom of Saudi Arabia



HE Alexander Novak, Minister of Energy, Ministry of Energy of the Russian Federation



Hirohide Hirai, Director General, Ministry of Economy, Trade, and Industry (METI), Japan



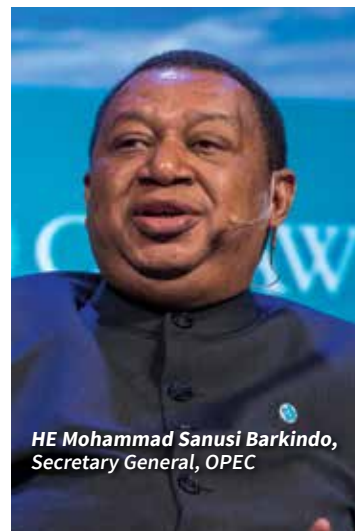
Fatih Birol, Executive Director, IEA



HE Dharmendra Pradhan, Minister of State for Petroleum & Natural Gas, India



HE Sultan Ahmed Al Jaber, Minister of State in the United Arab Emirates & CEO, Abu Dhabi National Oil Company



HE Mohammad Sanusi Barkindo, Secretary General, OPEC



HE Jabbar Ali Al-Luiebi, Minister of Oil, Republic of Iraq



Rt. Hon. Justin Trudeau, Prime Minister, Canada

“CERAWEEK is our world stage.”

– Darren Woods, Chair & CEO, ExxonMobil



Harold Hamm, Chair & CEO, Continental Resources, Inc.; Daniel Yergin, CERAWEEK Co-Chair & Vice Chair, IHS Markit; and HE Suhail Mohamed Al Mazrouei, Minister of Energy, UAE



Senator John Cornyn, Majority Whip, US Senate

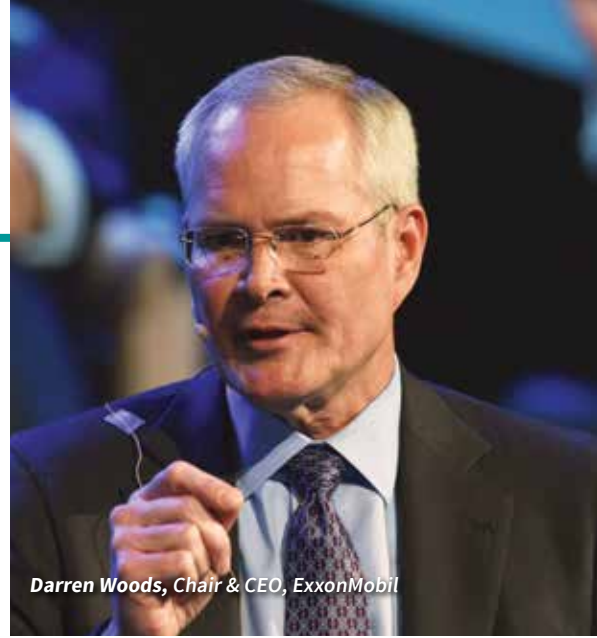


Senator Lisa Murkowski, Chair, Energy and Natural Resources Committee, US Senate





Ben van Beurden, CEO, Royal Dutch Shell plc



Darren Woods, Chair & CEO, ExxonMobil



Bob Dudley, Group Chief Executive, BP plc



Ryan Lance, Chairman & CEO, ConocoPhillips



Patrick Pouyanné, Chair of the Board & CEO, TOTAL S.A.



John Watson, Chair & CEO, Chevron



Eldar Sætre, CEO, Statoil



Vicki Hollub, President & CEO, Occidental Petroleum Corporation



Peter Thiel, Investor & Entrepreneur, Founders Fund



Pedro Pizarro, President & CEO, Edison International



Russell Stokes, Senior Vice President, GE; President & CEO, GE Power



Lynn Good, Chair, President & CEO, Duke Energy



Andrew Liveris, Chair & CEO, The Dow Chemical Company



Isabelle Kocher, CEO, Engie



Jean-Bernard Lévy, CEO & Chair, EDF



Contents

Mission	5
Opening Day Plenaries	7
Insight Dinners	10
Oil & Gas Plenaries	11
Natural Gas & Global Energy Plenaries.	20
Energy & Power Plenaries.	27
Reflections & Prospects	32
Expert Discussions	36
Innovation Agora	38
Future Energy Leaders.	42
Women in Energy.	43
Energy Innovation Pioneers	44
Leadership Circle	45
EPICs	46
Community Gatherings	47
Media Coverage & Impact.	50
Partnership	51
CERAWEEK Partners	52
2017 Featured Speakers.	56
Past Featured Speakers	57
CERAWEEK 2018.	60

CERAWEEK 2017 Video Gallery

<http://ondemand.ceraweek.com/>

Mission



The 36th CERAWEEK by IHS Markit focused on “Pace of Change: Building a New Energy Future.” Over 3,500 delegates from more than 60 countries participated in this year’s gathering. Sessions addressed the opportunities ahead—from oil and gas production to power generation, renewable energy, technology, investment, and regulatory and environmental policies.

Some 480 speakers—senior executives and officials, thought leaders, NGOs, and IHS Markit experts from across the energy spectrum and from the policy, financial, technology, and industrial communities—spoke on the nature and pace of change; and identified forces that will be critical to shaping the future business environment and assuring the world’s growing energy requirements.

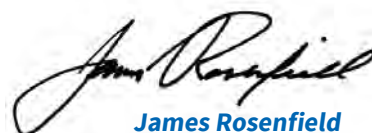
This year inaugurated the Innovation Agora @ CERAWEEK—exploring transformative energy innovations ranging from digital technology to e-mobility, robotics, and connected homes.

We were especially pleased to welcome Canadian Prime Minister Justin Trudeau and to present him with the CERAWEEK Global Energy and Environment Leadership Award.

We are deeply thankful to our speakers, partners, and participants for their engagement and contributions to CERAWEEK.



Daniel Yergin
Co-Chair, CERAWEEK &
Vice Chair, IHS Markit



James Rosenfield
Founder & Co-Chair, CERAWEEK
& Senior Vice President,
IHS Markit



Agora Studio: Man + machine: The changing workforce | **Jay Timmons**, President & CEO, National Association of Manufacturers; and **David Farr**, CEO, Emerson



HE Khalid A. Al-Falih, Minister of Energy, Industry, and Mineral Resources, Kingdom of Saudi Arabia; and **HE Sultan Ahmed Al Jaber**, Minister of State, United Arab Emirates & CEO of ADNOC

“All the international players and the domestic ones come here to talk about the big issues.”

– CNBC



Agora Studio: Today's reality: The digital oilfield | **Qasem Al Kayoumi**, Manager, Technical Center, ADNOC; and **Lisa Davis**, Member of Management Board & CEO, Siemens Energy

Opening Day Plenaries



Darren Woods, Chair & CEO, ExxonMobil

Global oil dialogue

Darren Woods spoke of innovation and technology as a driver for economic growth and environmental progress. He also addressed free trade and infrastructure, including ExxonMobil's "Growing the Gulf" project.



HE Sultan Ahmed Al Jaber, Minister of State in the United Arab Emirates & CEO, Abu Dhabi National Oil Company

Leadership dialogue

Sultan Ahmed Al Jaber offered a roadmap and vision for ADNOC's reorganization, focusing on commerciality, profitability, and efficiency in response to long-term lower oil prices and market dynamics.



Al Monaco, President & CEO, Enbridge



Hon. Daniel Sullivan, US Senator, Alaska

Building tomorrow's infrastructure

Al Monaco and **Daniel Sullivan** urged updating US regulations to modernize infrastructure and discussed the challenge of building and maintaining relationships among all stakeholders.

Opening Day Plenaries *(continued)*

Ministerial address

Alexander Novak, Russia's energy minister, discussed the future of Russian hydrocarbons, the resilient Russian economy, and the historic 2016 agreement between 24 OPEC and non-OPEC countries.



HE Alexander Novak, Minister of Energy, Ministry of Energy of the Russian Federation

Leadership dialogue

Pedro Parente and **Eldar Saetre** assessed people-oriented leadership and the importance of a company's cultural reforms to improve efficiency, productivity, and reputation.



Eldar Saetre, CEO, Statoil



Pedro Parente, President, Petrobras

They also discussed deepwater development, enabling economic growth, and knowledge sharing through international cooperation and partnerships.

Investing in the energy future

Roger Diwan, **Robert Lawler**, **Keisuke Kuroki**, **Marcel van Poecke**, and **Osmar Abib** explored the market's response to low oil prices, from improving balance sheets and portfolios to capital and operational efficiencies. They focused on the dynamics of the US shale and its future.



Roger Diwan, Vice President, Financial Services, IHS Markit; **Robert Lawler**, President, CEO, & Director, Chesapeake Energy Corporation; **Keisuke Kuroki**, President, JOGMEC; **Marcel van Poecke**, Managing Director & Head of Energy Partnership, Carlyle International Energy Partners (CIEP); and **Osmar Abib**, Managing Director, Global Head of Oil & Gas, Credit Suisse



John Hess, CEO, Hess Corporation



Ashok Belani, Executive Vice President, Technology, Schlumberger Limited



Miguel Gutiérrez, Chair, YPF S.A.

Adapting to the new energy era

Ashok Belani, **John Hess**, and **Miguel Gutiérrez** discussed how technology, efficiencies, and big data are helping to improve the economics of both shale and offshore projects. They expressed concern that not enough investment was going toward oil and gas exploration to meet future demand.

The new equation for energy and the environment

Carlos Pascual and panelists **Patricia Espinosa**, **Rachel Notley**, and **Maroš Šefčovič** spoke about the future of global energy sustainability in the wake of the Paris Agreement. The EU and Alberta are demonstrating that it is possible to decouple economic growth from emissions. Finally, they discussed how climate change initiatives are an economic and job growth opportunity.



Carlos Pascual, Senior Vice President, IHS Markit; **Patricia Espinosa**, Executive Secretary, United Nations Framework Convention on Climate Change (UNFCCC); **Hon. Maroš Šefčovič**, Vice President of the European Commission, Energy Union; and **Hon. Rachel Notley**, Premier of Alberta, Government of Alberta, Canada

Insight Dinners

Insight dinners provided a relaxed, informal opportunity for discussion among industry peers and experts. Each dinner centered on a key theme and featured thought-provoking remarks by distinguished commentators, followed by moderated discussions and Q&A with dinner participants.

Insight dinner topics included:

- India's new hydrocarbon exploration and licensing policy
- New eras for sustainability?
- Oil Price Information Service (OPIS): Future of supply and transportation
- Resilience and cybersecurity: Should we be worried?
- Technological innovation in energy sector—Evolution or revolution?
- The global economic outlook: Pro-growth populism or protectionist populism?
- The race for knowledge: Risks, opportunities, and competitive advantage
- US energy policy post election
- Women leaders in energy



The race for knowledge panelists **Nabilah Al-Tunisi**, Chief Engineer, Saudi Aramco; and **David Meza**, Chief Knowledge Architect, NASA



US energy policy panelists **Carlos Pascual**, Senior Vice President, IHS Markit; **Barry Smitherman**, Adjunct Professor of Energy Law, University of Texas Law School; **Jason Bordoff**, Professor of Professional Practice and Founding Director, Center on Global Energy Policy, Columbia University; **Frank Verrastro**, Senior Vice President, Center for Strategic & National Studies; and **Tom Kuhn**, President, Edison Electric Institute



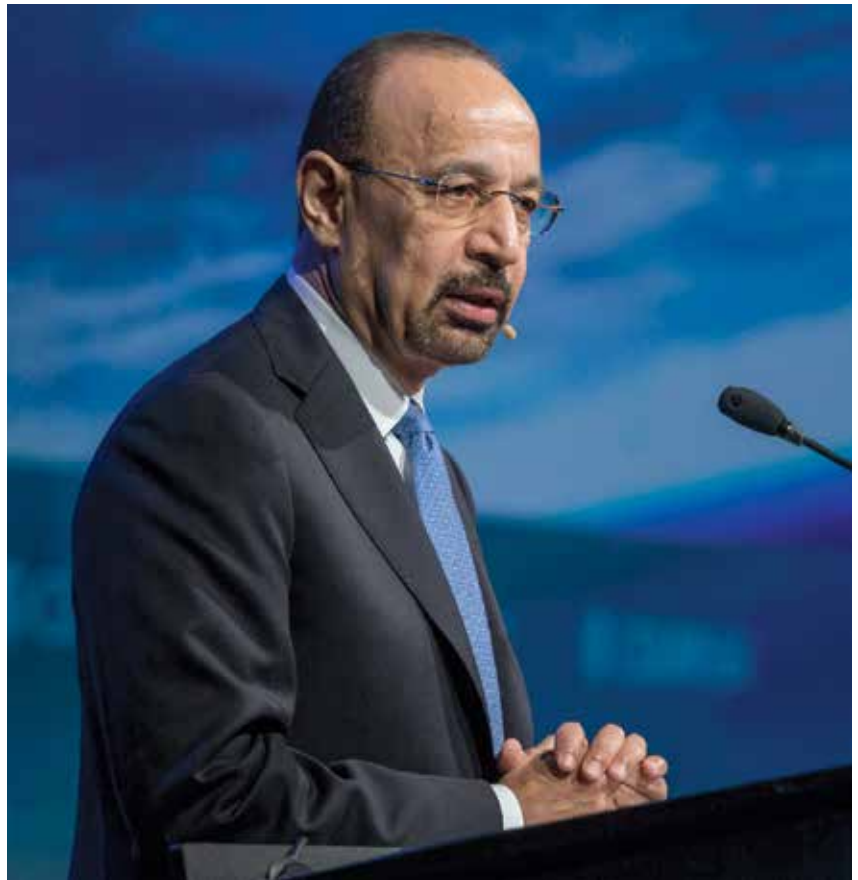
The global economic outlook panelists **Jerre Stead**, Chair & CEO (not pictured), IHS Markit; **Nariman Behraves**, Chief Economist, IHS Markit; **Dambisa Moyo**, Global Economist & Author; **Michael Klein**, Managing Partner, M. Klein and Company; and **Christof Rühl**, Global Head of Research, Abu Dhabi Investment Authority

Oil & Gas Plenaries



Welcome and ministerial address

Khalid A. Al-Falih related Saudi Aramco's planned 2018 IPO and Saudi Arabia's broader Vision 2030 program. He reviewed the recent OPEC and non-OPEC agreement to stabilize the market. Mr. Al-Falih expressed concern for the current underinvestment in long-term development projects and the risks to the future supply/demand balance.



HE Khalid A. Al-Falih, Minister of Energy, Industry, and Mineral Resources, Kingdom of Saudi Arabia



Bob Dudley, Group Chief Executive, BP plc

Opening oil plenary

Bob Dudley discussed the lower cost of production brought about by the drop in oil prices. These savings will not be sustained indefinitely. He described BP's ongoing investment in new projects and shifts in the company's portfolio. Mr. Dudley shared BP's interest in instituting a global carbon tax.

Global oil dialogue

Ryan Lance discussed the management of an oil company through the cycle, including how to adapt strategy to a lower price environment. Mr. Lance looked at how to balance short- and long-cycle projects in a portfolio and the potential of tight oil in the United States and the oil sands in Canada.

Ministerial dialogue

Dharmendra Pradhan examined India's rapidly growing role as a consumer in world energy markets, what India is doing to reduce dependence on energy imports, and plans to develop its domestic refinery segment. Minister Pradhan discussed his vision for India's power sector, which includes increasing the share of gas.



Ryan Lance, Chairman & CEO, ConocoPhillips



HE Dharmendra Pradhan, Minister of State - Independent Charge, Ministry of Petroleum & Natural Gas, India

“CERAWEEK...is highlighted on the calendar of every industry leader”

- HE Khalid A. Al-Falih, Minister of Energy, Industry and Mineral Resources, Kingdom of Saudi Arabia



Industry in transition

Mohammed Sanusi Barkindo and **Fatih Birol** discussed the current state of the oil market. Their conversation focused on the OPEC/non-OPEC agreement and a potential extension, as well as the global supply response to higher prices and whether that would lead to a new price volatility. The speakers also shared their views on their respective energy outlooks, the future of demand, and the changing energy mix.

Oil and gas leadership dialogue

Vicki Hollub spoke of Occidental's repositioning around the world to focus on core areas of production. The potential of the Permian as a whole was a focus of the conversation, as well as the company's capabilities in enhanced oil recovery. She also addressed Occidental's leading approach to human resource management through the cycle.



HE Mohammad Sanusi Barkindo, Secretary General, OPEC



Fatih Birol, Executive Director, International Energy Agency



Vicki Hollub, President & CEO, Occidental Petroleum Corporation

Oil and gas leadership dialogue

José Antonio González Anaya spoke about the reforms PEMEX has undertaken over the past year. PEMEX has shown a commitment to competition and to engaging the private sector. PEMEX has seen the benefits of new joint ventures with new technology, streamlined processes, and an influx of capital and productivity.

Promise and peril: The future of manufacturing, technology, and infrastructure

Joe Kaeser and **Thomas Fanning** discussed the physical and technological resilience of the electric grid and measures that are being taken to protect key infrastructure from cyber-attacks. The conversation also covered the changing face of global trade.



José Antonio González Anaya, CEO, PEMEX



Thomas Fanning, Chair, President, & CEO, Southern Company



Joe Kaeser, President & CEO, Siemens AG

“This is the Super Bowl of the energy industry.”

– CNBC



HE Suhail Mohamed Al Mazrouei, Minister of Energy, United Arab Emirates

Ministerial dialogues

Suhail Mohamed Al Mazrouei described his vision to 2050 for diversifying the United Arab Emirates’ energy sources. He discussed the plan’s economic impact, the critical role of public/private partnerships to stimulate investment, the ability to advance both economic and job growth in the private sector, well-being and happiness, and environmental sustainability.



HE Jabbar Ali Al-Luiebi, Minister of Oil, Republic of Iraq

Jabbar Ali Al-Luiebi discussed the quality and depth of Iraq’s oil and gas resources and export potential as well as the country’s efforts to work more effectively with IOCs to open the gas and oil downstream and upstream markets to private partnerships and investments.



HE Berat Albayrak, Minister of Energy and Natural Resources, Turkey

Berat Albayrak spoke about Turkey’s rising demand for energy and the future of the country’s energy mix. He also discussed Turkey’s strategic position in terms of geographic, social, and political influence.

Prolific Permian

Father and son **Scott and Bryan Sheffield**, both of whom have helmed highly successful independent oil companies active in the Permian Basin, discussed lessons learned and shared over three generations.



Daniel Yergin, Co-Chair, CERAWEEK & Vice Chair, IHS Markit; **Scott Sheffield**, Executive Chair & CEO, Pioneer Natural Resources; **Bryan Sheffield**, Chair & CEO, Parsley Energy; and **Jamey Rosenfield**, Co-Chair, CERAWEEK & Senior Vice President, IHS Markit

Transforming Global E&P

Musabbeh Al Kaabi, **Isabel dos Santos**, and **Vadim Yakovlev** discussed the transformations undertaken by E&P companies in the last two years to reinvent themselves. These include use of advanced technologies, operational efficiencies to decrease costs, and high grading investments to improve capital productivity. Panelists described the new models of partnerships between governments and NOCs.



Vadim Yakovlev, Deputy Chair of the Management Board, First Deputy CEO Upstream, Gazprom Neft



Isabel dos Santos, CEO, Sonangol Group



Bernard Looney, Chief Executive, Upstream, BP plc; **Mario Mehren**, Chair of the Board of Executive Directors, Wintershall Holding GmbH; and **Steve Pastor**, President Operations, Petroleum, BHP Billiton

Getting back to growth in the upstream

Bernard Looney, **Mario Mehren**, and **Steve Pastor** explored strategies for upstream companies to become financially resilient, regardless of oil price fluctuations. Companies need to focus on portfolios that favor value over volume. Successful companies are encouraging cultures of continuous improvement and challenging status quo to improve efficiency and safety in design and operations.



Musabbeh Al Kaabi, CEO,
Mubadala Petroleum

“Hundreds of oil-and-gas executives and world leaders ... gather for IHS [Markit] CERAWEEK, the annual conference in the world’s energy capital, which routinely draws influential players.”

– Wall Street Journal

Oil & Gas Plenaries *(continued)*



Daniel Yergin, Co-Chair, CERAWEEK & Vice Chair, IHS Markit, and **Peter Thiel**, Investor and Entrepreneur, Founders Fund

Dinner keynote

Daniel Yergin and **Peter Thiel** discussed the nature of innovation as laid out in Mr. Thiel's book *Zero to One*. Additionally, they examined entrepreneurship and innovation, drawing on Mr. Thiel's experiences as a founder and early investor in some of the world's most successful tech startups, including Facebook and PayPal.

Oil markets and downstream

B. Ashok, **Gregory Goff**, and **Mike Loya** assessed changes in oil markets, investment, and costs.



B. Ashok, Chair, Indian Oil Corporation Ltd. (IOCL)



Gregory Goff, Chair, President, & CEO, Tesoro Corporation



Mike Loya, President, Vitol Inc.; Director, Vitol Group, Vitol

Oil & Gas Strategic Dialogues

Strategic Dialogues provided insights and presentations on key strategic topics, followed by interactive discussions among session participants. Topics included:

- Africa upstream: Renewal ahead—or not?
- Canada’s changing energy policy landscape
- Disclosing carbon asset risk: The shape of things to come?
- Financing the upstream: Recapitalization of upstream sector
- Future of oil and gas development in Asia
- Global refining: Pressures and opportunities
- IOC strategies: Positioning for the future
- Latin America upstream: An exploration hot spot
- NOC strategies: Positioning for the future
- North American refining: Evolving industry and regulations
- Oil price cycles: What are they and where are we now?
- Rethinking sanctions in the new era
- Russia’s energy future: Ministerial dialogue
- Service company strategies: Positioning for the future
- The business of deep water in a new price era
- The new geopolitics of oil: OPEC and non-OPEC
- The Permian phoenix: Rising again
- Upstream performance trends: Enhancing operational efficiency



Latin America upstream panelists **Bob Fryklund**, Chief Upstream Strategist, IHS Markit (Chair); **Gustavo Hernández**, Director of Resources, Reserves and Associations, PEMEX Exploration and Production; **Décio Oddone**, Director-General, Brazilian ANP; **Michel Hourcard**, President & CEO, TOTAL E&P Americas, LLC; and **Orlando Velandia**, President, ANH



Africa upstream panelists **Daniel Berkove**, Senior Associate, Energy, IHS Markit (Chair); **Tonye Cole**, Executive Director & Co-Founder, Sahara Group Limited; **Andrew Kamau**, Principal Secretary, State Department of Petroleum, Ministry of Energy & Petroleum, Republic of Kenya; and **Geoffrey White**, CEO, Africa, Agility



Russia’s energy future panelists **Matthew Sagers**, Managing Director, Russian & Caspian Energy, IHS Markit (Chair); **Nikolay Buynov**, Co-Founder, President, & Chair of Board of Directors, Irkutsk Oil Co.; **Vadim Yakovlev**, Deputy Chair of the Management Board, First Deputy CEO Upstream, Gazprom Neft; **Sergey Kudryashov**, General Director, Zarubezhneft; **HE Alexander Novak**, Minister of Energy, Ministry of Energy of the Russian Federation; **Dmitry Konov**, Chair of the Management Board, SIBUR; **Mikhail Margelov**, Vice President, Transneft; **Denis Khramov**, Deputy Chair of the Management Board, Novatek; and **Roman Panov**, CEO & Director General, JSC ROSGEO

Natural Gas & Global Energy Plenaries



Daniel Yergin, Co-Chair, CERAWEEK & Vice Chair, IHS Markit; **David Farr**, Chair & CEO, Emerson; **Hon. Jesse Norman MP**, Parliamentary Under Secretary of State, Minister for Energy and Industry, United Kingdom; and **Ulrich Spiesshofer**, CEO, ABB Group

Whatever happened to globalization?

David Farr, **Jesse Norman**, and **Ulrich Spiesshofer** discussed trade in a post-Brexit, post-PTT world. The group spoke about automation, the changing nature of work, and the factory floor of the future.

Global gas

Datuk Wan Zulkiflee Wan Ariffin, **Charif Souki**, **Simon Blakey**, and **Michael Stoppard** shared their thoughts on the global state of the gas and LNG business. They also discussed the significance of upstream industry players investing in the entire value chain, particularly the downstream.



Simon Blakey, Senior Associate, Energy Group, IHS Markit; **Datuk Wan Zulkiflee Wan Ariffin**, President & Group CEO, PETRONAS; **Michael Stoppard**, Chief Strategist, Global Gas & CERAWEEK Vice Chair, IHS Markit; and **Charif Souki**, Chair of the Board, Tellurian



Energy dialogue

Patrick Pouyanné discussed the current oil market and geopolitical prospects, as well as TOTAL's strategy for the energy transition, including how the company is making acquisitions in clean energy and the role of gas in the transition.



Patrick Pouyanné, Chair of the Board & CEO, TOTAL S.A.



“CERAWEEK...is the kind of forum which...sets trends in the energy industry.”

**– HE Alexander Novak,
Minister of Energy, Russian
Federation**

Natural Gas & Global Energy Plenaries *(continued)*



Harold Hamm, Chair & CEO, Continental Resources, Inc.; **Jeff Ventura**, Chair, President, & CEO, Range Resources; and **R.A. Walker**, Chair, President, & CEO, Anadarko

North America's E&P future

Harold Hamm, Jeff Ventura, and R.A. Walker explored the role of US oil and gas production and the overall potential of global production. The speakers each gave an overview of the plays in which they are active in the United States, and their perspectives on the impact of the new administration and on the balance between oil and gas.

The global LNG future

Anatol Feygin, Yuji Kakimi, and B.C. Tripathi spoke of opportunities and challenges to grow future LNG demand, including prioritizing gas infrastructure planning and purchasing; educating consumers and policymakers; marketing gas to compete against coal, especially in emerging markets; creating an Asian spot market to improve price stability; and granting flexible, shorter-term contracts that still adequately finance supply growth.



Anatol Feygin, Executive Vice President & CCO, Cheniere



Yuji Kakimi, President, JERA Co., Inc.



B.C. Tripathi, Chair & Managing Director, GAIL (India) Limited



Leadership dialogue

John Watson discussed the new regulatory environment for the industry under the Trump Administration, and the importance of rapid permitting processes for infrastructure. He described Chevron's strategy in a lower oil price environment, lessons from the completion of large LNG projects, the future of oil demand, and the potential risk of a future supply gap given lower investment in the upstream today.

Ministerial dialogue

James Gordon Carr spoke of the three principles—economic growth and job creation, engagement of stakeholders, and environmental protection—embedded in Canada's ongoing review of its energy regulatory process. Mr. Carr's vision for the Canadian energy sector in 2020 is one that is greener and cleaner, with sustainable extraction of fossil fuels and transportation through safe pipelines.



John Watson, Chair & CEO, Chevron



Hon. James Gordon Carr, Minister of Natural Resources, Canada

“A conference that brings together many of the most powerful people in the global energy sector”

– Canadian Broadcasting Corporation (CBC)

Ministerial dialogue

Hirohide Hirai discussed Japan and METI's focus on gas as a means of energy security for Japan. Japan is making strategic regulatory changes to facilitate trade and create a more liquid Asian gas market.

Natural gas and its markets

With the shale boom, gas became plentiful and inexpensive. At the same time, gas, as a fossil fuel, has been under attack. **Robert Ineson, James Fitterling, Colette Honorable, and Edward Monser** discussed the market potential for natural gas, and what must be done to realize it. Close attention was paid to the role of large capital projects in realizing that potential, the role of regulation in guiding projects, and the potential costs of regulation.



Hirohide Hirai, Director-General, Ministry of Economy, Trade and Industry (METI), Japan



Colette Honorable, Commissioner, Federal Energy Regulatory Commission



Edward Monser, President, Emerson



James Fitterling, President & COO, The Dow Chemical Company

“The most important... industry conference of the year” – Politico



James Burkhard, Chief Researcher, Global Oil Markets & Energy Scenarios, Energy & CERAWEEK Vice Chair, IHS Markit; **Lawrence Burns**, Business Advisor; Former General Motors Corporate Vice President of R&D & Planning; **Greg Scheu**, President, Americas Region, ABB Group; and **Tiffany Groode**, Senior Director, Energy, IHS Markit

Energy and the future of mobility

James Burkhard, **Lawrence Burns**, **Tiffany Groode**, and **Greg Scheu** discussed the future of automotive mobility, including changes in consumer behavior with shared or pooled vehicles, technology implications for energy, infrastructure needs, and IHS Markit's new *Reinventing the Wheel* study.



Natural Gas & Global Energy Strategic Dialogues



LNG cost and innovation panelists **Audie Setters**, CEO, LoneStar LNG; **Grant Wattman**, President & CEO, Agility Project Logistics; **Dick Brown**, President & CEO, Ferus; **Rod Christie**, President & CEO, Turbomachinery Solutions, GE Oil & Gas; and **Rafael McDonald**, Director, Global Gas and Global LNG, IHS Markit (Chair)



The promise and challenge of growing LNG demand panelists **Laurent Vivier**, Senior Vice President, Gas, TOTAL S.A.; and **RK Garg**, Director, Finance, Petronet LNG Limited

- Ministerial dialogue: Prospects for the Levant Basin
- After the Permian: What's next for North America?
- Asian gas markets: Reforms, new players, and implications for LNG
- Does pricing carbon have a future?
- Economic reform in the Middle East: Opportunities and challenges
- Follow the money: How do coal producers meet demand?
- India: The emerging energy powerhouse?
- Is a global liquids supply gap looming?
- LNG cost and innovation
- New gas supplies
- North American gas: Going oily and arriving late
- North American gas demand: Go abroad or go home?
- Prospects for LNG hubs
- Solving Southern Cone's natural gas trade puzzle
- Supplying gas to Europe: Capitalizing on a growing, flexible market
- The future of exploration
- The promise and challenge of growing LNG demand in a period of oversupply
- The role of gas in the low-carbon transition
- Upstream and infrastructure finance



Economic reform in the Middle East panelists **Mahmoud El-Gamal**, Professor & Chair in Islamic Economics, Finance, and Management, Rice University; **Suzanne Maloney**, Deputy Director, Foreign Policy Program; Senior Fellow, Brookings Center for Middle East Policy, Energy Security & Climate Initiative, The Brookings Institution; **David Scott**, President, IDG; **Samer Al-Ashgar**, President, KAPSARC; and **Carlos Pascual**, Senior Vice President, IHS Markit (Chair)



How do coal producers meet demand? panelists **Jim Thompson**, Senior Director, Coal, IHS Markit (Chair); **Ted O'Brien**, Senior Director of Capital Markets & Marketing, Xcoal Energy & Resources; **Christopher Moravec**, President, Blackhawk Mining, LLC; **Michael Dudas**, Partner, Vertical Research Partners; and **Jim Griffin**, Advisor, Griffin Mining Advisors

Energy & Power Plenaries

Opening dialogue

Ben van Beurden spoke about the new landscape for the energy industry, including lessons from mega-projects and their future, the unconventional revolution, and Shell's decision to leave the Arctic. Discussion also focused on the energy transition, including the role of gas, the future of oil demand, and Shell's wind business.



Ben van Beurden, CEO, Royal Dutch Shell plc



Lynn Good, Chair, President, & CEO, Duke Energy



Isabelle Kocher, CEO, Engie

Shaping the electricity future

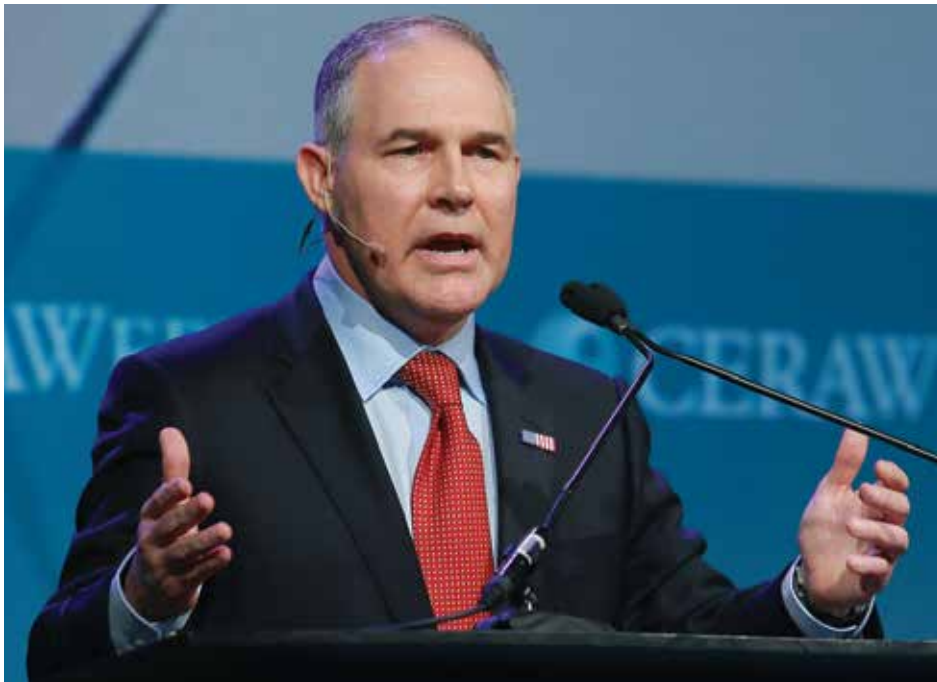
Lawrence Makovich, **Lynn Good**, **Pedro Pizarro**, and **Isabelle Kocher** characterized the changes in the electricity business and strategies to create value. The panel discussed repositioning along the value chain to emphasize lower carbon energy resources and more coordinated networks. The wide-ranging discussion explored emerging technologies, grid modernization and digitalization, central versus distributed generation resources, and cyber threats.



Lawrence Makovich, Vice President and Senior Advisor, Energy & CERAWEEK Vice Chair, IHS Markit



Pedro Pizarro, President & CEO, Edison International



Scott Pruitt, Administrator, US Environmental Protection Agency

Environmental policy dialogue

Scott Pruitt spoke about his perspectives as the new Administrator of the US Environmental Protection Agency. His priority areas include reducing federal authority over state-based regulation, reducing the gap between legislation and regulatory rule-making, and less use of court settlements to promulgate regulation.

Electric power transition: Global strategies

Jean-Bernard Lévy and **Peter Terium** discussed the dramatic changes in global power generation. The conversation also covered the push by power generators for decentralization, decarbonization, and digitalization.



Peter Terium, CEO, innogy SE



Jean-Bernard Lévy, Chair & CEO, Électricité de France (EDF)



Powering a new energy future

Ignacio S. Galán, Jaime Francisco Hernández Martínez, and Jean-Pascal Tricoire cited business cases from Iberdrola, CFE, and Schneider Electric for strategies that advance sustainability and economic growth: Companies can be greener, more efficient, and profitable.



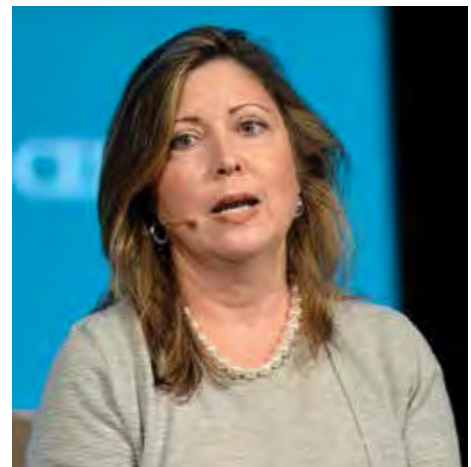
Ignacio S. Galán, Chair & CEO, Iberdrola; **Jaime Francisco Hernández Martínez**, CEO, Comisión Federal de Electricidad; and **Jean-Pascal Tricoire**, Chair & CEO, Schneider Electric

Global nuclear power: What lies ahead?

Jone-Lin Wang chaired a plenary with **John Hopkins, Maria Korsnick, Daniel Poneman, and Jay Wileman** on the future role of nuclear in achieving the Paris Accord goal of a 2° reduction in carbon emissions by 2050. They discussed new reactor designs, safety, reliability, and costs, as well as how the United States needs to rebuild its supply chain after a 30-year hiatus in building new reactors. A key challenge is how to compensate the benefits of nuclear power in competitive power markets.



John Hopkins, Chair & CEO, NuScale Power; Chair of the Board of Directors, U.S. Chamber of Commerce



Maria Korsnick, President & CEO, Nuclear Energy Institute



Daniel Poneman, President & CEO, Centrus Energy



Jay Wileman, President & CEO, GE Hitachi Nuclear Energy, GE

Energy & Power Plenaries *(continued)*

Dinner dialogue

Prime Minister Justin Trudeau spoke about Canada's role in an increasingly polarized global system. He offered a vision for a future that includes both environmental stewardship and responsible natural resource development.



Lord Browne of Madingley,
Executive Chairman, L1 Energy



Rt. Hon. Justin Trudeau, Prime Minister, Canada; and **Daniel Yergin,** Co-Chair, CERAWEEK & Vice Chair, IHS Markit

Fuel choices and technologies for tomorrow's power business

John Browne and **Judy Marks** had a wide-ranging discussion on how new technologies, business models, and government policies will transform the global energy and power industry. Encouraging risk taking and innovative approaches to addressing climate change will make the energy sector exciting again for the next generation of engineers and scientists.



Judy Marks, CEO, Siemens USA

Energy & Power Strategic Dialogues



Global renewables market panelist **Laura Folse**, CEO, BP Wind Energy, BP



Coal's evolving role in Asia panelist **Young Ju Kim**, General Manager, Clean Power Generation Lab, KEPCO



Latin America power panelist **Doris Capurro**, President & CEO, LUFT Energia

- Coal's evolving role in Asia's power future
- Competitive generation: Learning curve or winner's curse
- Developing markets: Powering economic development
- Distributed resources: Generation, demand-side flexibility, and storage
- Electric market structure: Balancing multiple objectives
- European power markets: The market design and climate imperative
- Future of the global renewables market
- Texas power: The pace of change
- The 2016 price boom: Does this change the outlook for global coal?
- The future of solar
- The new panorama of Latin America power



Developing markets panelist **Hon. James Musoni**, Minister of Infrastructure, Rwanda



Distributed resources panelist **Sergej Mahnovski**, Director, Strategic Planning, Edison International



Texas power panelists **Michael Pickens**, Associate Director, Energy, IHS Markit; **Barry Smitherman**, Adjunct Professor, University of Texas Law School; **Manu Asthana**, President, Direct Energy Home; **Paula Gold-Williams**, President & CEO, CPS Energy; and **Toby Baker**, Commissioner, Texas Commission on Environmental Quality

Reflections & Prospects

Reflections on CERAWEEK 2017: Where do we go from here?

IHS Markit experts **Atul Arya**, **Antonia Bullard**, **Roger Diwan**, **Paul Markwell**, **Shankari Srinivasan**, and **Jone-Lin Wang** summarized the key themes emerging from CERAWEEK 2017. For oil: cautious optimism for price recovery and upstream companies “getting back to growth” with focus on optimizing their portfolio and using technology as a means to manage costs. For natural gas: expect growth in demand; competition among LNG suppliers; and intra-fuel competition among gas, coal, and renewables. For electric power: climate change policies and the impact of Paris will drive the future of the power sector, including an accelerating pace of growth of renewables and technology.



Atul Arya, Senior Vice President and Chief Energy Strategist, IHS Markit



Antonia Bullard, Vice President, Energy-wide Perspectives, IHS Markit



Roger Diwan, Vice President, Financial Services, IHS Markit



Paul Markwell, Vice President, Energy, IHS Markit



Shankari Srinivasan, Vice President, Energy, IHS Markit



Jone-Lin Wang, Vice President, Power and Renewables, IHS Markit



Carlos Pascual, Senior Vice President, IHS Markit (Chair); **Nicholas Eberstadt**, Henry Wendt Chair in Political Economy, American Enterprise Institute; **Meghan O'Sullivan**, Kirkpatrick Professor of the Practice of International Affairs; Director of the Geopolitics of Energy Project, Harvard University Kennedy School; **Angela Stent**, Director of the Center for Eurasian, Russian and East European Studies; Professor of Government and Foreign Service, Georgetown School of Foreign Service; and **Evan Feigenbaum**, Vice Chair, Paulson Institute

The US and the world: The new geopolitics

Nicholas Eberstadt, Evan Feigenbaum, Meghan O'Sullivan, and **Angela Stent** considered the new geopolitics of energy. In a world of complex, diverse interests and goals, vision and

direction will be critical. Global leadership is becoming more decentralized with critical leadership increasingly coming from the energy and technology sectors.

What's ahead in Washington?

Lisa Murkowski and **John Cornyn** discussed NAFTA and the impact changes would have on their respective border states. They explored a range of central national and global issues on the US political agenda.



Senator Lisa Murkowski, Chair, US Senate Energy and Natural Resources Committee, Alaska; and **Senator John Cornyn**, Majority Whip, US Senate, Texas

Reflections & Prospects *(continued)*



Laurence Tubiana, President & CEO, European Climate Foundation (ECF); **Rachel Kyte**, CEO & Special Representative of the UN Secretary-General, Sustainable Energy for All (SEforALL); **Maria Zuber**, Vice President for Research, MIT; and **Mohamed Jameel Al Ramahi**, CEO, Masdar

Climate & energy strategies post-Paris

Mohamed Jameel Al Ramahi, **Rachel Kyte**, **Laurence Tubiana**, and **Maria Zuber** examined energy strategies post-Paris Accord. The panelists shared business cases and successes behind the initiatives to decarbonize economies. Decarbonization can be done in economically viable and sustainable ways as countries, cities, and companies learn, develop, and improve tools to meet climate strategies.

Envisioning the new energy economy

Gary Demasi and **Jonah Goldman** explored future pathways for the energy transition. The experience of the late 1990s and early 2000s with investments in the energy sector is influencing perception of risks and scale-up challenges. Established and emerging companies need to collaborate and cooperate through this transition, exemplified by initiatives such as “Mission Innovation.”



Gary Demasi, Director, Data Center Energy and Location Strategy, Google Inc.; **Atul Arya**, Senior Vice President and Chief Energy Strategist, IHS Markit (Chair); and **Jonah Goldman**, Senior Advisor, Public Affairs, Breakthrough Energy Ventures



Where next for industrial America?

Andrew Liveris offered a vision for manufacturing in the United States, the importance of getting the regulatory balance right, and the future of globalization.



Andrew Liveris, Chair & CEO, The Dow Chemical Company

Frontiers of science and innovation: Future technologies to meet the energy and climate challenge

Michael Strano, **Troy Van Voorhis**, **David Keith**, and **Robert Armstrong** provided a glimpse into technologies being pursued at MIT's Energy Initiative. These range from nanosensors for reaction network analysis to the study of

electronic properties of molecules and materials that will enable next-generation, high-efficiency energy technologies as well as consumer behavior and the formation of markets for emerging automotive technologies.



Robert Armstrong, Director, MIT Energy Initiative, Chevron Professor of Chemical Engineering, MIT; **Michael Strano**, Carbon P. Dubbs Professor in Chemical Engineering, MIT; **Troy Van Voorhis**, Haslam and Dewey Professor of Chemistry, MIT; and **David Keith**, Mitsui Career Development Professor & Assistant Professor of System Dynamics, MIT Sloan School of Management

Expert Discussions

Expert Discussions provided outlooks by IHS Markit experts, followed by interactive discussions.

Oil & Gas

- Border adjustment tax: Implications for oil prices and trade
- Changes in marine fuel specs and impact on refining margins
- Global energy scenarios: Reinventing the wheel
- Global liquids supply outlook
- Latin America upstream
- Natural gas liquids: Where will the market absorb supply growth?
- Outlook for E&P terms and other upstream investment conditions in 2017
- RINS: Market impact of biofuels and blending requirements in the United States
- Super basins outside the United States
- The great cost reset: The new competitive dynamic in US unconventionals, global deep water, and the Middle East
- Upstream capital strategies in the wake of the reset



Outlook for E&P terms: *Mariam Al-Shamma*, Senior Manager, Petroleum Sector Risk, and *Irena Agalliu*, Managing Director of Consulting



Global energy scenarios: *James Burkhard*, Chief Researcher, Global Oil Markets & Energy Scenarios & CERAWEEK Vice Chair (standing on left)



Global liquids supply outlook: *Ha Nguyen*, Associate Director, Global Oil



Changes in marine fuel specs & impact on refining margins: *Sandeep Sayal*, Director, Downstream Energy Research and Consulting



Outlook for E&P terms: *Michael Marinovic*, Vice President, Energy Strategy Consulting



Gas & Power Expert Discussions

- Global renewables—Technology, policy, and market
- IHS Markit outlook for fuel prices and interfuel competition
- India and China: A tale of two power markets
- Latin America gas and power markets: What's next?
- North American power trends and scenarios
- North American shale gas supply

IHS Markit outlook for fuel prices: Samuel Andrus,
Senior Director, Energy and Natural Resources



Latin America gas & power markets: Emanuel Simon, Associate Director, Latin America Energy



India & China: Xizhou Zhou, Senior Director, Energy and Natural Resources



India & China: Jenny Yang, Manager, China Oil and Gas



IHS Markit outlook for fuel prices: Gautam Sudhakar, Director, Global LNG



The inaugural **Innovation Agora @ CERAWeek** focused on emerging technologies. It was a dedicated space with unique and innovative programs connecting ideas and people across industries.

With over 75 speakers and 2,000 attendees, Agora showcased disruptive technologies and demonstrations of cutting-edge applications that will impact the energy future.



Today's reality? The digital oilfield (from left to right): **Vivek Chidambaram**, Managing Director, Global Digital Lead, Accenture, and **Ahmed Hashmi**, Global Head of Upstream Technology, BP



Man + Machine: The changing workforce (from left to right): **Dr. Antonio Merlo**, Professor, Dean of the School of Social Sciences, Rice University; **Susan Kish** Agora Curator, CERAWeek, IHS Markit (Chair); **Jay Timmons**, CEO, National Association of Manufacturers; and **David Farr**, CEO, Emerson

Agora STUDIOS

Attendees and thought leaders across different sectors participated in interactive discussions in an intimate theatre-in-the-round setting.

Next City: Power and mobility in the metropolis (from left to right):

Anders Sjoelin, NA Lead, Power Grids Division, ABB Group; **Andrew Icken**, Chief Development Officer, City of Houston; and **Roger Kranenburg**, Senior Director, Global Power & Innovation, IHS Markit (Chair).
 Not pictured: **Stephen Zoepf**, Executive Director, Center for Automotive Research, Stanford University; and **Bryan Cox**, Director of Transmission & Distribution Operations, Avista





DISCOVERY

SHOWCASES engaged participants with demos and prototypes of some of the latest AI, IoT, robotics, and drone technologies.



ABB | YuMi—world's first collaborative robot



Emerson | Industrial IoT with augmented reality



CyPhy Works | Drones, tethered unmanned aerial vehicles



ABB | Energy in the extreme—Mars



Honeywell | Virtual reality training techniques



Siemens | Smarter pumping for crude oil pipelines through data analytics



Bentley Systems, a Siemens Strategic Partner | ContextCapture 3D modeling software



Centrica | Hive—Smart homes

EXPLORATION PODS featured presentations throughout the week by technology thought leaders, 2017 CERAWEEK Energy Innovation Pioneers, and researchers from foremost academic institutions.



ABB | Who's afraid of the big, bad cloud? | **Guido Jouret**, Chief Digital Officer



Centrica | Hive: How to drive innovation from within big business | **Sudeep Maitra**, Global Director, Strategy



Accenture Strategy | Uberization of onshore: What if the well was the customer? | **Tom Bonny**, Managing Director



Rice University | Using 3D printing to test state-of-the-art drilling simulator test rigs | **Dr. C. Fred Higgs**, John and Ann Doerr Professor of Mechanical Engineering (center)



Siemens | A data-driven approach to equipment maintenance of offshore platforms | **Stig Olav Settemsdal**, Global Head, Portfolio Management & Innovation, Offshore Solutions (on right)



Energy Market Authority of Singapore | Project OptiWatt | **Eugene Toh**, Director, Policy & Planning



AGORA LINK provided the community with opportunities to work, connect, and explore the space.



Future Energy Leaders

The **CERAWEEK Future Energy Leaders Program** engaged exceptional individuals from companies, policy, academic institutions, and NGOs. The focus was on high-potential young professionals and how to meet future energy challenges. Future Energy Leaders attend the main CERAWEEK conference, as well as special programs designed to stimulate ideas, collaboration, and solutions.

The Future Energy Leaders consisted of 70 individuals from 34 companies and four academic institutions.

Participants formed a community that extends beyond CERAWEEK through friendships, learning, and collaboration.



Welcome remarks by Steve Sonnenberg, Chair, Emerson Automation Solutions



Charles D. McConnell, Executive Director, Energy and Environment Initiative, Rice University



Carol SingletonSlade, Member of Executive Committee and leads the Global Energy Practice, Egon Zehnder

Women in Energy



The **Women in Energy** community at CERAWEEK—some 300 strong—gathered at a private reception hosted by the American Petroleum Institute (API) and a **Women Leaders in Energy** dinner hosted by Edison Electric Institute (EEI). Antonia Bullard, Vice President, IHS Markit, chaired a dinner discussion at which panelists shared personal experiences and insights.



Nabilah Al-Tunisi, Chief Engineer, Saudi Aramco



Julia Harvie-Liddel, Group Head of Resourcing, BP



Mary Kipp, CEO, El Paso Electric



Vicki Hollub, President & CEO, Occidental Petroleum Corporation



Sue Lena Thompson, Producer, Special Programs (Women in Energy & Future Energy Leaders), IHS Markit



Antonia Bullard, Vice President, Energy-wide Perspectives, IHS Markit



Geraldine Slatterly, Asset President, BHP Billiton



Maria Zuber, E. A. Griswold Professor of Geophysics, Vice President for Research, MIT



Emily Fisher, Vice President, Legal, EEI



Jack Gerard, President & CEO, API

12th Anniversary Energy Innovation Pioneers

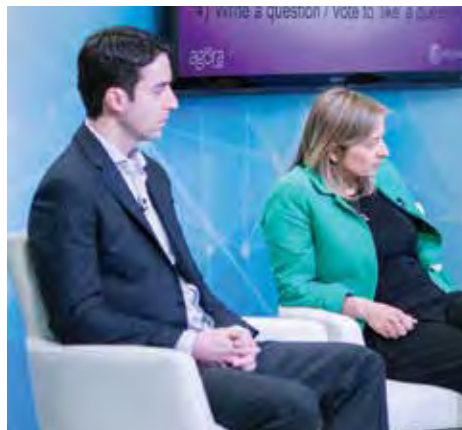
Eight entrepreneurs, chosen from a cross-section of oil, gas, power, and transportation sectors, were recognized at CERAWEEK 2017 as Energy Innovation Pioneers. Selected by a panel of IHS Markit technology experts, these individuals presented new and exciting technologies and businesses models with the potential to disrupt the global energy industry.

CERAWEEK 2017 Energy Innovation Pioneers:

- **Alion Energy**—Mark Kingsley, President & CEO
- **CyPhy Works**—Helen Greiner, Founder & CTO
- **Fluidic Energy**—Steve Scharnhorst, CEO
- **Hyllion**—Thomas Healy, Founder & CEO
- **Maana**—Babur Ozden, Founder & CEO
- **Magseis**—Idar Horstad, CEO
- **Opus One Solutions**—Joshua Wong, Founder & CEO
- **Rheidiant**—Murat Ocalan, Founder & CEO



Murat Ocalan, Founder & CEO, Rheidiant; **Carolyn Seto**, Director, Upstream Technology & Innovation & Co-Chair, Energy Innovation Pioneers, IHS Markit; **Idar Horstad**, CEO, Magseis; and **Babur Ozden**, Founder & CEO, Maana



Murat Ocalan, Founder & CEO, Rheidiant; and **Helen Greiner**, Founder & CTO, CyPhy Works



Barbara Burber, President, Chevron Tech Ventures; and **Babur Ozden**, Founder & CEO, Maana



Helen Greiner, Founder & CTO, CyPhy Works



Joshua Wong, Founder & CEO, Opus One Solutions; **Steve Scharnhorst**, CEO, Fluidic Energy; **Mark Kingsley**, President & CEO, Alion Energy; **Thomas Healy**, Founder & CEO, Hyllion; and **Alex Klaessig**, Associate Director & Co-Chair, Energy Innovation Pioneers, IHS Markit

Leadership Circle*



The 2017 **Leadership Circle** at CERAWEEK is an invitation-only program exclusively for senior executives in the **Upstream, Downstream, CFO, Technology and Innovation, Global Gas, Global Power, and North American Independents** communities.

The Leadership Circle allowed focused, highly interactive discussions and an opportunity to explore common concerns, develop new relationships, gain insights, and share experiences and perspectives.



*Part of the CERAWEEK Partnership program.

EPICs*

Energy Partner Informal Conversations (EPICs) are private roundtable discussions bringing together ministers with CERAWEEK partners.



HE Alexander Novak, Minister of Energy of the Russian Federation (on left)



Rt. Hon Justin Trudeau, Prime Minister, Canada



HE Khalid A. Al-Falih, Minister of Energy, Industry, and Mineral Resources, Kingdom of Saudi Arabia

*Part of the CERAWEEK Partnership program.

Community Gatherings



Community Gatherings *(continued)*



Lance Uggla, President, IHS Markit; and **HE Mohammad Sunusi Barkindo**, Secretary General, OPEC



Jerre Stead, Chair & CEO, IHS Markit, and **Daniel Yergin**, Co-Chair, CERAWEEK & Vice Chair, IHS Markit



Media Coverage & Impact

- **3,500+** delegates, including senior executives, governmental officials, thought leaders, NGOs, and IHS Markit experts
- **815+** organizations representing over **60** countries
- **480+** speakers on energy, strategy, markets, finance, economics, geopolitics, and technological innovation

CERAWEEK 2017 generated broad news coverage in the US and international media.

- **18,000** global media mentions across **110** countries
- **15,000** news articles
- **300+** accredited journalists onsite representing top global media
- **23,000** social media mentions
- **265** million Twitter impressions
- CNBC dedicated over **140** minutes live
- **100** segments of broadcast news coverage at CERAWEEK by CNBC, Nightly Business Report, Bloomberg TV, CNN, and others



Daniel Yergin, Co-Chair, CERAWEEK & Vice Chair, IHS Markit



Robert Lawler, President, CEO, & Director, Chesapeake Energy Corporation, and **Jackie DeAngelis**, reporter, CNBC

Partnership



Benefiting from the culture of idea exchange and learning that defines CERAWEEK, the Partnership program provides highly focused and enhanced engagement in the CERAWEEK community.

Partners support the core CERAWEEK mission—knowledge sharing, insight generation, and professional community. Partners contribute thought leadership, perspectives, expertise, and enhanced executive participation in public and private CERAWEEK programs. Partners benefit by deepened engagement and relationships; as well as heightened experience and visibility at CERAWEEK.



Stephen Zoepf, Executive Director, Center for Automotive Research, Stanford University (on left)



Whiskey Tasting hosted by ABB

CERAWEEK Partners

Foundational Partners



Ministry of Petroleum & Natural Gas
Government of India



HE Shri Dharmendra Pradhan, Minister of State for Petroleum & Natural Gas, India, explores augmented reality at the Emerson Agora Discovery Showcase





Strategic Partners



Emerson | Additive manufacturing demo in Agora Exploration Pod



Next door: The connected home of the future (from left) **Eric Krauss**, Global Product Director, Connected Home, Accenture Digital; **Mateo Jaramillo**, former VP, Tesla Energy; and **Roy Vella**, VP/GM, Connected Home NA, Centrica

CERAWeek Partners *(continued)*

Industry Partners



THE CARLYLE GROUP



EgonZehnder



Honeywell



Schlumberger

Life Is On

Schneider Electric



Stanford | Natural Gas Initiative

TELLURIAN

TUDORPICKERING
HOLT & CO | ENERGY INVESTMENT &
MERCHANT BANKING



YPF

Media Partner

THE WALL STREET JOURNAL.



Agora Partners



Agora Studio session on **Agile, autonomous, and additive: Reshaping the global energy supply chain**: (from left) **Ric Fulop**, CEO & Co-Founder, Desktop Metal; **Jon Hirschtick**, CEO & Co-Founder, Onshape; **Paul Bonner**, Vice President, Consulting and Analytics, Connected Home, Honeywell; **John Larson** (Chair, back to camera), Vice President, Big Data & Analytics, Technology, IHS Markit; and **James Bellingham**, Director, Center for Marine Robotics, Woods Hole Oceanographic Institution



2017 Featured Speakers*

OFFICIALS

Rt. Hon. Justin Trudeau
Prime Minister, Canada

HE Sultan Ahmed Al Jaber
Minister, State in the UAE; CEO
Abu Dhabi National Oil Company

HE Suhail Mohamed Al Mazrouei
Minister, Energy, UAE

HE Berat Albayrak
Minister, Energy & Natural Resources,
Turkey

HE Khalid A. Al-Falih
Minister, Energy, Industry, & Mineral
Resources, Kingdom of Saudi Arabia

HE Jabbar Ali Al-Luiebi
Minister, Oil, Republic of Iraq

HE Mohammad Sanusi Barkindo
Secretary General, OPEC

Fatih Birol
Executive Director, IEA

Hon. James Gordon Carr
Minister, Natural Resources, Canada

Hon. John Cornyn
Majority Whip, US Senate (Texas)

Patricia Espinosa
Executive Secretary, UNFCCC

Hirohide Hirai
Director-General, METI, Japan

Andrew Kamau
Principal Secretary, Petroleum, Ministry
of Energy & Petroleum, Kenya

Hon. Lisa Murkowski
Chair, US Senate Energy & Natural
Resources Committee (Alaska)

Hon. Rachel Notley
Premier of Alberta, Canada

Hon. Jesse Norman MP
Parliamentary Under Secretary of State,
Minister for Energy & Industry, UK

HE Alexander Novak
Minister, Energy, Russian Federation

HE Shri Dharmendra Pradhan
Minister, Petroleum & Natural Gas, India

Scott Pruitt
Administrator, US EPA

HE Dr. Yuval Steinitz
Minister, National Infrastructures, Energy
& Water Resources, Israel

Hon. Daniel Sullivan
US Senator (Alaska)

Hon. Chandima Weerakkody
Minister, Petroleum Resources
Development, Sri Lanka

EXECUTIVES

Musabbeh Al Kaabi
CEO, Mubadala Petroleum

Mohamed Jameel Al Ramahi
CEO, Masdar

José Antonio González Anaya
CEO, PEMEX

Datuk Wan Zulkiflee Wan Ariffin
President & Group CEO, Petroliaam
Nasional Berhad (PETRONAS)

B. Ashok
Chair, Indian Oil Corporation Ltd.

Ben van Beurden
CEO, Royal Dutch Shell plc

Lord Browne of Madingley
Executive Chair, L1 Energy

Robert Dudley
Group Chief Executive, BP plc

Thomas Fanning
Chair, President, & CEO,
Southern Company

David Farr
Chair & CEO, Emerson

Ignacio S. Galán
Chair & CEO, Iberdrola

Gregory Goff
Chair, President, & CEO,
Tesoro Corporation

Lynn Good
Chair, President, & CEO, Duke Energy

Miguel Gutiérrez
Chair, YPF S.A.

Harold Hamm
Chair & CEO, Continental Resources

John Hess
CEO, Hess Corporation

Jon Hirshtick
CEO & Co-Founder, Onshape

Vicki Hollub
President & CEO, Occidental Petroleum
Corporation

Joe Kaeser
President & CEO, Siemens AG

Yuji Kakimi
President, JERA Co., Inc.

Isabelle Kocher
CEO, Engie

Keisuke Kuroki
President, JOGMEC

Ryan Lance
Chair & CEO, ConocoPhillips

Robert Lawler
President, CEO, & Director,
Chesapeake Energy Corporation

Jean-Bernard Lévy
Chair & CEO, EDF

Andrew Liveris
Chair & CEO, The Dow Chemical
Company

Jaime Francisco Hernández Martínez
CEO, Comisión Federal de Electricidad

Mario Mehren
Chair of Board of Executive Directors,
Wintershall Holding GmbH

Al Monaco
President & CEO, Enbridge

Pedro Parente
President, Petrobras

Pedro Pizarro
President & CEO, Edison International

Patrick Pouyanné
Chair of Board, CEO, & President,
TOTAL S.A.

Eldar Sætre
President & CEO, Statoil

Isabel dos Santos
CEO, Sonangol Group

Scott Sheffield
Executive Chair & CEO,
Pioneer Natural Resources

Charif Souki
Chair of the Board, Tellurian

Ulrich Spiesshofer
CEO, ABB Group

Peter Terium
CEO, innogy SE

Peter Thiel
Investor & Entrepreneur, Founders Fund

Jean-Pascal Tricoire
Chair & CEO, Schneider Electric

B.C. Tripathi
Chair & Managing Director,
GAIL (India) Limited

Jeff Ventura
Chair, President, & CEO, Range Resources

R.A. Walker
Chair, President, & CEO, Anadarko

John Watson
Chair & CEO, Chevron

Darren Woods
Chair & CEO, ExxonMobil

*Partial List

Past Featured Speakers*

OFFICIALS

President George W. Bush

President Bill Clinton

Enrique Peña Nieto

President, Mexico

Henry Kissinger

US Secretary of State

Henry Paulson

US Treasury Secretary

Mohammed Hamed Saif Al-Rumhy

Minister, Oil & Gas, Oman

Gen. Keith Alexander

Director, US NSA Commander, US Cyber Command

Norman Bay

Chair, FERC

Ben Bernanke

Chair, US Federal Reserve

Pedro Joaquín Coldwell

Secretary of Energy, Mexico

Tomás González Estrada

Minister, Mines & Energy, Colombia

Josh Frydenberg

Minister, Resources, Energy & Northern Australia

Ólafur Ragnar Grímsson

President, Iceland

Richard Haass

President, Council on Foreign Relations

HE Dr. Ashti Hawrami

Minister, Natural Resources, Kurdistan

John Hickenlooper

Governor, Colorado

Sally Jewell

US Secretary of the Interior

John Kasich

Governor, Ohio

Tord Lien

Minister, Petroleum & Energy, Norway

Ernest Moniz

US Secretary of Energy

Admiral Mike Mullen

Chair, US Joint Chiefs

Irene Muloni

Minister, Energy, Uganda

Salvador Namburete

Minister, Energy, Mozambique

José Maria Botelho de Vasconcelos

Minister, Petroleum, Angola

EXECUTIVES

Daniel Akerson

Chair & CEO, General Motors

Nick Akins

Chair, President, & CEO, American Electric Power

Mohamed Al Hammadi

CEO, Emirates Nuclear Energy Corporation

Nizar Al-Adsani

Deputy-Chair & CEO, Kuwait Petroleum Corp.

Vagit Alekperov

President, Lukoil

Greg Armstrong

Chair & CEO, Plains All American

Greg Boyce

Chair & CEO, Peabody Energy Corp.

Peter Coleman

CEO, Woodside Petroleum Ltd.

Iain Conn

CEO, Centrica

Christopher Crane

President & CEO, Exelon

Theodore Craver

Chair & CEO, Edison International

Charles Davidson

Chair & CEO, Noble Energy

Leo Denault

Chair & CEO, Entergy

Claudio Descalzi

CEO, Eni

Anthony Earley

Chair & CEO, PG&E

Thomas Farrell, II

Chair & CEO, Dominion

Greg Garland

Chair & CEO, Phillips 66

Bill Gates

Co-Chair, Gates Foundation

Russ Girling

President & CEO, TransCanada

Andrés Gluski

President & CEO, AES

Andrew Gould

Chair & CEO, Schlumberger

David Hager

President & CEO, Devon Energy

Gary Heminger

Chair & CEO, Marathon Petroleum

Jeffrey Immelt

Chair & CEO, General Electric

Richard Kinder

Co-Founder, Chair, & CEO, Kinder Morgan

Bill Klesse

Chair & CEO, Valero Energy

Fanrong Li

CEO & President, CNOOC

Zhenya Liu

Chair, State Grid Corporation of China

Andrew Mackenzie

CEO, BHP Billiton

Mpho Makwana

Chair, Eskom Holding Ltd.

Thomas May

Chair, President, & CEO, Eversource Energy

Alexander Medvedev

Deputy Chair of the Management Committee, Gazprom

Steve Mueller

Chair & CEO, Southwestern Energy

Doug Oberhelman

Chair & CEO, Caterpillar

Harald Schwager

Board Member, BASF

Igor Sechin

Executive Chair & CEO, Rosneft

Fred Smith

Founder, Chair, President, & CEO, FedEx

JB Straubel

Co-Founder & CTO, Tesla Motors

Jim Teague

CEO, Enterprise Products Partners

Rex Tillerson

Chair & CEO, ExxonMobil

Yilin Wang

Chair, CNPC

Steve Williams

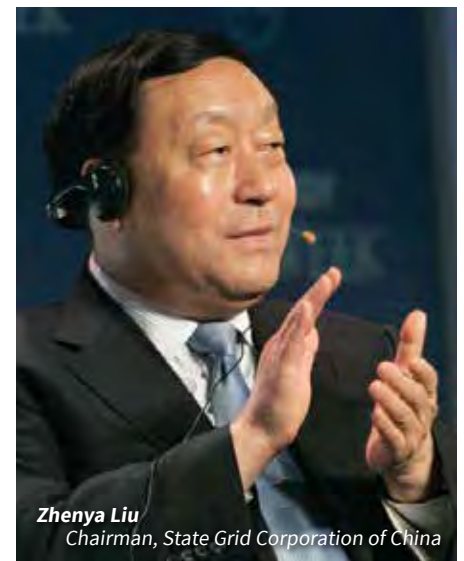
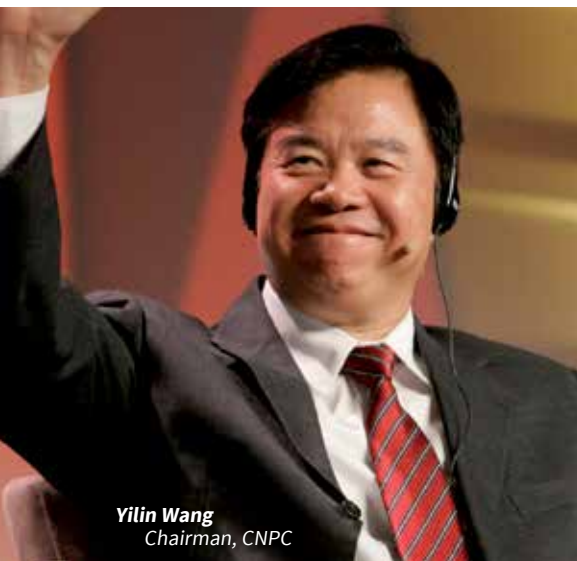
President & CEO, Suncor Energy

Pat Vincent-Collawn

Chair & CEO, PNM Resources

*Partial List

Past Speakers

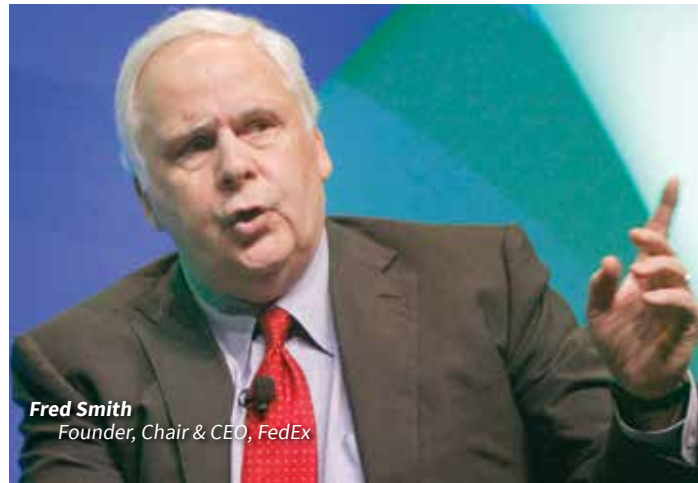




Iain Conn
CEO, Centrica



Richard Kinder
Co-Founder, Chair & CEO,
Kinder Morgan

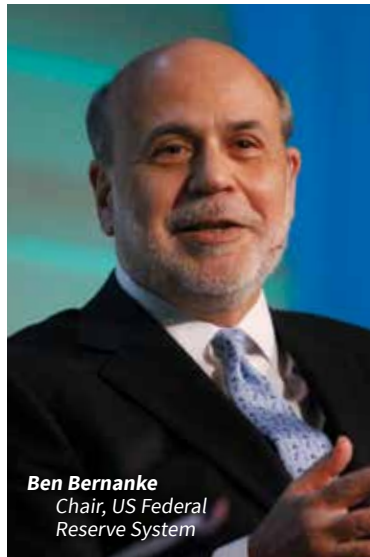


Fred Smith
Founder, Chair & CEO, FedEx



Rex Tillerson
US Secretary of State; former Chair & CEO, ExxonMobil

Insight into the energy future®



Ben Bernanke
Chair, US Federal
Reserve System



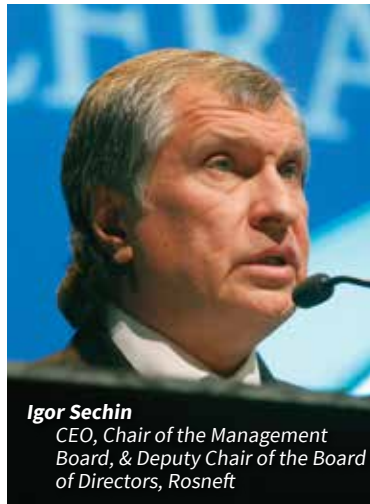
JB Straubel
Co-Founder & Chief Technical
Officer, Tesla Motors



John Kasich
Governor, Ohio



John Hickenlooper
Governor, Colorado



Igor Sechin
CEO, Chair of the Management
Board, & Deputy Chair of the Board
of Directors, Rosneft



President HE Paul Kagame
Republic of Rwanda



CERAWEEK® 2018

by IHS Markit

Save the Date

Date:

March 5–9, 2018

Place:

Hilton Americas, Houston, Texas

Registration, Program, and Speakers:

www.ceraweek.com





For more information, contact:

CERAWEEK participation:

Rob Fraser: +44 77 33 00 11 22

Rob.Fraser@ihsmarkit.com

CERAWEEK partnership, executive teams, & special programs:

Todd Szczebak: +1 720-505-6730

todd.szczebak@ihsmarkit.com

Media inquiries:

Jeff Marn +1 202-463-8213

jeff.marn@ihsmarkit.com





IHS Markit™

About IHS Markit (www.ihsmarkit.com)

IHS Markit (Nasdaq: INFO) is a world leader in critical information, analytics and solutions for the major industries and markets that drive economies worldwide. The company delivers next-generation information, analytics and solutions to customers in business, finance and government, improving their operational efficiency and providing deep insights that lead to well-informed, confident decisions. IHS Markit has more than 50,000 key business and government customers, including 85 percent of the Fortune Global 500 and the world's leading financial institutions.

IHS Markit is a registered trademark of IHS Markit Ltd. All other company and product names may be trademarks of their respective owners © 2017 IHS Markit Ltd. All rights reserved.