

# Navigating a Turbulent World: Energy, Climate and Security

Executive Conference in Review March 6-10, 2023

CERAWeek by S&P Global convened some 8,000 participants for in-depth exploration of "Navigating a Turbulent World: Energy, Climate and Security." The conference addressed the great challenges and opportunities facing the industry and countries: How to provide reliable and affordable supplies of energy to a growing world, while lowering emissions. Discussions focused on rising geopolitical tensions and the reemergence of energy security as a key driver of international relations, economic and supply chain bottlenecks and the resulting energy market volatility.

CERAWeek provided a platform for shared learning on the future of traditional as well as emerging energy resources—from oil and gas to hydrogen, nuclear, renewables, storage and CCS. Special attention was paid to the U.S. Inflation Reduction Act and it impact—both domestically and internationally—in advancing low-carbon pathways; and on the challenges of permitting, infrastructure and "capital transition" in an era of high interest rates.

Innovation is playing an ever-greater role in reshaping the energy future. Our Innovation Agora explored technology solutions—bringing together thought leaders, universities, national labs, industry—and over 200 start-ups. Partner Houses showcased some of the most exciting new initiatives being pioneered by global companies. The Hydrogen and Carbon Hubs—and the new Climate Hub—provided great insight and informal exchange, including with leaders from the U.S. Department of Energy Loan Programs Office and Office of Clean Energy Demonstrations.

CERAWeek 2023 underscored the importance and vitality of the CERAWeek community. Participants attended from more than 85 countries—including 1,500 CEOs and senior government officials. The event demonstrated growing diversity and inclusion, with over 270 women speakers, representing 22% of the total speakers, and 2,500 women attendees, representing 31% of total attendees. We also had large cohort of Future Energy Leaders in our Special Programs.

We are deeply thankful to our speakers, Partners and participants for their engagement—and their contributions to making CERAWeek a unique and valuable gathering of the world energy community.

Sincerely,

Wy

Daniel Yergin CERAWeek Chair Vice Chair, S&P Global Am Rayliel



Jamey Rosenfield

CERAWeek Founder, Co-Chair
Senior Vice President, S&P Global

## CERAWeek 2023 Highlights

### Speakers



**1,400+** Speakers



90 Ministers & Top Officials from 25 countries



270+
Women Speakers



450+ C-Suite Executives

### Sessions



650+ Sessions



84
Private Forums
and Summits
plus 40 additional
virtual Private
Partner Briefings



12 Book Signings



200+ Agora Pods



54 Lyceum Labs

### Community



8,000+
Delegates
+34% YOY



1,800+ Companies



85 Countries



102 Partners 42 new in 2023



200+ Startups



Agora Houses

## CERAWeek 2023 Media Coverage

### Social Media



1b+ Total Views across all handles



+22% New Followers



+504% Impressions YOY



+762% Engagement V Engagement YOY



**Daily Podcasts** 25 videos



**Amplification Program Participants** Partners & VIPs

### **Press Coverage**



340+ Accredited Journalists Onsite



25% International Journalists Onsite



10 Newsmaker Press Conferences

"arguably the most important annual event on the energy industry's calendar"

- Financial Times

### Ministers and Government Officials



**Hon. Jennifer M. Granholm,** Secretary of Energy, United States Department of Energy



**Hon. Dr. Bharrat Jagdeo,** Vice President, Co-operative Republic of Guyana



**H.E. Dr. Sultan Ahmed Al Jaber,** Managing Director & Group CEO of Abu Dhabi National Oil Company (ADNOC), and Chairman of Masdar, United Arab Emirates Minister of Industry & Advanced Technology; Special Envoy for Climate Change



**Ditte Juul Jørgensen,** Director-General for Energy, European Commission



**Hon. John Kerry,** Special Presidential Envoy for Climate, United States Department of State



**John Podesta,** Senior Advisor for Clean Energy Innovation and Implementation and Chair of the National Climate Task Force, The White House

### Ministers and Government Officials (continued)



**H.E. Mohamed Arkab,** Minister of Energy and Mines, Algeria



**Shin Hosaka,** Commissioner, Agency for Natural Resources and Energy, Ministry of Economy, Trade and Industry (METI), Japan



Gathering of 4 consecutive U.S. Secretaries of Energy, U.S. Department of Energy: Hon. Rick Perry, 14<sup>th</sup> U.S. Secretary of Energy (2017-19) and Director & Partner, Board of Directors, Energy Transfer Partners; Hon. Jennifer M. Granholm, 16<sup>th</sup> Secretary of Energy (2021-current); Hon. Dr. Ernest Moniz, 13<sup>th</sup> U.S. Secretary of Energy (2013-17) and Founder & Chief Executive Officer, Energy Futures Initiative; and Hon. Dan Brouillette, 15<sup>th</sup> U.S. Secretary of Energy (2019-2021) and President, Sempra Infrastructure

**H.E. Bolat Akchulakov,** Minister of Energy, Ministry of Energy of the Republic of Kazakhstan

**His Highness Shaikh Nasser bin Hamad Al Khalifa,** Chairman, The Oil and Gas Holding Company B.S.C. (Nogaholding), Representative of His Majesty the King for Humanitarian Works and Youth Affairs

**H.E. Mohamed Arkab,** Minister of Energy and Mines, Ministry of Energy, Algeria

**H.E. José Barroso**, Secretary of State for Oil and Gas, Ministry of Mineral Resources, Oil and Gas, Angola

**David Crane,** Director of the Office of Clean Energy Demonstrations, United States Department of Energy

**Jen Easterly,** Director, Cybersecurity and Infrastructure Security Agency (CISA)

**Hon. Andrew Egyapa Mercer,** Deputy Minister of Energy, Ministry of Energy, Ghana

**H.E. Tarek El Molla**, Minister of Petroleum & Mineral Resources, Ministry of Petroleum & Mineral Resources, Egypt

**Dr. Patrick Graichen,** State Secretary, German Federal Ministry for Economic Affairs and Climate Action

Hon. Joe Manchin, United States Senator, West Virginia

Hon. Lisa Murkowski, United States Senator, Alaska

Willie L. Phillips, Acting Chairman, Federal Energy Regulatory Commission (FERC), United States

**Hon. Michael S. Regan,** Administrator, United States Environmental Protection Agency

**Jigar Shah,** Director, Loan Programs Office, United States Department of Energy

**Hon. Alexandre Silveira,** Minister of Mines and Energy, Brazil

**Rt. Hon. Graham Stuart MP,** Minister of State (Minister for Energy and Climate), Department for Business, Energy & Industrial Strategy, Government of the United Kingdom

Hon. Daniel Sullivan, United States Senator, Alaska

**Dr. See Leng Tan,** Minister for Manpower and Second Minister for Trade and Industry, Ministry of Trade and Industry (MTI), Singapore

**H.E. Arifin Tasrif,** Minister of Energy and Mineral Resources, Ministry of Energy and Mineral Resources, Indonesia

### Thought Leaders and NGOs/National & International Organizations



**H.E. Dr. Amani Abou-Zeid,** Commissioner for Infrastructure and Energy, African Union Commission



**H.E. Haitham Al Ghais,** Secretary General, Organization of the Petroleum Exporting Countries (OPEC)



Reginald DesRoches, President, Rice University



Fred Krupp, President, Environmental Defense Fund

### Thought Leaders and NGOs/National & International Organizations (continued)



Rajiv J. Shah, President, The Rockerfeller Foundation



Sunita Narain, Director General, Centre for Science and Environment (CSE)

Engr. Fahad Alajlan, President, KAPSARC

**Douglas Arent,** Executive Director, Strategic Public-Private Partnerships, National Renewable Energy Laboratory (NREL)

Robert Armstrong, Director, MIT Energy Initiative; Chevron Professor of Chemical Engineering, Massachusetts Institute of Technology

Jason Bordoff, Founding Director, Center on Global Energy Policy and Professor of Professional Practice in International and Public Relations at the School of International and Public Affairs (SIPA), Columbia University

**Jason Grumet,** Chief Executive Officer, American Clean Power Association

Frederick Kempe, President & Chief Executive Officer, Atlantic Council

**Arun Majumdar,** Dean, Stanford Doerr School of Sustainability, Stanford University

**Suzanne Maloney,** Vice President and Director of the Foreign Policy program, The Brookings Institution

Joseph McMonigle, Secretary General, International Energy Forum (IEF) **Dr. Anna Michel**, Associate Scientist, Woods Hole Oceanographic Institution (WHOI)

**Osama Mobarez,** Secretary General, East Mediterranean Gas Forum

**Ernest Moniz,** Founder & Chief Executive Officer, Energy Futures Initiative

**Richard G. Newell,** President and Chief Executive Officer, Resources for the Future (RFF)

Mike Sommers, President and Chief Executive Officer, American Petroleum Institute (API)

Angela Stent, Senior Adviser to the Center for Eurasian, Russian and East European Studies and Professor Emerita of Government and Foreign Service at Georgetown University and Author of Putin's World: Russia Against the West and with the Rest

**Dr. Kirsten Westphal,** Executive Director Analysis & Research, H2 Global Stiftung

"I left Houston very impressed. It is undoubtfully the most important event of its kind. The depth, knowledge and vision of the dialogue through the many high-profile participants was clearly felt."

- Torbjörn Törnqvist, Co-Founder & Chairman, Gunvor Group

### Energy Industry – Oil, Gas & Chemicals



**Mike Wirth,** Chairman of the Board & Chief Executive Officer, Chevron Corporation



**Vicki Hollub,** President & Chief Executive Officer, Oxy



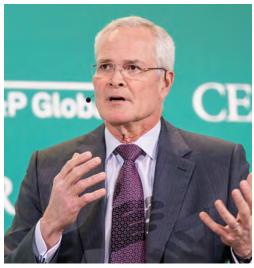
Bernard Looney, Chief Executive Officer, bp p.l.c.



**Patrick Pouyanné,** Chairman of the Board & Chief Executive Officer, TotalEnergies



Wael Sawan, Chief Executive Officer, Shell



**Darren Woods,** Chairman & Chief Executive Officer, Exxon Mobil Corporation

### Energy Industry – Oil, Gas & Chemicals (continued)



**Tengku Muhammad Taufik,** President & Group Chief Executive Officer. PETRONAS



Claudio Descalzi, Chief Executive Officer, Eni

**Richard Adkerson,** Chairman of the Board & Chief Executive Officer, Freeport-McMoRan

Shaikh Nawaf Al-Sabah, Deputy Chairman and Chief Executive Officer, Kuwait Petroleum Corp

**Felipe Bayón,** Chief Executive Officer, Ecopetrol

**Nick Dell'Osso,** President and Chief Executive Officer, Chesapeake Energy

**Timothy Duncan,** Founder, President and CEO, Talos Energy

**Greg Ebel,** President & Chief Executive Officer, Enbridge

**Jim Fitterling,** Chairman & Chief Executive Officer, Dow

**Jack Fusco,** President & Chief Executive Officer, Cheniere Energy

**Kevin Gallagher,** Chief Executive Officer and Managing Director, Santos

**John Hess,** Chief Executive Officer, Hess Corporation

**Gordon Huddleston,** Partner and President, Aethon Energy

**Hunter Hunt,** Chairman & Chief Executive Officer, Hunt Energy, LLC

**Josu Jon Imaz,** Chief Executive Officer, Repsol

**Steven Kobos,** President & Chief Executive Officer, Excelerate Energy

**Ryan Lance,** Chairman & Chief Executive Officer, ConocoPhillips

Olivier Le Peuch, Chief Executive Officer, SLB

**Grzegorz Markiewicz,** Deputy Director, PGNiG for Wholesale Trade and Executive Director, Oil and Gas Trading, PKN ORLEN

**Rick Muncrief,** President & Chief Executive Officer, Devon Energy

Meg O'Neill, Chief Executive Officer & Managing Director, Woodside Energy Ltd.

**Anders Opedal,** President & Chief Executive Officer, Equinor

**Alex Pourbaix,** President and Chief Executive Officer, Cenovus Energy

**Jean Paul Prates,** Chief Executive Officer, Petrobras

**Toby Z. Rice,** Chief Executive Officer, EQT Corporation

**Dev Sanyal,** Chief Executive Officer, VARO Energy Group AG

**Scott Sheffield,** Chief Executive Officer, Pioneer Natural Resources

Octávio Simões, President & Chief Executive Officer. Tellurian Inc.

**Lorenzo Simonelli,** Chairman & Chief Executive Officer, Baker Hughes

**Kris Smith,** Interim President and Chief Executive Officer, Suncor Energy

**Takayuki Ueda,** Representative Director, President & CEO, INPEX Corporation

**Hajime Wakuda,** President & Managing Director, Carbon Neutrality Promotion Headquarters, JOGMEC

**Sanzhar Zharkeshov,** Chairman of the Management Board, QazaqGaz

"I felt like this was the best CERAWeek I have ever attended. Huge attendance, all the right people, great agenda, high energy, packed days and evenings."

- Mike Wirth, Chairman of the Board & Chief Executive Officer, Chevron Corporation

### Energy Industry – Power & Renewables



**John Ketchum,** Chairman, President & Chief Executive Officer, NextEra Energy



Markus Krebber, Chief Executive Officer, RWE AG



**Andrés Gluski,** President & Chief Executive Officer, AES

**Mohamad Al Hammadi,** Managing Director & Chief Executive Officer, Emirates Nuclear Energy Corporation

**Mohamed Jameel Al Ramahi,** Chief Executive Officer, Masdar

Pedro Azagra, Chief Executive Officer, AVANGRID

**Warner Baxter,** Executive Chairman, Ameren Corporation and Chairman, Edison Electric Institute

**John Berger,** Chairman, President and Chief Executive Officer, Sunnova Energy Corporation

Rick Beuttel, Vice President, Hydrogen, Bloom Energy

Marcos Bulgheroni, Group Chief Executive Officer, PAE

**Michael Caron,** Utility Commissioner, Public Utilities Regulatory Authority, Connecticut Department of Energy and Environmental Protection

**Dr. Mihai Dorobantu,** Director, Planning and Government Affairs, Vehicle Group, Eaton

**Sunny Elebua,** Senior Vice President, Chief Strategy and Sustainability Officer, Exelon Corporation

**Dr. Barbara Frei,** Executive Vice President, Industrial Automation, Schneider Electric

**Daniel Friedmann,** Chief Executive Officer, Carbon Engineering Ltd.

**Jim Grech,** President & Chief Executive Officer, Peabody Energy **David Hardy,** Chief Executive Officer, Ørsted Offshore North America

**Doreen Harris,** President and Chief Executive Officer, New York State Energy Research and Development Authority (NYSERDA)

**William Hazelip,** President, National Grid Ventures, US Northeast, National Grid

**Thad Hill,** President & Chief Executive Officer, Calpine Corporation

Didier Holleaux, Executive Vice President, ENGIE

**Abigail Hopper,** President & Chief Executive Officer, Solar Energy Industries Association (SEIA)

### Energy Industry - Power & Renewables (continued)



**Mauricio Gutierrez,** President & Chief Executive Officer. NRG



**Calvin G. Butler,** President & Chief Executive Officer, Exelon Corporation



**Miguel Stilwell d'Andrade,** Chief Executive Officer, EDP

Izumi Kai, President, JERA Energy America LLC

**Roger Kranenburg,** Vice President, Energy Strategy & Policy, Eversource Energy

**Rebecca Kujawa**, President and Chief Executive Officer, NextEra Energy Resources

**Hon. Chairman Peter Lake,** Chairman, Public Utility Commission of Texas (PUCT)

**Patrick Lammers,** Chief Operating Officer and Member of the Board of Management, E.ON SE

**Ralph LaRossa,** President & Chief Executive Officer, Public Service Enterprise Group Incorporated (PSEG) **Jeffrey Lyash,** President and Chief Executive Officer, Tennessee Valley Authority (TVA)

**Randy MacEwen,** President & Chief Executive Officer, Ballard Power Systems

**Andy Marsh,** President & Chief Executive Officer, Plug Power

Ricardo Mussa, Chief Executive Officer, Raízen

**Julian Nebreda,** President & Chief Executive Officer, Fluence Energy

**Meghan Nutting,** Executive Vice President, Government and Regulatory Affairs, Sunnova Energy Corporation **Pedro Pizarro,** President & Chief Executive Officer, Edison International

**Ana Quelhas,** Managing Director for Hydrogen, EDP Renewables

Markus Rauramo, President & Chief Executive Officer, Fortum

**Shashank Sane,** Executive Vice President, Transmission, Invenergy

**Sumant Sinha,** Founder, Chairman & Chief Executive Officer, ReNew Power

### Energy Industry – Climate, Clean Tech & Mobility



**Dr. Bashir Dabbousi,** Director, Technology Strategy & Planning, Saudi Aramco



Jennifer Holmgren, Chief Executive Officer, LanzaTech



Seifi Ghasemi, Chairman, President and CEO, Air Products



**Stephen Scherr,** Chief Executive Officer, The Hertz Corporation

### Energy Industry - Climate, Clean Tech & Mobility (continued)



**Sanjiv Lamba,** Chief Executive Officer and Member of the Board of Directors, Linde



**Jean-Pascal Tricoire,** Chairman & Chief Executive Officer, Schneider Electric



Meg Gentle, Executive Director, HIF Global

**Damian Beauchamp,** President & Chief Development Officer, 8 Rivers

**Stephen D'Esposito**, Chief Executive Officer and President, Regeneration Enterprises

**Jarosław Dybowski,** Executive Director, Power Generation, PKN ORLEN

**Doron Frenkel,** Founder & Chief Executive Officer, Driivz

**Lori Guetre,** Vice President and Head of Business Development, Carbon Engineering

**Dr. Mark Hutchinson,** Chief Executive Officer, Fortescue Future Industries (FFI)

**James Kast**, Hydrogren Infrastructure Manager, Toyota Motor North America Fred Krupp, President, Environmental Defense Fund

**Sharelynn Moore,** Executive Vice President, Chief Business Development and Marketing Officer, Bloom Energy

**Dr. Bob Mumgaard,** Chief Executive Officer, Commonwealth Fusion Systems (CFS)

**Daniel Poneman,** President & Chief Executive Officer, Centrus Energy Corp.

**Emily Reichert,** Chief Executive Officer, Greentown Labs

**Christopher Smith,** Chief Government Affairs Officer, Ford

**Bjørn Otto Sverdrup,** Chair of the Executive Committee, Oil and Gas Climate Initiative (OGCI)

**Lance Uggla,** Chief Executive Officer, BeyondNetZero

**Bill Vass,** Vice President of Engineering, Amazon Web Services (AWS)

**Maarten Wetselaar,** Chief Executive Officer, CEPSA

**Dan Yankowski,** President of Linde Gases, North America, Linde

### Finance, Investment & Risk Management



Carlos Torres Vila, Chair, BBVA



**Clio Crespy,** Senior Managing Director, Guggenheim Securities



**Sadek Wahba,** Chairman and Managing Partner, I Squared Capital



**David Rubenstein,** Co-Founder and Co-Chairman, The Carlyle Group



**Torbjörn Törnqvist,** Co-Founder & Chairman, Gunvor Group



**Jeremy Weir,** Executive Chairman & Chief Executive Officer, Trafigura

"The number of and spectrum of participants and quality of dialogue across a broad range of industries and topics was really outstanding."

- **Jeremy Weir,** Executive Chairman & Chief Executive Officer, Trafigura

### LNG, Midstream & Infrastructure



**Alan Armstrong,** President & Chief Executive Officer, Williams



**Dan Brouillette,** Former United States Secretary of Energy and President, Sempra Infrastructure



**Jack Fusco,** President and Chief Executive Officer, Cheniere Energy



**Greg Ebel,** President and Chief Executive Officer, Enbridge



**Meg O'Neill,** Chief Executive Officer & Managing Director, Woodside Energy Ltd.



**Charif Souki,** Executive Chairman of the Board, Tellurian Inc.

**Mahdi Aladel,** Chief Executive Officer, Aramco Ventures

**Nicolás Azcuénaga Ramirez,** Corporate Vice President, Strategy & Business Development, Ecopetrol

**Fernando Assumpcao Borges,** Chief Exploration & Production Officer, Petrobras

**Guido Brusco,** Chief Operating Officer Natural Resources, Eni

Barbara Burger, Senior Advisor, Lazard

**Veronica Coelho,** Senior Vice President & Country Manager Brazil, Equinor

**Clara Guatame,** President, National Hydrocarbons Agency (ANH)

**Richard Jackson,** President, U.S. Onshore Resources and Carbon Management Operations, Oxy

**Dele Kuti,** Global Head, Oil and Gas, Standard Bank

**Cindy Lim,** Chief Executive Officer, Keppel Infrastructure Holdings Pte Ltd.

**Bacho Pilong,** Senior Vice President, Project Delivery & Technology, PETRONAS

**Alistair Routledge,** Guyana Country Manager, ExxonMobil

**David Scott,** Senior Vice President, Upstream Unconventional, ExxonMobil

**Nicolas Terraz,** President, Exploration & Production, TotalEnergies

**Takayuki Ueda,** Representative Director, President & CEO, INPEX Corporation

Zoe Yujnovich, Upstream Director, Shell

**Adif Zulkifli,** Executive Vice President & Chief Executive Officer Upstream, PETRONAS

### Technology & Business Transformation



**Lorenzo Simonelli,** Chairman and Chief Executive Office, Baker Hughes



**Dr. Ing. Christian Bruch,** President & Chief Executive Officer, Siemens Energy



**Takajiro Ishikawa**, President & Chief Executive Officer, Mitsubishi Heavy Industries America (MHI-A)



Dong Kwan Kim, Vice Chairman, Hanwha Group



**Adam Selipsky,** Chief Executive Officer, Amazon Web Services (AWS)



Olivier Le Peuch, Chief Executive Officer, SLB



**Peter Terwiesch,** President, Process Automation and Member of the Group Executive Committee, ABB

Bold Baatar, Chief Executive, Copper, Rio Tinto

**Michl Binderbauer,** Chief Executive Officer, TAE Technologies, Inc.

**Cully Cavness,** Co-Founder, President, & Chief Operating Officer, Crusoe Energy

Ric Fulop, Chairman, CEO & Co-Founder, Desktop Metal

Ken Gilmartin, Chief Executive Officer, Wood

Caspar Herzberg, Chief Executive Officer, AVEVA

**Rebecca Hofmann,** President & Chief Executive Director, Blockchain For Energy

**Brent Lewis,** Chief Executive Officer & Co-Founder, Carbon America

**Bill Newsom,** President & Chief Executive Officer, Mitsubishi Power Americas

**Jane Stevenson,** Vice Chairman, Board & CEO Services, Korn Ferry

**Dr. Margie Warrell,** Senior Client Partner Board, CEO & Leadership Advisory, Korn Ferry

**Darryl Willis,** Corporate Vice President of Energy & Resources Industry, Microsoft

**Ben Wilson,** Chief Strategy and External Affairs Officer, National Grid

### Diversity & Inclusion



Amanda Eversole, Executive Vice President & Chief Advocacy Officer, American Petroleum Institute (API)



**Enoh Ebong,** Director, United States Trade and Development Agency



**Farehana Hanapiah,** Senior Vice President, Group Human Resource Management, PETRONAS



**Rebecca Kujawa**, President and Chief Executive Officer, NextEra Energy Resources



**Shiva McMahon,** Executive Vice President International Operations, Woodside Energy



**Proscovia Nabbanja,** Chief Executive Officer, Uganda National Oil Company Limited (UNOC)

**H.E. Dr. Amani Abou-Zeid,** Commissioner for Infrastructure and Energy, African Union Commission

**Arni Laily Anwarrudin,** Head of M&A and PETRONAS Ventures, PETRONAS

Carmen Rando Bejar, Chief People Officer, SLB

**Hadyah Fathalla,** Board Member, nogaholding Bahrain

**Kristina Lund,** President & Chief Executive Officer, US Utilities, AES

**Nathalie Marcotte,** SVP and President, Process Automation, Schneider Electric

**Jane Stevenson,** Vice Chair, Board & CEO Services, Korn Ferry

### The Energy Trilemma: Balancing security, transition and affordability

Recent global crises have redefined how the world understands the future of energy. Successive upheavals caused by pandemic, recovery and war created massive imbalances between the energy the world needs and the capacity to deliver it. The world is now reassessing how energy security, transition and affordability must work together to drive global growth and prosperity. The energy transition will not stop as governments, industries and institutions all need to act on climate change. But the global energy industry has taken on a new imperative: to build a system that is equal parts secure, sustainable and affordable—to meet global demand for fuels that drive the global economy while also designing this system to redress climate change. What are the fundamental shifts needed in investment, policy and technology to achieve that?

#### Sessions included:

- Balanced Transition: Securing Europe's Energy Future
- Balancing Economic Growth and Reducing Emissions in Emerging Asia
- · Can this Energy Transition Be a Revolution?
- China's Climate Pathways: Peak emissions and carbon neutrality
- · Company Strategies to Lower Emissions
- Curbing Emissions: What is the role of oil and gas companies?
- Delivering on Article 6: Building an integrated emissions trading ecosystem



Navigating the Trilemma: Security, sustainability and affordability plenary with Saugata Saha (chair), President, S&P Global Commodity Insights; Josu Jon Imaz, Chief Executive Officer, Repsol; Brendan Bechtel, Chairman & Chief Executive Officer, Bechtel; and Liam Mallon, President, Upstream, ExxonMobil Upstream Company



Company Strategies to Lower Emissions plenary with Atul Arya (Chair), Senior Vice President and Chief Energy Strategist, S&P Global Commodity Insights; Astrid Poupart-Lafarge, Segment President Energies & Chemicals, Schneider Electric; Hitoshi Kaguchi, Representative Director, Executive Vice President, Chief Strategy Officer, Mitsubishi Heavy Industries (MHI); President & CEO, MHI Energy Systems, Mitsubishi Heavy Industries; Darryl Willis, Corporate Vice President of Energy & Resources Industry, Microsoft; and Luis Cabra, Executive Managing Director of Energy Transition. Technology, Institutional Affairs, and Deputy CEO, Repsol

- Dual Challenge: Accelerating energy transition while ensuring energy security
- Energy Access and Economic Growth
- Latin America Power: Going greener amid volatility
- · Low-carbon Pathways to Net Zero
- Navigating the Trilemma: Security, sustainability and affordability
- Oil & Gas: Leading for the next decade
- · Overcoming Africa's Power Shortage

- · Reducing Emissions in Oil and Gas Production
- Reflections | Navigating a Turbulent World: Energy, climate and security
- Spotlight | Conversation with OPEC Secretary General Haitham Al Ghais
- Spotlight | The Business of Carbon Management
- US Oil & Gas: How can it continue to outperform?

Note: Not a complete list of sessions.

### Geopolitics and Geoeconomics: An era of volatility

Russia's invasion of Ukraine shattered the post-World War II equilibrium that had underpinned global prosperity for seven decades. The sequential shocks to the international system of pandemic and war are pervasive, manifesting in energy crises, high inflation, social unrest, geopolitical tensions and a larger role for the state in markets and industries. Volatility will dominate global politics, economics and security as the world enters an era of reshaping the international order. What is the new map of geopolitics that is emerging from the current upheaval? Is the era of globalization as markets and industries knew it now over? How will growing rifts impact energy trade, risk management and capital flows?

#### Sessions included:

- Asia: Energy transition partnerships
- Building the Innovative City of the Future
- · Energy Markets: The growing role of government
- Dinner & Dialogue | Geopolitics: Reshaping the world
- Luncheon & Dialogue with Hon. Michael S. Regan, Administrator, United States Environmental Protection Agency
- Luncheon & Dialogue | The Biden Administration: Strategies on climate and energy
- Luncheon & Keynote Address with Hon.
  Jennifer M. Granholm, Secretary of Energy,
  United States Department of Energy
- Mideast Gulf: Geopolitics versus markets
- · Regulatory Dialogue
- · Shaping Energy Policy for an Uncertain World



Spotlight | Energy, Geopolitics, and Algorithmic Warfare: The Power of Information with Alex Karp, Co-Founder and Chief Executive Officer. Palantir



**Spotlight | Conversation** with **Hon. John Kerry,** Special Presidential Envoy for Climate, United States Department of State



Spotlight | Asian Energy Ministerial: Balancing energy security and transition? with Carlos Pascual (Chair), Sr. Vice President Geopolitics and International Affairs, S&P Global Commodity Insights; Shin Hosaka, Commissioner, Agency for Natural Resources and Energy, Ministry of Economy, Trade and Industry (METI), Japan; Dr. Tan See Leng, Minister for Manpower and Second Minister for Trade and Industry, Ministry of Trade and Industry (MTI), Singapore; and H.E. Arifin Tasrif, Minister of Energy and Mineral Resources, Indonesia

- Spotlight | Africa's Energy: A future of energy transitions
- Spotlight | Asian Energy Ministerial: Balancing energy security and transition?
- Spotlight | Conversation with Hon. John Kerry
- Spotlight | Conversation with Senator Dan Sullivan
- Spotlight | De-globalization and the Fracturing of Global Trade
- Spotlight | Energy and Europe's Future Security
- Spotlight | Energy Priorities in Washington: The industry perspective

- Spotlight | Guyana's Rise as an Energy Power
- Spotlight | How to End Global Energy Poverty
- Spotlight | Ministerial Plenary (two)
- The Geopolitics of Energy Security and Transition
- Technology, China and the New Security Agenda
- · Ukraine: War and its aftermath
- · U.S. Energy Policy: Carrots and sticks
- · What's Ahead in Washington?

Note: Not a complete list of sessions.

### Competitive Landscape, Technology and Innovation

Geopolitical disruptions and sustained volatility in energy markets have upended conventional strategies, rearranged commercial relations and repurposed transition goals. How are market shocks altering the competitive playing field and structure of the energy industry? What new strategies are being adopted? What are the pathways toward synchronizing a phase-out of existing energy systems with a buildup of low carbon and net-zero solutions? Is there a new future for natural gas? What will be the role of hydrogen, nuclear and biogas in the energy mix and how is industry innovating to deliver them?





**Dinner & Dialogue | Securing Infrastructure: Cyber and other threats** with **Jen Easterly, Director, Cybersecurity and Infrastructure Security Agency (CISA) and <b>Pedro Pizarro, President & Chief Executive Officer, Edison International** 



Unlocking Latin American Natural Gas with Tania Ortiz Mena, President, Sempra Infrastructure Mexico & Group President, Clean Power and Energy Networks, Sempra



Building Low-carbon LNG Value Chains with James Taverner (Chair), Research & Analysis Director, S&P Global; Robert Fee, Vice President, International Affairs and Climate, Cheniere Energy; Ryan Peay, Deputy Assistant Secretary for the Office of Resource Sustainability, United States Department of Energy; Alberto Matucci, Vice President, Gas Technology Equipment – Industrial & Energy Technology, Baker Hughes; and William Jordan, Executive Vice President and General Counsel, EQT Corporation



National Oil Companies in the Changing World with Daniel Pratt (Chair), North America Upstream Lead, S&P Global; Zhen Wang, Chairman, CNOOC Energy Economics Institute; Bala Wunti, Chief Upstream Investment Officer, NNPC Ltd.; and Bader E. Al-Attar, Managing Director, Planning & Finance, Kuwait Petroleum Corporation

### Competitive Landscape, Technology and Innovation (continued)

#### Sessions included:

- · Accelerating Energy Transition
- Asian Gas Demand: Options to maintain energy supply security
- Battery Storage: The next leap forward
- Boom Time for Biofuels: New crops, new fuels, new markets
- Bringing Africa's Gas to Global Markets
- Building Low-carbon LNG Value Chains
- Canadian Oil Sands: Pathways to Net Zero
- Changing Perspectives on Energy Supply Sources and Transport Routes
- Choices for Flexible Power: Gas, batteries, storage and beyond
- · Coal in Play: Now and in the future
- · Coal in the Energy Transition
- Connecting North American Energy to the World
- Decarbonizing Solutions for Hardto-abate Industries
- Delivering the Low-carbon Infrastructure of the Future
- Dinner & Dialogue | Securing Infrastructure: Cyber and other threats
- Disruption! Creating a new energy world
- Distributed Electricity: Balancing flexibility and reliability
- Diversifying for Sustainability
- Emerging Technologies for Net Zero
- Energy Security and Transition: How synergistic in the power sector?

- European Gas: Turmoil, resilience and lessons learned
- Future of Gas: Innovation and new business models
- Global Energy Leadership Dialogue with Patrick Pouyanné, Chairman of the Board & Chief Executive Officer, Total Energies
- · Global Gas: A whole new world
- · How Fast Can Innovation Scale?
- How Will U.S. Power Markets Change?
- · Hydrogen: How fast can it rise?
- Investing in Downstream: Expanding fuels and petrochemicals production in the face of uncertain demand
- · Investment Strategies for the Future
- Latin American Upstream:
   Competitiveness in global markets
- Leadership Dialogue with John Ketchum, Chairman, President & Chief Executive Officer, Nextera Energy
- Leadership Dialogue with Nawaf Al-Sabah, Deputy Chairman & Chief Executive Officer, Kuwait Petroleum Corp
- Leadership Dialogue with Wael Sawan, Chief Executive Officer, Shell
- Luncheon & Dialogue: Accelerating the road to net zero
- · Mapping the Global Energy Transition
- National Oil Companies in the Changing World
- · New Waves in the North Sea
- North American Gas: Are strategies changing?

- North American Gas: Assuring supply and meeting demand
- · Oil & Gas: Playing the long game
- Opening Address: New perspectives, new strategies with Mike Wirth, Chairman of the Board & Chief Executive Officer, Chevron Corporation
- Pathways to Net Zero & Circularity: Challenges and opportunity for downstream refining and chemicals in a low-carbon world
- Permitting & Transmission: The big challenge of connecting renewables
- Reconfiguring Refineries for the Future
- Regenerating Nuclear for a Lowcarbon World
- · Reimagining the Energy Future
- Renewable Natural Gas: How fast, how big?
- Resilience, Technology Pathways and Energy Transition: The new National Petroleum Council reports
- Securing Energy for India's Economic Growth
- Spotlight | Digital Technologies: Accelerating transition
- Spotlight | Future Fuel Mix in Transportation: Molecules and electrons
- Spotlight | Procuring Renewable Power at Global Scale: What should buyers and suppliers do?
- Spotlight | The Commoditization of LNG

- Spotlight | What Is the Role of Gas in Transition & Security?
- Strategic Choices for Investing in the Upcycle
- Sustainability in Canadian Energy
- Technologies for Sustainability
- · Texas Power Breakfast
- The Case for Investing in African Oil and Gas
- The Electrification of Everything?
- The Future of Natural Gas
- · The Future for Gas: LNG and hydrogen
- Trading in Volatile Markets
- Upheaval in European Electricity: Redesigning markets?
- Unlocking Latin American Natural Gas
- · U.S. Offshore Wind: Surging power
- World of Turbulence: Upstream strategies



### Financing the Energy Future: The capital transition

Recalibrating the world's energy system to meet net-zero targets while sustaining production systems that foster energy security will require trillions of dollars of investment. Governments have taken leading roles in industrial policy by offering massive incentives to catalyze private capital and accelerate transition goals. But these energy investment needs come as the global economy faces significant headwinds from high inflation, slowing growth and heightened risk from geopolitical instability. How will markets respond? How will investors navigate these risks and opportunities? What will be the impact of the U.S. Inflation Reduction Act in accelerating investment? What will facilitate capital flows to developing countries to promote just energy transitions and bridge northsouth divides?

#### Sessions included:

- Capitalizing the Energy Transition
- Clean Energy Investment: How much bigger is the opportunity?
- Financing the Energy Transition
- · Global Economy: Inflation versus recession
- Post-Pandemic: A new world economy?
- Reliable Energy Systems for Net Zero
- Risk & Reward: Balancing security, returns and climate
- · Spotlight | The IRA: Deploying the capital
- The Role of Private Capital in Funding the Energy Transition
- The Role of Energy Companies in Capitalizing the Transition



Risk & Reward: Balancing security, returns and climate with Peter Gardett (Chair), Research & Analysis Executive Director, S&P Global; Olivia Wassenaar, Partner, Head of Sustainable Investing, Head of Natural Resources, Apollo; Bob Maguire, Managing Director - Partner, The Carlyle Group; Jaime Caballero, Chief Financial Officer, Ecopetrol; and Matthew Lipton, Co-Head of Infrastructure Investment Research, Partners Group



The Role of Energy Companies in Capitalizing the Transition with Roger Diwan (Chair), Vice President, S&P Global Commodity Insights; Steve Pattyn, Managing Member, Yaupon Capital; Francesco Gattei, Chief Financial Officer, Eni; Mohit Singh, Executive Vice President & Chief Financial Officer, Chesapeake Energy; and Robert Santangelo, Managing Director, Co-Head of Global Energy and Infrastructure and Chair of ESG Advisory, Vice Chairman of Equity Capital Markets Origination, Credit Suisse

### Supply Chains, Commodity Markets and Energy Transition

Roadmaps to achieve net zero are placing great focus on supply chains. Technologies central to the transition require much more critical minerals than conventional energy sources, yet governments and industry have expressed alarm about whether there will be sufficient mineral supply to move from a fuel-intensive to a mineral-intensive energy system. Beyond sourcing, pandemic lockdowns and the war in Ukraine have underscored the risks when things go wrong. Technology failures, commercial delays, new geopolitical crises and broken supply chains are inevitable realities going forward. How will supply chains adjust and scale and what are the contingencies for disruption? Is globalization giving way to regionalization?



Supply Chain Disruption in an Era of Inflation & Transition plenary with Pritesh Patel (Chair), Executive Director, Capital Costs Analysis Forum, S&P Global; Clare Harris, Executive Vice President Supply Chain, Contracting and Procurement (CSCO), Shell; Pamela Skaufel, Vice President, Procurement, ExxonMobil; Farah Lawler, Vice President, Energy, BNSF Railway; and Balaji Krishnamurthy, Vice President, Strategy & Sustainability. Chevron



**Richard Adkerson,** Chairman of the Board and Chief Executive Officer, Freeport-McMoRan

#### Sessions included:

- Big Shovels: Supplying minerals for the energy future
- · Building Out Hydrogen Infrastructure
- From A to Z (Aluminum to Zinc): Assuring minerals for the energy transition
- Making Buildings More Energy Efficient
- · Navigating Volatile Energy Markets

- Reshoring and Friendshoring: Impact on energy supply chains
- Road to COP28
- · Spotlight | Global Oil Market Outlook
- Spotlight | Rebuilding America's Energy Infrastructure
- Supply Chain Disruption in an Era of Inflation & Transition

- The Race for Clean Energy
- The Restructuring of Energy Markets
- Will a Shortage of Minerals Short Circuit the Transition?

Note: Not a complete list of sessions.

Future Workforce: Diversity, equity and inclusion (DEI) and next generation skills

Attracting and retaining talent will be a critical source of competitive advantage. What skills are needed for the energy industry of the future? How can the industry attract next-generation workers? How can industry remain in step with society's evolving values on environmental, social and governance (ESG), race, diversity and inclusion?



Spotlight | Developing Leadership and a New Culture for the Transition with Hadyah Fathalla, Board Member, Nogaholding Bahrain



Spotlight Dinner | Diversity in the Workforce: Creating value with Annette O'Hanlon (Chair), Chief Corporate Responsibility & Diversity Officer, S&P Global Inc.; Farehana Hanapiah, Senior Vice President, Group Human Resource Management, PETRONAS; Shiva McMahon, Executive Vice President International Operations, Woodside Energy; Jane Stevenson, Vice Chair, Board & CEO Services, Korn Ferry; and Amanda Eversole, Executive Vice President & Chief Advocacy Officer, American Petroleum Institute (API)

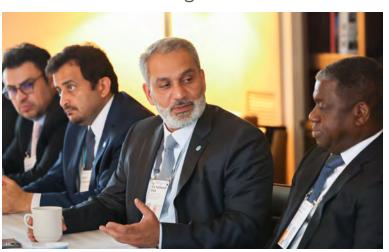
#### Sessions included:

- · Attracting Talent to Address Climate Change
- Building Equity and Fairness in Climate Solutions
- · Diversity, Equity and Inclusion in Energy Leadership
- Improving Energy Access While Addressing Climate Change
- Korn Ferry | The New Leadership Model for Success in Today's Market
- Lean In Network Energy | The Diversity Iceberg -Understanding where the damage takes place

- S&P Global | Advancing DEI: Actionable insights to drive inclusion and belonging
- Spotlight | Developing Leadership and a New Culture for the Transition
- Spotlight Dinner | Diversity in the Workforce: Creating value
- Spotlight | How to End Global Energy Poverty
- Spotlight | "NextGen" Future Energy Leaders Town Hall
- Varied Pathways to Attain Diversity, Equity and Inclusion in the Energy Industry: Perspectives from African American, Asian American and Hispanic Leadership
- Where Will the Workforce for Net Zero Come From?
- · Women in Energy Dinner
- Women in Energy Reception | Power Play Awards presented by ExxonMobil
- Women Reinventing Energy

## Special Initiatives at CERAWeek – Highlights

**OPEC Climate Briefing** 





Global Energy Solutions Initiative Forums









## Innovation Agora @ CERAWeek

At the seventh edition of the Innovation Agora @ CERAWeek, we brought together in one place a remarkable community of technologists, startup entrepreneurs, VCs and investors, thought leaders, policy makers, and corporate innovators—all dedicated to creating solutions to the greatest challenges facing our energy and environmental future.

Our focus is on advancing transformational technologies—ranging from renewables and e-mobility to CCS, advanced nuclear, digitalization, AI, quantum computing, robotics, drones, additive manufacture, smart cities of the future, and more.

The Agora is a vibrant marketplace of ideas on energy innovation, emerging technologies, and solutions —with opportunities to learn, connect and ideate.

Our formats include:

- Agora Studios highly interactive discussions on emerging and disruptive technologies and models of innovation
- Voices of Innovation journeys and insights by pioneers and thought leaders
- Agora Pods deep-dive presentations, case studies, and start-up "pitches" in a closeup, relaxed setting
- Innovation Agora Tech Corridor Dedicated space for delegates to speak with a number of our Agora Pod presenters in a more relaxed and interactive setting
- Agora Houses a glimpse of what's ahead by the world's preeminent energy and technology companies. Houses offer remarkable experiences and connections
- Agora Café perfect place to meet and exchange ideas over locally roasted coffee
- Clean Energy Commons networking gathering space surrounded by innovative partner experiences and Agora sessions
- Meetups small, informal gatherings for discussion around common interests led by S&P Global analysts and Partners
- **Hubs** dedicated Hydrogen and Carbon—and new for 2023—Climate areas featuring interactive presentations and discussions, meet-ups, receptions, and more
- Learning Lyceum high-impact learning and engagement with experts
- Lyceum Labs seminars on key topics and technologies
- Lyceum Workshops group exploration of a specific challenge
- Book signings... and more!

"The 2023 Innovation Agora was the most effective convergence of the global #climatetech ecosystem. Immersing, connecting, learning, planning, smiling.... It was all that."

- **Jim Shih**, Executive Director, Fluor

## Innovation Agora Highlights



650+ speakers



**53**Agora Studios



**7**Agora Houses



420+ sessions



12 Voices of Innovation



/ Meetups



200+ startups



99+ Agora Hub sessions



12
Book signings/book talks



40 Partners



200+ Pods



Venture Day



**54**Lyceum Labs

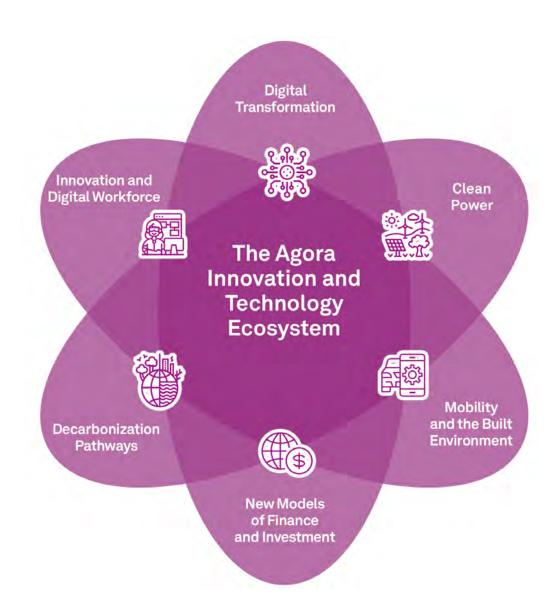
## Innovation Agora Themes

The Innovation Agora @ CERAWeek fosters energy innovation and advances solutions to the world's greatest energy and sustainability challenges. The Agora is a marketplace for ideas, dialogue, new experiences, and connections. This exciting community of startups, technologists, investors, academics, energy companies, and government officials are all dedicated to shared learning and exploration.

The program features unique formats, interactive dialogue, and conversations about the global energy innovation and technology ecosystem.

Key themes and technology pathways featured across the Agora are rooted in innovation and energy transition solutions:

- Decarbonization Pathways
- · Clean Power and Hydrogen
- Mobility and the Built Environment
- New Models of Finance and Investment
- Digital Transformation
- · Innovation and Digital Workforce



### Theme: Decarbonization Pathways

#### Topics included:

- Carbon Capture, Utilization and Storage (CCUS)
- Nature Based Solutions
- Adaptation and Physical Risk
- Emissions Measurement Technologies
- Sustainability, Resiliency and Preparedness
- Low Carbon Initiatives
- Decarbonizing the Industrial Sector
- Emissions Abatement Technologies



Crossing the Chasm: From low-carbon innovations to large-scale businesses Carbon Hub with Brian Hlavinka, Vice President New Energy Ventures, Williams and Gwenaelle Avice-Huet, Chief Strategy & Sustainability Officer, Schneider Electric



Waste to Sustainable Energy and Products: Next-generation biofuel innovations Carbon Hub with Christoph Berg (Chair), Global Team Leader Biofuels Analytics, S&P Global; Paulo Neves, Vice President of Trading, RaÃzen; Andrea Redford, Chief Business Development Officer, Enerkem; Nick Stork, Chief Executive Officer, Archaea Energy

### Decarbonization Pathways (continued)



Advancements in Decarbonizing Heavy Industry Studio with Antonia Bullard (Chair), Senior Associate, S&P Global; Jennifer Holmgren, Chief Executive Officer, LanzaTech; Brent Lewis, Chief Executive Officer & Co-Founder, Carbon America; and Chris Powers, Vice President, Carbon Capture, Utilization and Storage, Chevron Corporation

#### 23 sessions\* included:

- · Advancements in Decarbonizing Heavy Industry
- Balancing Net Zero and Just Energy Priorities in Energy Transition
- Biofuels Feedstock Supply: Is there enough?
- CCUS: Emerging technologies to reduce costs
- · CCUS Project Lifecycles: Thinking bigger and faster
- Crossing the Chasm: From low-carbon innovations to large-scale businesses
- Decarbonization: Learnings from the shipping industry
- Direct-air Capture: Global initiatives to reduce costs and scale CDR infrastructure
- Decarbonization: The impact of SAFs in aviation

- Electrifying Mining Operations
- Emissions Reduction from Biofuels: Impact of new government policies
- Global Compliance Carbon Markets: Where and how are they expanding?
- Hard-to-abate Sectors: Technologies for the tough stuff
- Implementing Decarbonization Across the Corporation
- Methane Detection and Quantification: Which mix of technologies?
- Methane Measurement to Action: The art of cost/benefit prioritization in oil & gas

- Nature-based Solutions: Win-win for climate and biodiversity?
- New Frontiers for Methane Management Across Sectors
- Successful CCUS Scale-ups: Dependent on integrated hubs and markets?
- Taking Carbon Trading to the Next Stage: What is needed to move the market forward?
- Technologies and Market Structures to Help Scale-up the Voluntary Carbon Market
- Waste to Sustainable Energy and Products: Next-generation biofuel innovations

\*Including sessions in Agora Studios, Pods, Hubs, and the Lyceum. Not a complete list.

## Theme: Digital Transformation

#### Topics included:

- Big Data and Predictive Analytics
- Robotics and Remote Operations
- Digital Twin Technologies
- AI & ML
- Cloud Computing
- Industrial IoT
- Cybersecurity and Risk
- A/R and V/R
- Agile Design
- Quantum Computing Technologies
- Blockchain



Blockchain in the Oil and Gas Supply Chain: More important than ever Studio with Rebecca Hofmann, President & Chief Executive Director, Blockchain For Energy; Raquel Clement, Digital Product Line Deputy Manager, Facilities & Equipment Operations; Chairperson of the Board, Blockchain for Energy, Chevron; Raj Rapaka, Upstream Digital Transformation Advisor; Board Member, Blockchain for Energy, ExxonMobil; and Mike Green, Manager, IT Partner Services; Board Member, Blockchain for Energy, Chesapeake Energy



Accelerating Digital Technologies Studio with Judson Jacobs (Chair), Executive Director, Upstream Technology, S&P Global; Ahmed Hashmi, Principal, ND@VR Energy Advisors; Trey Lowe, Chief Technology Officer & Vice President, Devon Energy; Trygve Randen, Director of Data and Subsurface, SLB; and Hussein Shel, Director, Chief Technologist for Energy and Utilities, Amazon Web Services (AWS)

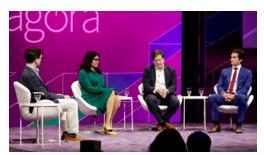
### Digital Transformation (continued)



The Continued Expansion of Quantum Technology in the Energy Ecosystem Studio with James Whitfield, Amazon Visiting Academic, AWS



Managing the Grid in a New Technology Environment Studio with (from left) McCrea Dunton, Senior Director, Energy and Grid Services, Sunnova Energy International, Inc. Kristen Panerali, Head, Clean Power and Electrification, World Economic Forum; and Deia Bayoumi, Vice President, Bloom Energy



Cryptocurrency Footprint on Energy Consumption Studio with Jonathan Schroth, Research Analyst, S&P Global; Sheila Warren, Chief Executive Officer, Crypto Council for Innovation (CCI); Thomas Mapes, Director of Energy Policy, Chamber of Digital Commerce; and Chase Lochmiller, Co-Founder & Chief Executive Officer, Crusoe Energy

#### 31 sessions\* included:

- ABB | IT-OT Cyber Security Convergence Models for Success
- · Accelerating Digital Technologies
- Aize | Transform the Way you perform Capital Projects & Operations by Leveraging the Power of your Digital Twin
- Akselos | Simulating Our Way through the Energy Transition
- AVEVA | Exploring the Metaverse
- Baker Hughes | Going Beyond Production Optimization with Baker Hughes & AWS
- Blockchain in the Oil and Gas Supply Chain: More important than ever
- Book Talk & Signing with Chris Miller | Chip War: The Fight for the World's Most Critical Technology
- Crusoe Energy | Aligning the Future of the Climate with the Future of Computing
- Crusoe Energy | How Stranded Energy Will Shape the Future of Computing
- Cryptocurrency Footprint on Energy Consumption

- · Cybersecurity in Energy: How safe are our facilities?
- Do We Have the Technologies to Get to Net Zero?
- Dsider | Sustainability through Digital Innovation: Navigating towards NetZero with an Integrated Digital Platform
- · Feelit | Predicting Maintenance
- Gaiascope | Grid intelligence: Increasing Returns and Reducing Risk
- GE | Digital ADMS deployment on AWS
- Innowatts | Using Energy Data to Predict Changing Energy Consumption & Generation
- Johns Hopkins | Ambient Intelligence for Human Aware Environments
- · Managing the Grid in a New Technology Environment
- Microsoft | Unleashing the Power of Subsurface Data with OSDU in the Cloud
- · Nesh | Building a Digital Subject Matter Expert
- Pioneer Natural Resources | Commodity Transport: Web3 Field Automation Has Arrived! A Blockchain For Energy Program

- Powering Data Centers with Clean Energy
- Repsol | Digital Identity, A Blockchain For Energy Program
- · Senslytics | Utilizing AI with Limited Data
- Siemens Energy | The Role of Electrification, Automation, and Digitalization in the Decarbonization of Industries
- SLB | Transforming Workflows and Operations with Al and Data
- S&P Global | Adopting a Growth Mindset: Use Data and Technology to Drive Success in New Markets
- S&P Global | Insights from Data Science in Dealing with Uncertainty and Risk
- The Continued Expansion of Quantum Technology in the Energy Ecosystem
- University of Texas | Energy Security and Climate Security: Chicken or Egg
- WeGro Data | Innovation in Blockchain & Dataas-a-Service

\*Including sessions in Agora Studios, Pods, Hubs, and the Lyceum. Not a complete list.

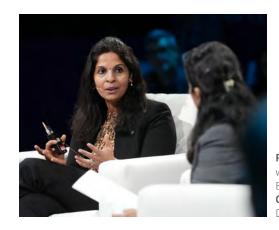
### Theme: Clean Power

#### Topics included:

- Hydrogen, Sustainable Gas, and Biofuels
- Big Data and Predictive Analytics
- Battery Storage Technologies
- Next Generation Solar and Wind
- Advanced Nuclear (SMR) Technology
- Microgrids and Grid Integration
- Fusion Generation
- New Energy Supply Chain
- Emerging Renewable Technologies



Thinking Systematically About Energy Transition with Barbara Burger, Senior Advisor, Lazard (chair); Peter Fox-Penner, Chief Impact Officer, Energy Impact Partners (EIP); Ram Rajagopal, Associate Professor of Civil and Environmental Engineering, Stanford University; and Francis O'Sullivan, Managing Director, S2G Ventures



Powering Data Centers with Clean Energy Studio with Sandhya Ganapathy, Chief Executive Officer, EDP Renewables North America and Rashika Gupta (Chair, back to camera), Research & Analysis Director, S&P Global

### Clean Power (continued)



Geothermal Energy: What's working and where? Studio with Ann Robertson-Tait, President, SLB

#### 94 sessions\* included:

- 8 Rivers | Learning from Today's Tech Winner's to Predict Tomorrow's Net Zero Winners
- A Conversation with Dow Chemical and X-Energy
- A New World of Climate Extremes: What to expect, how to prepare?
- ACE Green Recycling | Advancing Sustainable Global Electrification
- Nature-based Solutions: Win-win for climate and biodiversity?
- Accelerating Global Collaboration to Address Climate Change
- · Adaptation and Climate Resilience
- · Addressing Climate Change in the New World Order
- Aeromine | Innovative Motionless Wind Energy Solution
- Anax Power | Clean Power from Natural Gas, Without Combustion
- · Antora Energy | Decarbonizing Industry and the Grid
- ARPA-E | Integrating Variable Renewable Resources into the Grid

- Atmospheric G2 | Climate Change and Extreme Weather: The New Normal and Some Surprising Nuance
- AWS | Get Hands-on and Unlock Renewable Energy Data with AWS IoT
- B3 Insight | A Not-So-Slow Drip: Implications of the Growing Water Management Challenge in Unconventional Development & Production
- Baker Hughes | Digital Solutions for more Intelligent Operations and Cleaner Energy
- BeFC | Reinventing the Way We Power Microelectronic
- Biofuels Feedstock Supply: Is there enough?
- Blue Energy | Offshore Nuclear Power
- Blues Wireless | Bring Any Thing Online with Blues
- Book Signing with Shannon O'Neil |
   The Globalization Myth: Why Regions Matter
- Book Talk & Signing with Marco Alverà |
  The Hydrogen Revolution: A Blueprint for the
  Future of Clean Energy

- Can Utility-scale Long-duration Storage Solve Renewables' Challenges?
- Cervest | Assessing Asset-Scale Climate Risk Globally
- · CES Renewables
- Climate Advocates and the Energy Industry:
   Constructive dialogue on solutions amid polarization
- Climate Change: Gaps in pathways and potential solutions
- Climate Change and Rebooting Energy Infrastructure
- Climate Change Policy: What is working and where to improve?
- ComboCurve | Don't Just Report Past Emissions, Plan for the Future
- · Confidence in GHG Estimation
- Dandelion Energy | Bringing Residential Geothermal to Scale
- Denrgy | The Power of Renewable Microgrids for Industrial Plants: Resilience, Cost Management, Frequency Control, and GHG Reduction
- Do We Have the Technologies to Get to Net Zero?
- Electric Fish | Building Reliable and Robust Distributed Energy Infrastructure
- Emissions Reduction from Biofuels: Impact of new government policies
- Energy Vault | Customer Centric Energy Storage Solutions for the Clean Energy Future
- Environmental Defense Fund | Is Hydrogen Leakage Undercutting its Climate Benefits?
- Fuel Trust | Molecular Truth: Powering AI for Supply Chain Visibility
- GA Drilling | Enabler of the Future of Deep Geothermal through Hard Rock Plasma Drilling
- Geothermal Energy: What's working and where?

\*Including sessions in Agora Studios, Pods, Hubs, and the Lyceum. Not a complete list.

### Theme: Clean Power (continued)



Next-gen Small-scale Nuclear Technology and the Potential Role for Energy Security Studio with Chad Singleton (Chair), Research & Analysis Director, S&P Global; Alice Caponiti, Deputy Assistant Secretary for Reactor Fleet & Advanced Reactor Deployment, Office of Nuclear Energy, United States Department of Energy; Daniel Stout, Chief Nuclear Officer, Ultra Safe Nuclear Corporation; John Hopkins, President & Chief Executive Officer, NuScale Power; and Chris Levesque, President & Chief Executive Officer, TerraPower

- Geothermal Meetup
- GreenFire Energy | Expanding Geothermal Power Production Using Innovative Closed-Loop Technology
- How Resilient Are Clean Energy Supply Chains?
- Innovative Financing for Next-gen Nuclear Technologies
- Is Fusion the Answer to Achieving Net Zero?
- KY3P | Supplier Risks Sustainability of your Suppliers Matter
- Leveraging Next Level AI Analytics to Reduce Energy Emissions
- · Li-Metal | Next-generation Batteries

- LineVision | Building Grid Infrastructure with Sensors & Analytics
- · Managing the Grid in a New Technology Environment
- Mangrove Lithium | Diversifying Lithium Feedstocks and Refining Capacity
- Meet-up with Advanced Nuclear Reactor Community
- Moleaer | Increasing the Recovery of Natural Resources with Sustainable Nanobubble Technology
- Moltex | How Nuclear Waste-to-Energy Can Help Solve the Energy Dilemma
- Nature-based Solutions: Win-win for climate and biodiversity?

- NEI | A Regional to Global Strategy for Nuclear Development
- Next-gen Small-scale Nuclear Technology and the Potential Role for Energy Security
- Oceans and Climate: Innovative solutions
- Ocean Sun | Floating Solar on Membranes
- Oklo | Achieve 24/7 Clean Energy with Oklo's Advanced Fission Powerhouses
- Olokun Minerals | Multi-mineral Extraction Without the Use of Ancillary Chemicals
- · Palantir | Chained Value Chains
- Pattern Energy | Opportunities from the SunZia Electric Transmission Line

#### Clean Power (continued)

- Pattern Energy | Unlocking a New Model for Success to Transform the Renewable Energy Industry
- Phoenix Tailings | Harvesting Critical Minerals from Mine Waste
- Powering the Future: Digital Solutions for a Resilient, Secure, and Low-Carbon Grid
- Powin | Beyond Commercialization: Why lithiumion Storage Continues to be the Future
- · Preserving the Amazon
- Quidnet | Powering Our Future: Geomechanical Pumped Storage
- Rice University | Nature-based Solutions for Climate Change
- Rice University | What About the Waste? Resource Management in Sustainable Energy Transitions
- Saratoga Energy | Zero-emissions Battery Materials
- Schneider Electric | Energy Efficiency: The Most Sustainable Energy is the One You Don't Use
- Shoals | Electrical Balance of Systems and Impacts on Energy Infrastructure Reliability
- SLB | Accelerating Energy Transition Through Digital Innovation
- S&P Global | Framing the Future for Nature
- S&P Global | The Growing Integration of Agriculture, Chemicals and Refining: Implications, Bottlenecks and Opportunities
- Sunnova | Advancing the Grid: The Future of Community Microgrids
- The Current State of Climate Change
- · Thinking Systematically About Energy Transition
- Transferring Technologies for Next-gen Geothermal
- Triton Anchor | Ecologically Mindful Anchoring System for Offshore Renewable Energy Industries
- UH Energy | Project SHOWPLACE: Repurposing Offshore Infrastructure for Clean Energy in the Gulf of Mexico



**Geothermal Energy: What's working and where?** Studio with (from left) **Carolyn Seto** (Chair), Director, Upstream Technology & Innovation, S&P Global Commodity Insights; **Barbara Harrison,** Vice President, Offsets and Emerging, Chevron New Energies; and **Tim Latimer,** Co-Founder & Chief Executive Officer, Fervo Energy

- Ultra Safe Nuclear Corporation | Beating the Carbon Clock with Microreactors
- Uplight | Customers at the Edge: How Electrification, Digitization, and Engagement will Help Remake the Grid
- U.S. Dept. of Energy | How V2X and VPPs could Modernize the Grid and Optimize Renewable Energy
- VEIR | Accelerating Resilient Renewable Electricity Generation
- Voices of Innovation: Ray Ozzie, Founder and CEO of Blues Wireless
- Volta | Under Pressure: The Role of Small Modular CAES in Energy Management and Capacity Building
- Waste to Sustainable Energy and Products: Next-generation biofuel innovations

- What Initiatives Is the Energy Sector Taking Toward Water Usage?
- World Energy | Harnessing Canada's Wind and Water for Global Green Hydrogen and Ammonia Markets
- X-Energy | Reimagining Deployment of Nuclear Energy
- XGS Energy | Harvesting Earth's Inexhaustible Supply of Heat and Energy

## Theme: Mobility and the Built Environment

#### Topics included:

- Future of Autonomous Vehicles
- EVs Adoption, Charging, and Batteries
- Electrification Beyond Passenger Cars
- Energy Efficient Buildings
- Autonomous Vehicles Technologies
- 5G, Connected Cars, and Mobility Technologies
- Cities and Urban Centers of the Future
- The New Future of Mobility
- The Innovative Built Environment



Building Resilient Cities: Infrastructure and technology advancements Studio with Beth Evans (Chair), Head of News, S&P Global; William McDonough, Chief Executive, McDonough Innovation; Rt. Hon. Basil Zempilas, Lord Mayor, City of Perth; and Bruce Raw, Chief Strategy Officer, GreenCape



Cities Leading the Energy Transition: World Energy Cities Partnership Mayors with (from left to right) Hon. Jesper Frost Rasmussen, Mayor, Esbjerg Municipality; Rt. Hon. Basil Zempilas, Lord Mayor, City of Perth; Hon. Sylvester Turner, Mayor of City of Houston, City of Houston; Dave Ernsberger, Head of Market Reporting & Trading Solutions, S&P Global (Chair); and Hon. Jyoti Gondek, Mayor, City of Calgary

## Mobility and the Built Environment (continued)



Sustainable Mobility: Going beyond the tailpipe with Chris Bennett, Global Head, ESG Strategy and M&A, S&P Global (Chair); Christel Galbrun-Noel, Mobility Segment President, Schneider Electric; Mihai Dorobantu, Director, Planning and Government Affairs, Vehicle Group, Eaton; and Andrew Fulbrook, Vice President, Sustainable Mobility, S&P Global



EV Battery Demand: Constraints in the supply chain Studio with Hon. Christopher Skeete,
Minister for the Economy, Quebec; Richard Kim
(Chair), Research & Analysis Associate Director, S&P
Global; and Andrea Vaccari, Head of Responsible
Production & Sustainability, Freeport McMoRan



**EV Battery Demand: Constraints in the supply chain Studio** with **Hon. Frank Fannon,** Managing Director, Fannon Global Advisors

#### 31 sessions\* included:

- Aeroshield | Decarbonizing Buildings (and more!) with Transparent Silica Aerogels
- BaTTeRi | EV Charging Made Accessible, Simple and Seamless
- Building Resilient Cities: Infrastructure and technology advancements
- Can Hydrogen Decarbonize Air Travel?
- Cities Leading the Energy Transition World Energy Cities Partnership Mayors
- Consumer Behavior: Shifting attitudes toward EV infrastructure
- · Electrifying Mining Operations
- Emrgy | Rethinking Water Infrastructure as a Key Facilitator of the Energy Transition
- Energy Efficiency and Making the Built Environment More Energy Efficient
- Energy Transition Hubs: How cities are leading the charge
- EV Battery Demand: Constraints in the supply chain

- ev.energy | Early Lessons from Vehicle-Grid Integration Programs across the US
- Fermata Energy | V2G's Value for Grid Resilience
- Financing Tomorrow's Road System: How to tax EV users
- Focus on Heavy Trucks: Role of batteries and hydrogen
- · Future of Coastal Living and Energy Infrastructure
- LineVision | Building Grid Infrastructure with Sensors & Analytics
- GridPoint | Smart, Connected Buildings as a Resource
- HIF Global | Looking inside North America's Most Advanced Large-Scale eFuels Project
- Highland Fleets | Electrifying U.S. School Buses at Scale
- Infinium | Electrofuels at Scale: Moving from Aspiration to Action

- Make My Day | Fleet Electrification Challenges and Solutions
- · Moving with Hydrogen: Cars and Trucks
- Ocean Aero | The Rise of AUSVs in Offshore Energy
- Orange EV | Fleet Electrification Scaling Now
- Sofar Ocean | Decarbonizing the Maritime Transport Chain
- Stanford University | 24/7 Carbon-Free Electrified Bus Fleet
- Sunnova | Advancing the Grid: The Future of Community Microgrids
- · Sustainable Mobility: Going beyond the tailpipe
- · Terawatt | Long-haul Trucking
- Trucking with Hydrogen
- Urban Electric Power | From NY to CA: Innovative Zinc Battery Installations from Coast to Coast

\*Including sessions in Agora Studios, Pods, Hubs, and the Lyceum. Not a complete list.

## Theme: Innovation and Digital Workforce

#### Topics included:

- Models of Innovation
- Digital Workforce of the Future
- Investment and Funding for Innovation
- Ocean Innovation and Sustainability
- Retraining for the Energy Transition
- Energy Innovation Ecosystems
- Diversity and Inclusion



Prioritizing Diverse Perspectives in R&D: A view from Department of Energy with Geraldine Richmond, Under Secretary for Science and Innovation, United States Department of Energy



Women Reinventing Energy Studio with Tze San Koh, President, China Gas Marketing, ExxonMobil



Women Reinventing Energy Studio with Arni Laily Anwarrudin, Head of M&A and PETRONAS Ventures, PETRONAS



Women Reinventing Energy Studio with Alaina Bookstein, Global Head of Strategic Partnerships, Energy & Utilities, Amazon Web Services (AWS)



Women Reinventing Energy Studio with Kristina Lund, President & Chief Executive Officer, US Utilities, AES

## Innovation and Digital Workforce (continued)



Diversity, Equity and Inclusion in Energy Leadership Studio with Ha Nguyen (Chair), Executive Director of Global Oil Markets, S&P Global Commodity Insights; Kimberly Waller, Senior Client Partner – Organizational Strategy and DEI, Korn Ferry; Priya Narain Balchandani, Head of Market Intelligence, Asia, Cepsa; and Angela Johnson, Vice President, Diversity & Inclusion, Oxy

#### 29 sessions\* included:

- Adapting Proven Technologies to Accelerate Deep Decarbonization
- Advancing DEI: Actionable Insights to Drive Inclusion and Belonging
- · Attracting Talent to Address Climate Change
- Beyond the Limits: Revolutionizing design and manufacturing and Net Zero
- Book Signing with Nicholas Eberstadt | Men Without Work
- Book Signing with Margie Warrell | Stop Playing Safe: Rethink Risk, Unlock the Power of Courage, Achieve Outstanding Success
- Book Talk & Signing with Bill McDonough |
   Cradle to Cradle: Remaking the Way We Make
   Things or Net-Positive: Waging Peace Through
   Commerce by Design
- · Diversity, Equity and Inclusion in Energy Leadership
- · FIRST Global | STEM Education
- Global Energy Innovation Hubs: Where to grow your start-up program
- Improving Energy Access While Addressing Climate Change
- · Innovations in Plastics: Circular economy solutions
- Julius Education | Closing the Green Talent Gap

- Latest Innovations and Breakthroughs from the US National Labs
- · Lean In Network
- · New Uses and Valuable Minerals from Mine
- Radical Collaboration for Pragmatic Energy Solutions
- Reconfiguring the Global Economy for a Lowcarbon Future
- Seeq | Scaling Digital Transformation through Workforce Empowerment
- Scaling Innovation for Energy Transition Solutions
- Sparkz, Inc. | It's Patriotic Power (retraining coal miners while re-engineering the U.S. battery supply chain)
- What Initiatives Is the Energy Sector Taking Toward Water Usage?
- What's New at JHU?
- What's New at MIT?
- · What's New at Stanford?
- · What's New at Rice?
- Where Will the Workforce for Net Zero Come From?
- Women Reinventing Energy

\*Including sessions in Agora Studios, Pods, Hubs, and the Lyceum. Not a complete list.



Latest Innovations and Breakthroughs from the U.S. National Labs with Andrea Watson, Director, Strategic Partnerships Office, National Renewable Energy Laboratory (NREL) and Angela Becker-Dippmann, Director of the Energy & Environment Directorate's Program Development Office, Pacific Northwest National Laboratory (PNNL)



Improving Energy Access While Addressing Climate Change Climate Hub with Ashvin Dayal, Senior Vice President, Power & Climate Initiative, Rockefeller Foundation



Improving Energy Access While Addressing Climate Change Climate Hub with Enoh Ebong, Director, United States Trade and Development Agency

# Theme: New Models of Finance and Investment

#### Topics included:

- Special Purpose Acquisition Corps (SPACs)
- Clean Tech and Energy M&A
- Institutional Investing in Clean Technology
- Investment Models for the Power Grid
- Financing Oil and Gas in the Clean Tech Era
- Investments in Energy Transition



Addressing Barriers to Bankability of Clean Energy Products Studio with Dr. Ernest Moniz, Founder & Chief Executive Officer, Energy Futures Initiative; Martina Cheung (Chair), President, S&P Global Ratings, S&P Global; Salim Samaha, Partner, Global Infrastructure Partners; and Stephen Comello, Senior Vice President, Strategic Initiatives, EFI Foundation

# New Models of Finance and Investment (continued)



**Innovative Financing for Next Gen Nuclear** with **Hon. Todd Smith,** Minister of Energy, Government of Ontario



Financing Low Carbon: What makes an energy transition fund "green"? Carbon Hub with Mahdi Aladel, Chief Executive Officer, Aramco Ventures



IRA: Catalyst for new tech startups with Adria Wilson, Director, U.S. Policy and Advocacy, Breakthrough Energy

#### 14 sessions\* included:

- Addressing Barriers to Bankability of Clean Energy Products
- Banyan Nation | Half a Billion Bottles and Counting: Driving Circular Economy at Scale in Emerging Markets
- Climate Bonds Initiative | \$5T by 2025: Scaling Green, Sustainable, & Transition Bonds to Reach Net-Zero in Houston and Beyond
- Financing Low Carbon: What makes an energy transition fund "green"?

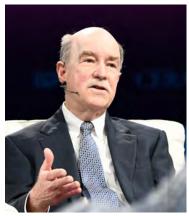
- Innovative Financing for Next-gen Nuclear Technologies
- IRA: Catalyst for new tech startups
- KAPSARC | Bridging the Transition Investment Gaps: The Role of Sustainable Finance
- LineVision | Building Grid Infrastructure with Sensors & Analytics
- · Managing the Grid in a New Technology Environment
- Palmetto | An End-to-End Business Model for Clean Energy

- Qube | Emissions Reduction: Not Just an Accounting Exercise
- Role of Decentralized Finance in New Energy Technologies
- Scaling Startups: New and efficient financial models

\*Including sessions in Agora Studios, Pods, Hubs, and the Lyceum. Not a complete list.

# Agora Voices of Innovation

### Journeys and Insights by Pioneers and Thought Leaders



Robert Armstrong, Director, MIT Energy Initiative; Chevron Professor of Chemical Engineering, Massachusetts Institute of Technology



**Felipe Bayon,** Chief Executive Officer, Ecopetrol



Sally Benson, Deputy Director for Energy & Chief Strategist for the Energy Transition, Office of Science & Technology Policy (OSTP)



**Lord John Browne of Madingley,** Senior Advisor, General Atlantic and Chairman, BeyondNetZero



**Christian Bruch,** President & Chief Executive Officer, Siemens Energy



Barbara Burger, Senior Advisor, Lazard



**Reginald DesRoches,** President, Rice University



**Vicki Hollub,** President & Chief Executive Officer, Oxy

## Voices of Innovation (continued)



**Walter Isaacson,** Leonard Lauder Professor of American History and Values, Tulane University & Author



**Arun Majumdar,** Dean, Stanford Doerr School of Sustainability, Stanford University



**William McDonough,** Chief Executive, McDonough Innovation & Author



**Ray Ozzie,** Founder & Chief Executive Officer, Blues Wireless



**KR Sridhar,** Ph.D., Founder, Chairman & Chief Executive Officer, Bloom Energy



**Vijay Swarup,** Senior Director Technology, Corporate Strategic Planning, ExxonMobil



**Bill Vass,** Vice President of Engineering, Amazon Web Services (AWS)

## Agora Hydrogen Hub

A dedicated space to convene the emerging hydrogen ecosystem, with focused programming on questions about:

- Hydrogen policy and geopolitics: Setting the strategic vision
- Utilizing low-carbon solutions and industrial end-user applications
- Geographies of Hydrogen
- Hydrogen's impact on cars, trucks, aviation, and mobility
- Hydrogen in power and gas markets

#### Sessions included:

- A Purple Future? Nuclear energy and hydrogen
- · Ammonia: An accelerator for low-carbon hydrogen
- Can Hydrogen Decarbonize Air Travel?
- Closing Panel: What we learned from the Hydrogen Hub?
- · Collaborating to Reach Hydrogen's Full Potential
- Creating a Viable Hydrogen Hub
- Developing a Northeast US Hydrogen Hub
- Electrolyzer Technology: Splitting water
- Enabling a Global Hydrogen Marketplace
- European Energy Security: What role for hydrogen?
- European Hydrogen Hub
- · Financing Hydrogen: A new sector for capital markets
- From Grey to Clean: Hydrogen in the refinery
- Fueling Power with Hydrogen and Ammonia
- · Growing the Global Hydrogen Markets: What is ahead?
- Gulf Coast Hydrogen Hub
- How to Make Hydrogen a Global Commodity: Solving the shipping problem



The Hydrogen Challenge: Building a new industry in a period of global turbulence with Alex Klaessig (Chair), Senior Director, Hydrogen and Renewable Gas Forum, S&P Global; Dr. Christine Falken-Grosser, Head of Division – Hydrogen, Strategy and Coordination, German Federal Ministry for Energy and Climate; Cynthia Walker, Chief Strategy Officer, TES Group and Chief Executive Officer, TES Americas; Steve O'Rourke, Co-Chief Development Officer, JERA Americas

- Hydrogen and IMO 2050
- · Hydrogen at Work: Fuel cell technology
- · Hydrogen in Asia-Pacific: Setting the visions
- Hydrogen in Back Up Power Applications
- Hydrogen in Latin America
- Hydrogen in the Golden State: California's ambitions
- Hydrogen Policy: Setting the ground rules
- · Hydrogen Stocks and Wall St Betz
- · Hydrogen Storage: How many tanks will it take?
- Hydrogen Supply Chain: Can we meet the future demand?



Why the Hydrogen Rainbow Is a Useless Metric with Jonathan Rushforth (Chair), Head of Emerging Benchmarks, S&P Global; Adam Sieminski, Senior Advisor to the Board, KAPSARC; Margaux Moore, Head of the Energy Transition Research Group, Trafigura; and Zane McDonald, Executive Director, Open Hydrogen Initiative, GTI Energy

- · Hydrogen Technology: What is the cutting edge?
- · Hydrogen's Role in Decarbonizing Steel
- · Moving with Hydrogen: Cars and Trucks
- Port Hydrogen Infrastructure: A key niche?
- The Hydrogen Challenge: Building a new industry in a period of global turbulence
- Trucking with Hydrogen
- · U.S. Hydrogen Policy: Clean hydrogen for a dollar
- What Does a PTC Mean for Financing Hydrogen Development?
- Why the Hydrogen Rainbow Is a Useless Metric



## Agora Carbon Hub

A dedicated space to convene the carbon ecosystem, with focused programming on questions about:

- Carbon Capture, Utilization & Storage (CCUS), Direct Air Capture (DAC)
- Nature-based solutions
- Decarbonization Oil & Gas chain
- Methane
- Biofuels
- Technology, Business models, Finance

#### Sessions included:

- CCUS: Emerging technologies to reduce costs
- · CCUS Project Lifecycles: Thinking bigger and faster
- · Confidence in GHG Estimation
- Crossing the Chasm: From low-carbon innovations to large-scale businesses
- Decarbonization: Learnings from the mining industry
- · Decarbonization: Learnings from the shipping industry
- · Decarbonization: The impact of SAFs in aviation
- Direct-air Capture: Global initiatives to reduce costs and scale CDR infrastructure
- Emissions Reduction from Biofuels: Impact of new government policies
- Financing Low Carbon: What makes an energy transition fund "green"?
- Frameworks to Improve Quality and Transparency in the Voluntary Carbon Market
- Global Compliance Carbon Markets: Where and how are they expanding?
- Hard-to-abate Sectors: Technologies for the tough stuff
- Implementing Decarbonization Across the Corporation



Scaling CCUS: New business models with Carolyn Seto (Chair), Director, Upstream Technology & Innovation, S&P Global Commodity Insights; Fred Majkut, Senior Vice President, Carbon Solutions, SLB; Gretchen Kittel, Acting Director, Outreach and Business Development Division, United States Department of Energy; and Robert Zeller, Vice President, Technology - Low Carbon Ventures, Oxy



- Leveraging Next Level AI Analytics to Reduce Energy Emissions
- · Low-carbon R&D: Moving the net-zero needle?
- Methane Detection and Quantification: Which mix of technologies?
- Methane Measurement to Action: The art of cost/benefit prioritization in oil & gas
- Nature-based Solutions: Win-win for climate and biodiversity?
- New Frontiers for Methane Management Across Sectors
- Oil & Gas and CCUS: A natural fit for skills transfer?
- Prioritizing diverse perspectives in R&D: a view from Department of Energy

Financing Low Carbon: What makes an energy transition fund "green"? with Mark Ferguson (Chair), Research Director, Metals & Mining, S&P Global; Ludmila Nascimento, Head Global Energy, Vale; Katie Zimmerman, Business Development - Energy Transition, Wood; and Ronald Thiessen, President, Chief Executive Officer & Director, Northern Dynasty Minerals Ltd.

- Reinventing the Energy Service Sector for Lowcarbon Markets
- Repurposing Oil & Gas Infrastructure as Lowcarbon Assets
- · Scaling CCUS: New business models
- Successful CCUS Scale-ups: Dependent on integrated hubs and markets?
- Taking Carbon Trading to the Next Stage: What is needed to move the market forward?
- Technologies and Market Structures to Help Scale-up the Voluntary Carbon Market
- The Realities of Developing and Scaling Lowcarbon Economies
- Waste to Sustainable Energy and Products: Next-generation biofuel innovations

## Agora Climate Hub

A dedicated zone for sharing ideas and exploring solutions for climate change, with focused programming on questions about:

- Science and Modeling
- Infrastructure
- Global Impact
- Policy and Geopolitics
- Business & Finance
- Energy Industry

#### Sessions included:

- A Conversation with Dow Chemical and X-Energy
- A New World of Climate Extremes: What to expect, how to prepare?
- Accelerating Global Collaboration to Address Climate Change
- · Adaptation and Climate Resilience
- · Addressing Climate Change in the New World Order
- Attracting Talent to Address Climate Change
- Building Equity and Fairness in Climate Solutions
- Challenges and Learnings from decarbonizing distributed networks
- Climate Advocates and the Energy Industry:
   Constructive dialogue on solutions amid polarization
- Climate Change: Gaps in pathways and potential solutions
- · Climate Change and Rebooting Energy Infrastructure
- Climate Change Policy: What is working and where to improve?
- Do We Have the Technologies to Get to Net Zero?
- Economic Growth, Climate Change and Investment Choices



Getting to Net Zero: How to fast track permitting with Paul McConnell (Chair), Research & Analysis Executive Director, S&P Global; Usha Turner, Vice President - Chief Sustainability Officer, Chesapeake Energy; Roger Kranenburg, Vice President, Energy Strategy & Policy, Eversource Energy; and Robin Millican, Senior Director, U.S. Policy and Advocacy, Breakthrough Energy



Adaptation and Climate Resilience with Sara Giordano (Chair), Principal Research Analyst, S&P Global; Priya Zachariah, Chief Resilience & Sustainability Officer, City of Houston; Melissa Lott, Senior Research Scholar and the Director of Research, Center on Global Energy Policy, Columbia University; and H.E. Dr. Amani Abou-Zeid, Commissioner for Infrastructure and Energy, African Union Commission

- Energy Efficiency and Making the Built Environment More Energy Efficient
- · Future of Coastal Living and Energy Infrastructure
- · Getting to Net Zero: How to fast track permitting
- · Groundbreaking Technologies
- How Feasible Is 1.5°C?
- · How Resilient Are Clean Energy Supply Chains?
- Implications of CBAM
- Improving Energy Access While Addressing Climate Change
- Loss and Damage: State of play post-COP27

- Low-carbon Solutions versus Low-emissions Solutions
- Pathways to Commercial Liftoff
- · Preserving the Amazon
- Social Cost of Carbon: A Conversation with Richard Newell
- Solving Climate Change: Next trillion-dollar business?
- · The Current State of Climate Change
- The Role of Hydrocarbons in Getting to Net Zero
- Where to Deploy Capital to Reduce Emissions
- · Why Carbon Is Not the Enemy

## Agora Pods

Deep-dive presentations case studies, startup "pitches" in a close-up, relaxed setting

#### 200+ Agora Pods featuring startups and new technology



Urban Electric Power | From NY to CA: Innovative Zinc Battery Installations from Coast to Coast with Ann Marie Augustus, Co-Founder and Chief Operating Officer, Urban Electric Power



Amogy | Ammonia-to-power to Decarbonize Global Maritime Shipping with Seonghoon Woo, Chief Executive Officer and Co-Founder, Amogy



Women's Energy Network (WEN) | International Organization of Professional Women Who Work Across the Energy Value Chain with Alicia Taylor, Vice President, Group Manager, BNY Mellon



Nesh | Building a Digital Subject Matter Expert with Sidd Gupta, Chief Executive Officer and Co-Founder, Nesh



Linde | Carbon Capture: Truths and Myths with Lars-Erik Gaertner, Director, Business Development & Sales Americas, Linde



8 Rivers | Sour Gas to Sweet Gas Technology and its Role in Decarbonization with Damian Beauchamp, President & Chief Development Officer, 8 Rivers

# Agora Pods (continued)



Lean In Network Energy (LINE) | Global Network for the Energy Vertical Dedicated to Women's Career Empowerment and Gender Parity in the Energy Industry with Denise Mannix, President & Director At Large, Lean In Network Energy



**Li-Metal | Next-generation Batteries** with **Kunal Phalpher,** President, Li-Metal



**NextGen Gas | The New Revolution in Low Emission Natural Gas** with **Dan Harple,** Chief Executive Officer, Context Labs and **Brian Vogt,** Director of Business Development, New Energy Ventures, Williams

# Agora Partner Houses









# Agora Partner Houses (continued)







## Agora Partner Houses (continued)

#### By the numbers

7
Partner Houses

20 VIP and government officials tours

#### Government Officials House Visitations\*

- United States | Jen Easterly, Director, Cybersecurity and Infrastructure Security Agency (CISA)
- United States | Enoh Ebong, Director,
   U.S. Trade and Development Agency
- United States | Hon. Jennifer Granholm, Secretary of Energy, U.S. Department of Energy
- United States | David Crane, Director, Office of Clean Energy, U.S. Department of Energy
- Saudi Arabia | Saudi Ministry of Energy

#### VIP House Visits\*

- Future Energy Leaders
- Women in Energy
- Penn State students
- Bechtel
- Guggenheim Securities
- Saudi Aramco Management Development Seminar (SAMDS)



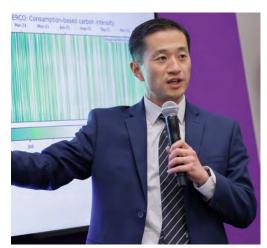
**Hon. Jennifer Granholm,** Secretary of Energy, U.S. Department of Energy tours Oxy House



**Doug Peterson,** President & Chief Executive Officer. S&P Global visits S&P Global House

## Lyceum Labs

Interactive learning sessions and master classes with thought leaders and innovators (40+ sessions)



Stanford University | 24/7 Carbon-Free Electrified Bus Fleet with Liang Min, Managing Director, Bits & Watts Initiative; Managing Director, Net Zero Alliance, Stanford University



Environmental Defense Fund | Is Hydrogen Leakage Undercutting its Climate Benefits? with Scott Herndon, Principal Scientist, Aerodyne Research



**S&P Global | Framing the Future for Nature** with **Divya Mankikar,** Global Head of ESG Market Engagement, S&P Global



University of Texas | Energy Security and Climate Security: Chicken or Egg University of Texas' Energy security and Climate with audience



S&P Global | Insights from Data Science in Dealing with Uncertainty and Risk with Ashna Rahman, Executive Director – Data Science, S&P Global



Rice University | Nature-based Solutions for Climate Change with Carrie Masiello, W. Maurice Ewing Professor of Earth, Environmental and Planetary Sciences, Rice University

## Lyceum Labs (continued)



KAPSARC | OPEC+ Impact on Oil Price Volatility with Axel Pierru, Vice President, Knowledge & Analysis (A), King Abdullah Petroleum Studies and Research Center (KAPSARC)



Palantir | Unlocking Supply Chain Emissions for Commodities with Inès VanAgt, Enterprise Business Lead, Palantir Technologies



GE Hitachi | Enabling Clean Hydrogen and Carbonneutral Feedstock and Fuels at Transformational Scale with Brian Hunt, SMR Innovation Program Manager, GE Hitachi Nuclear Energy



U.S. Dept. of Energy | Meet the Loan Programs Office with Stuart Page, Senior Consultant, United States Department of Energy (DOE) Loan Programs Office



**U.S. Dept. of Energy | The Critical Role of Long Duration Energy Storage** with **Neva Espinoza**, Vice President, Energy Supply and Low-Carbon Resources, Electric Power Research Institute (EPRI); **Julia Souder**, Executive Director, Long Duration Energy Storage Council; **Arshad Mansoor**, President & Chief Executive Officer, Electric Power Research Institute (EPRI); and **Tom Kuhn**, President, Edison Electric Institute (EEI)

## Agora Book Signings & Book Talks



Bill McDonough: Cradle to Cradle and Net Positive: Waging Peace Through Commerce by Design



Walter Isaacson: Steve Jobs and Leonardo DaVinci



Shannon O'Neil: The Globalization Myth: Why Regions Matter



Basel Asmar: Fossil Fuels in the Arab World: Missed the Boat? Adjusting to Post-Oil Era



Susan Shirk: Overreach: How China Derailed Its Peaceful Rise

### Agora Book Signings & Book Talks (continued)



Angela Stent: Putin's World: Russia Against the West and with the Rest



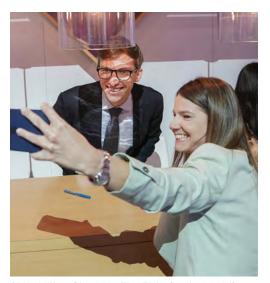
David Victor: Fixing the Climate: Strategies for an Uncertain World



Marco Alverà: The Hydrogen Revolution: A Blueprint for the Future of Clean Energy\*



Nicholas Eberstadt: Men Without Work



Chris Miller: Chip War: The Fight for the World's Most Critical Technology\*



Margie Warrell: Stop Playing Safe: Rethink Risk, Unlock the Power of Courage, Achieve Outstanding Success

\*Also provided a Book Talk.

#### Agora Receptions

#### World Energy Cities Partnership Mayors Reception



Rt. Hon. Basil Zempilas, Lord Mayor, City of Perth; Hon. Jyoti Gondek, Mayor, City of Calgary; Hon. Jesper Frost Rasmussen, Mayor, Esbjerg Municipality; Hon. Sylvester Turner, Mayor, City of Houston; Hon. Danny Breen, Mayor, City of St. Johns, Newfoundland and Labrador; and Hon. Fahad Aljubair, Mayor, Eastern Province Municipality, Saudi Arabia

#### 7 Hub Meetups



#### Agora Accelerator Startup Room



#### Long Duration Storage Reception



Arshad Mansoor, President & Chief Executive Officer, Electric Power Research Institute (EPRI); Anna Siefken, Senior Advisor, Office of Technology Transitions, U.S. DOE; Vanessa Chan, Chief Commercialization Officer & Director, Office of Technology Transitions, U.S. DOE; Julia Souder, Executive Director, Long Duration Energy Storage Council; Jigar Shah, Director, Loan Programs Office, U.S. DOE; Emily Fisher, Executive Vice President, Clean Energy & General Counsel, Edison Electric Institute; Neva Espinoza, Vice President - Energy Supply and Low Carbon Resources, EPRI; and Warner Baxter, Executive Chairman, Ameren Corporation

Clean Energy Commons



Agora Experience Room



Innovation Agora Tech Corridor



Houston Energy Transition Initiative (HETI) Innovator's Venture Day





HIF Global





DOE Loan Programs Office



# Agora Highlights Energy Innovation Pioneers

The 18th annual Energy Innovation Pioneers (EIP) program featured many of the world's leading early-stage enterprises in energy and sustainability.

Pioneers were selected by a panel of S&P Global technology experts who identify companies—disruptive or enabling—that exemplify:

- · Invention and creativity
- Feasibility and timeliness
- Scalability
- Superior management

Chosen from a field of over 500 candidates, this year's class of Pioneers was representative of the innovation occurring across the energy spectrum.

Representing a variety of emerging technologies and business models—advanced composite materials, carbon-free baseload power, carbon capture, cooling systems, distributed gas-to-liquids systems, energy recovery, hydrogen generation—these companies are leading innovators working to decarbonize the global energy system.

# Adapting Proven Technologies to Accelerate Decarbonization



**Henk de Boer,** Chief Technology Officer, Strohm



Joe Scherer, CEO, GreenFire Energy



**Adam Wallen,** Chief Executive Officer, VEIR



**Grant Strem,** Co-Founder, Chair and CEO, Proton Technologies

#### Reconfiguring the Global Economy for a Low-carbon Future



**Saad Dara,** Co-Founder and CEO, Mangrove Lithium



**Leah Ellis,** Co-Founder and CEO, Sublime Systems



**Nick Myers,** Co-Founder and CEO, Phoenix Tailings



**Geir Robstad,** Co-Founder and COO. Heaten



**Carolyn Seto,** Executive Director, Energy, S&P Global (chair)

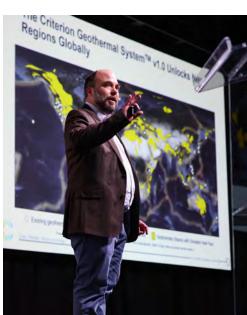
Houston Energy Transition Initiative (HETI) Energy Ventures Pitch Competition













# **Private Programs**

## Leadership Circles







Climate & ESG Summit



Downstream Summit



Global Gas Summit



Global Power Summit



Oil & Gas Innovation Summit



Upstream Summit



North American Independents Forum

## Private Programs

#### Regional & Industry Forums



Asia Pacific Energy Forum



East Mediterranean Gas Forum



North Sea Forum



War in Ukraine and the Future of Europe Forum



Agribusiness & Biofuels Forum



Consumer Clean Power Buyer Forum



Critical Minerals Forum



Eradicating Energy Poverty Forum



Financial Forum: Evolving Role of Tax Equity in U.S. Energy



GESI Forum: Scaling technologies for net-zero - roadmaps and opportunities



Global Hydrogen Forum



Mobility Forum

#### Regional Forums

- Africa Energy & Economy Forum
- Asia Pacific Energy Forum
- · Latin America Forum
- East Mediterranean Gas Forum
- · North American Independents Forum
- North America Infrastructure Forum
- North Sea Forum
- · War in Ukraine and the Future of Europe Forum



#### **Industry Forums**

- · Agribusiness & Biofuels Forum
- Capturing Methane and Flared Gas: Aligning energy security and emissions reduction Forum
- · Consumer Clean Power Buyer Forum
- · Critical Minerals Forum
- · Eradicating Energy Poverty Forum
- FECM Gas Workshop
- · Financial Forum: Building a Hydrogen Value Chain in North America

- Financial Forum: Energy Transition in North America — The new infrastructure deployment ecosystem
- · Financial Forum: Evolving Role of Tax Equity in U.S. Energy
- · Financial Forum: Unleashing fossil fuels for the new energy economy through carbon management
- GESI Forum: Accelerating energy access and energy transition in emerging economies

- · GESI Forum: Innovative financing and business models
- · GESI Forum: Scaling technologies for net-zero - roadmaps and opportunities
- · GESI Forum: The new narrative for energy transition (including future of hydrocarbons)
- Global Hydrogen Forum
- Mobility Forum
- Reconsidering Nuclear Forum

## **Private Programs**

#### Energy Partner Informal Conversations (EPICs)



EPIC with **John Podesta**, Senior Advisor of U.S. Clean Energy Innovation and Implementation and Chair of the National Climate Task, The White House



Partners asking questions during EPIC with **John Podesta**, Senior Advisor of U.S. Clean Energy Innovation and Implementation and Chair of the National Climate Task, The White House



EPIC with **Ditte Juul Jørgensen**, Director-General for Energy, European Commission and Partners





EPIC with **H.E. Eng. Tarek El Molla,**Minister of Petroleum & Mineral
Resources, Egyptian Ministry of
Petroleum & Mineral Resources



EPIC with **Hon. Dr. Bharrat Jagdeo,** Vice President, Co-operative Republic of Guyana



EPIC with **Thiago Vasconcellos Barral Ferreira**, Secretary for
Energy Transition and Planning,
Ministry of Mines and Energy, Brazil



EPIC with **Shin Hosaka**, Commissioner, Agency for Natural Resources and Energy, Ministry of Economy, Trade and Industry (METI)

#### 2023 EPIC Speakers

- H.E. Mohamed Arkab, Minister of Energy and Mines, Ministry of Energy, Algeria
- Jen Easterly, Director, U.S. Cybersecurity and Infrastructure Security Agency (CISA)
- H.E. Eng. Tarek El Molla, Minister of Petroleum & Mineral Resources, Egyptian Ministry of Petroleum & Mineral Resources
- Jose Fernandez, Under Secretary for Economic Growth, Energy, and the Environment, US Department of State
- Thiago Vasconcellos Barral Ferreira, Secretary for Energy Transition and Planning, Ministry of Mines and Energy, Brazil and Jean Paul Prates, Chief Executive Officer, Petrobras
- Hon. Pete Guthrie, Minister of Energy, Minister of Energy, Government of Alberta, Canada
- Shin Hosaka, Commissioner, Agency for Natural Resources and Energy, Ministry of Economy, Trade and Industry (METI)

- Hon. Dr. Bharrat Jagdeo, Vice President, Co-operative Republic of Guyana
- **Ditte Juul Jørgensen,** Director-General for Energy, European Commission
- John Podesta, Senior Advisor of U.S. Clean Energy Innovation and Implementation and Chair of the National Climate Task, The White House
- Hon. John Kerry, Special
   Presidential Envoy for Climate,
   United States Department of State
- Dr. Jörg Kukies, State Secretary at the Federal Chancellery, German Chancellery and Dr.
   Patrick Graichen, German Federal Ministry for Economic Affairs and Climate Action
- Michael Regan, Administrator, U.S. Environmental Protection Agency
- Dr. Geraldine Richmond,
   Undersecretary of Science and Innovation, United States
   Department of Energy

# **Special Programs**

### Future Energy Leaders



Future Energy Leaders, Class of 2023



**Key Takeaways session: Cam Fulton,** Principal - Industrial Practice - Global Energy, Logistics, Transportation & Distribution ESG & Sustainability COE, Korn Ferry



**Future Energy Leaders Reception** with **Jigar Shah**, Director, Loan Programs Office, United States Department of Energy speaking with **Mervin Azeta**, Global Flexible Work and Culture Project Manager, SLB



**Future Energy Leaders Reception** with **Jigar Shah,** Director, Loan Programs Office, United States Department of Energy



Future Energy Leaders Reception with Jen Easterly, Director, Cybersecurity and Infrastructure Security Agency (CISA) (center)



**Future Energy Leaders Reception** with **Pedro Pizarro,** President and CEO, Edison International (center)

# **Special Programs**

Professional Development Program



Professional Development Program, Class of 2023



Professional Development Program class taught by Carlos Pascual, Senior Vice President Geopolitics and International Affairs, S&P Global Commodity Insights

# **Special Programs**

### Women in Energy



Women in Energy Dinner Panel (from left): Martina Cheung (Chair), President, S&P Global Ratings, S&P Global; Proscovia Nabbanja, Chief Executive Officer, Uganda National Oil Company Limited (UNOC); Rebecca Kujawa, President and Chief Executive Officer, NextEra Energy Resources; Enoh Ebong, Director, United States Trade and Development Agency; and Nathalie Marcotte, Senior Vice President and President, Process Automation, Schneider Electric



Women in Energy Reception



**Women in Energy Reception** 

# Special Programs (continued)

#### Women in Energy



Women in Energy X Agora | Varied Pathways to Attain Diversity, Equity and Inclusion in the Energy Industry:

Perspectives from African American, Asian American, and Hispanic leadership panel (from left): Sue Lena Thompson (Chair), Producer, Special Programs, CERAWeek by S&P Global; Ralph Cleveland, President & Chief Executive Officer, American Association of Blacks in Energy (AABE); Robert W. Gee, President, Asian Americans in Energy, the Environment, and Commerce (AE2C); and Jose Perez, Co-Founder, President & Chief Executive Officer, Hispanics In Energy (HIE)



Women in Energy Reception with Anchal Liddar, Senior Vice President, Global Industry Services (GIS), American Petroleum Institute



Women in Energy Reception hosted by API with Vicki Hollub, President & Chief Executive Officer, Oxy



Women in Energy Reception | Power Play presented by ExxonMobil

# Engage Networking









# Engage (continued)

Networking









# Engage (continued) Networking









#### Engage Executive Interviews



Maria Korsnick, President & Chief Executive Officer, Nuclear Energy Institute



**H.E. Stuart Young, Minister of Energy and Energy Industries, Trinidad & Tobago** 



**Daniel Yergin,** Vice Chairman, S&P Global interviews **Jen Easterly,** Director, Cybersecurity and Infrastructure Security Agency (CISA)



**H.E. Arifin Tasrif,** Minister of Energy and Mineral Resources, Indonesia

### Engage

#### Backstage at CERAWeek



The Future of Natural Gas plenary | Greg Ebel, President & Chief Executive Officer, Enbridge; Daniel Yergin, Vice Chairman, S&P Global and Jack Fusco, President & Chief Executive Officer, Cheniere Energy



**Executive Interview | Nirmal Shani,** Head of Asia Pacific - CERAWeek, S&P Global Commodity Insights with **H.E. Arifin Tasrif,** Minister of Energy and Mineral Resources, Indonesia



Global Economy: Inflation versus recession plenary | David M. Rubenstein, Co-Founder & Co-Chairman, The Carlyle Group and Daniel Yergin, Vice Chairman, S&P Global



Backstage at the **HETI Energy Ventures Pitch Competition** 



S&P Global's Women in Energy participating at CERAWeek

CERAWeek Partners are committed to advancing the CERAWeek mission of thought leadership, shared learning, and relationship-building among industry, government, and society to secure the global energy future. Innovation Agora Partners support the exciting global innovation and technology community dedicated to creating new pathways and solutions for the energy future, contributing their expertise and experiences to this immersive environment.

The program integrates branding, knowledge contribution, media support, delegation support, hosting, and networking into a single, tailored strategy that supports the Partner's objectives.

#### Partner Benefits

- High-level engagement before, during, and after the conference
- · Maximized impact and experience of your executives' participation
- Access to Private Leadership Circles and Special Programs
- Support by the CERAWeek Executive Steering Committee and a team of dedicated CERAWeek Partner Liaison Managers

This unique platform creates an opportunity for Partners to deepen relationships with key stakeholders, developing and sharing ideas and thought leadership, while enhancing their visibility and profile. CERAWeek Partners also benefit from access to exclusive CERAWeek private programs, networking, and meeting spaces. The former is reserved exclusively for CERAWeek's senior-most participants, providing an invitation-only track of designated professional communities. These interactive sessions draw on Partners' expertise and thought leadership contributions.







# Partnerships (continued)



John Kerry EPIC meeting



BeyondNetZero reception



Canada House Lounge



Invest Saudi Lounge











**Foundational Partners** 















Strategic Partners





















































Strategic Partners (continued)



















VENTURE GLOBAL **LNG** 



**Industry Partners** 



















































Industry Partners (continued)













































Agora Partners



















































Agora Partners (continued)





























#### Affiliate Partners

























We look forward to seeing you at CERAWeek



March 18-22, 2024 Houston, Texas

# For CERAWeek Partnership information, contact:

#### **Todd Szczebak**

Executive Director – CERAWeek +1 617 413 2034 todd.szczebak@SPGlobal.com

#### Martha O'Connor

Executive Director – CERAWeek +1 617 413 2049 martha.oconnor@SPGlobal.com

#### Nirmal Shani

Head of Asia Pacific – CERAWeek +91 981 928 1345 nirmal.shani@SPGlobal.com

#### **Daniel Berkove**

Head of Africa & Levant – CERAWeek +972 54 481 8580 daniel.berkove@SPGlobal.com

#### ceraweek.com



# **S&P Global**

S&P Global (NYSE: SPGI) provides Essential Intelligence. We enable governments, businesses and individuals with the right data, expertise and connected technology so that they can make decisions with conviction. From helping our customers assess new investments to guiding them through sustainability and energy transition across supply chains, we unlock new opportunities, solve challenges and Accelerate Progress for the world.

We are widely sought after by many of the world's leading organizations to provide credit ratings, benchmarks, analytics and workflow solutions in the global capital, commodity and automotive markets. With every one of our offerings, we help the world's leading organizations plan for tomorrow, today. For more information, visit www.spglobal.com.