

"Moving Ahead: Energy Strategies for a Complex World"

Special
Report

Stablished in 1977

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Images: CERAWeek by S&P Global / Petroleum



Editorial Team



Tomás Mata, Edgar Peláez, Carlos Sánchez and Jorge Zajia, the Editors of Petroleum, having a pleasant conversation with Francisco J. Monaldi, Director of the Energy Program for Latin America In the Baker Institute at Rice University; taking the opportunity to express that our mission is to write a special report on CERAWeek 2025, that is ethical, objective, and responsible; without interpretations or value judgements on the presentations and strictly adhering to the communication principle of being narrators of the facts and not a player.



CERAWeek by S&P Global

Daniel Yergin



Jamey Rosenfield

Successful 42-year Journey

Annual Meeting of Global Energy Industry Leaders

Annual meeting where global energy industry leaders gather to share, discuss, and advance solutions that guide the development of the future of energy and the environment.

Recognized as the most important global energy conference and the main corporate gathering for leaders in this industry

Origins

- 1983: Cambridge Energy Research Associates (CERA) was founded in Massachusetts
- Daniel Yergin and James Rosenfield established an energy research consultancy
- Key energy analyst focusing the relationship with geopolitics, industry, and technology

Growth and Evolution

- CERA clients began meeting annually in Houston to share ideas and perspectives on energy and its future
- Over time, these annual meetings expanded to five days and adopted the name CERAWeek, evolving into the major and influential event it is today





Moving Ahead: Energy Strategies for a Complex World





CERAWeek by S&P Global 2025 in numbers

- 10000+ attendees (counting staff, vendors, media)
- **7400+** delegates
- **650+** sessions (160+/day)
- 1400 speakers
- 89 countries represented

- **450** C-suite executive speakers
- **80** Ministers and Top Officials
- **2050+** Companies
- 142 Partners
- 234 Startups in Agora



Executive Conference Session **Formats** CERAWeek[®]

Sessions focus on the most relevant themes and topics facing the energy industry addressed by the most prominent voices in the industry







Plenary

Chief executives and senior officials from government and industry share high-level insights on the global energy landscape.



Strategic Dialogue

In-depth discussion among industry leaders on key issues, strategies and trends shaping energy.



Insight Dinner

Experts from industry, government, academia explore topics on energy, trade, finance, geopolitics, global economy in informal setting.



Spotlight

Industry executives and government officials share their visions and strategies on issues critical to the energy future.



Expert Zone

Insight presentations, discussions and meet ups with S&P Global experts on their latest research findings.



Strategic Roundtable

A dynamic discussion among top executives, policy makers and other stakeholders analyzing critical energy issues.



Leadership Circles

Small, peer dialogues, exclusively for senior-level executives, convene to address and share learning on the challenges facing the energy future.

Partner Programs



EPICs

Energy Partner Informal Conversations (EPICs) offer a unique opportunity for relaxed dialogue and unscripted interaction with senior public officials.



The Future Energy Leader program

Cross-industry community engaging in learning, dialogue and networking. Cultivates exceptional individuals from companies, policy, academic institutions and NGOs.



Women in Energy

Supporting the growing professional community of women and individuals and celebrates diversity in energy and related industries.



Professional Development Program

Committed to cultivation of rising talent, offering learning and networking opportunities with peers and the opportunity to engage in thought leadership discussions with prominent executives.



NextGen

Deepens the important connection between academia and industry, creating a dynamic environment that cultivates top talent, uncovers fresh ideas, and discovers energy transition pathways.





CERAWeek Innovation Agora

Interactive marketplace of ideas on energy innovation and emerging technologies.

Dedicated to advancing solutions to the challenges facing our energy and environmental future.

Brings together technologists, startup entrepreneurs, VCs and investors, thought leaders, policy makers, corporate innovators.

Committed to exploring new pathways for lower emissions, affordability and reliability.

420+ SESSIONS Including 200+ Agora Pods

650+ SPEAKERS Including 150 Startups

40+

The Agora Impact



250+

Startups



214

Agora Pods



50+

Lyceum Programs



8

Agora Partner Houses



2,650+

Participants





Agora Session Formats



Agora Houses: Dedicated spaces for delegates to experience showcased technologies from our Partners that are transforming the energy industry and give you a chance to experience them for yourself.















The Nexus: Where innovators converge and ideas Ignite. Showcasing the latest and next generation research and development in energy as well as the next generation of talent.













Agora Studio

Moderated dialogues on emerging and disruptive technologies. Technology-focused discussions with industry leaders and ecosystem participants.



Agora Pod

Briefs from startups, tech innovators, and case studies on technology impacts across industries.

Agora Session Formats



Voices of Innovation

Candid conversations from the foremost and sometimes controversial thought leaders. Discussion profiling the journeys of thought leaders in a one-on-one setting.



Agora Hub

Dedicated zones for sharing ideas and insights, exploring the technology frontiers around a central theme and topic area.



Lyceum Program

Seminars with insights on critical emerging topics and technologies. Live deeper dives into technologies, primers, and a chance to look under the hood of innovation.



Book Signing

Meet top authors fostering in-depth discussion around common interests and topics.



Agora Installation

Dedicated presence in the Agora Hubs featuring demonstrations of leading-edge solutions from Partner organizations.

Technology Corridors





Clean Energy Commons

A space for informal interactions and connections in a casual setting with refreshments and beverages.





CERAWeek 2025 Themes







Quotes that Build the Energy Sentiment Today



The world needs more energy to modernize all people



Drill-Baby-Drill: Less permit hurdles More areas released



Permian: **Continues to** develop on efficiency and productivity



LNG to be the baseload for renewables



All energies needed to serve developed, developing world



Sultan Ahmed Al Jaber CEO ADNOC

Energy Realism is the Solution AND + AND VS THIS / OR

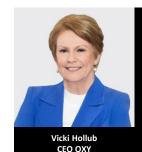


Shaik Nawaf Al-Sabah CEO Kuwait Petroleum

KPC positioning as one of the world's residual suppliers



Guyana: The most relevant recent offshore discovery



CO, Direct **Air Capture** to apply as EOR, most impactful technology



"We are in a rendezvous with reality" **Data Centers** + AI adding load forecast



John Pettigrew **CEO National Grid**

Power demand growth next 15 years 6X vs past 15 years



Evolution: "Only renewables" "Prefer renewables" "Need All"







Chris Wright United States Secretary of Energy

"Need more energy to modernize all people"

Reversing energy policy of last 4 years Climate change

- Comes from world's development
- Needs honest assessment

World Energy

- Developed: 13 bbl/pp/yr privileged
- Rest of world: 1-3 bbl/pp/yr

US energy strategy

- Less government mandates
- More production
- More LNG exports

LNG supplies 25% of global energy

- Natural gas: 43% of US electricity
- Fertilizer from gas: 50% of food
- Focus: Scale gas, increase exports
 - 10+years ago: 1,600 rigs for gas
 - Now +/- 100 rigs
 - However, production doubled

Nuclear renaissance: Fusion and fission

Technology closer to fusion reality

AI: Innovation catalyst

- Allows for unlimited energy demand
- Requires unlimited energy supply

Energy Dominance Council:

- Across all agencies
- Directed to tear down walls





"Need to leverage all USA assets"



Doug Burgum
United States
Secretary of the Interior

USA went from largest importer to largest exporter of energy

Positive outcome seen of lifting all bans

Businesses working in federal lands

- Partners with the country
- Send checks for the country share
- Customers and not enemies

Working on drawing the USA assets map

- What resources does the USA have?
- Unleash the USA balance sheet
- Previous administration bans took valuable assets out of productivity

"Drill baby drill" means

- Reduce permitting hurdles
- Release unavailable land and offshore

Help a thriving economy with energy

- Available
- Attainable
- Affordable
- Reliable
- Sustainable
- Durable

Permitting reform

- Reduce cost
- Reduce red tape
- Avoid double / overlapping agencies
- Reduce overreach

Energy Dominance Council

- Chaired by secretary of the interior
- Identify strategic projects
- How to implement sooner





"Most relevant recent offshore discovery"



Mohamed Irfaan Ali President Guyana

2015 discovery to 500K BPD today

- Credit to partnerships
- Plan to learn skills to meet challenges
- Enabling local private sector to join

Invest in local capacity, policy backed

- Incentives to engage local offering
- Expand country capabilities
- Promote resilient economic development

Planning for regional energy hub

- Heavy investment in human capital
- Investment in infrastructure
 - Technology
 - Healthcare

Neighboring countries collaboration

- Link to Surinam Bauxite
- Link to Brazil Gas pipeline

Development to help regional security

- Country rich in freshwater
- Develop food biodiversity model
- Striving to develop global services

Promoting green stability premium

- Generating carbon credits
- Boasts lowest deforestation rate
- Should receive premium for this

Venezuela conflict

- To be ruled by the ICJ
- Strong belief in peace
- Prioritize diplomacy
- Support from most democracies





"We are in a rendezvous with reality"



Mark Christie
Chairman
United States
Federal Energy
Regulatory Commission

The US electric grid

Need energy balance for reliability

Need supply at energy peaks

PJM January 2025 peak energy Mix:

• Gas 44%

Nuclear 22%

• Coal 22%

• Wind 2%

Solar 0%

• Total 88% dispatchable

Energy mix needs a permanent balance of supply and demand

USA dispatchable assets

- Retirements without replacements
- With increasing energy demand

Load forecasts growth

- Past historic trends
- Data Centers adding to load forecast
- Need reliable baseload

LNG: Highest potential of baseload supply

Baseload generation needs infrastructure

States differences in policy

- Complexity in processes
- Binary choices
- Dispatchable resources
- Challenging to balance resources
- Challenging to meet peak demands

Utilities must be built to serve peak loads

- Businesses
- Industry
- Family homes
- Data centers





Amin Nasser CEO Saudi Aramco



Mike Wirth
CEO
Chevron

Energy Transition Flow: Want >> Afford >> Reach

Transition fallacies: \$10T + 20 years of promises with outcomes not realized

- Conventional energy will not be replaced overnight
- New demand alone is not being met by renewables yet
- New realistic energy model needed

All sources needed and must be complementary

- Must serve the needs of developed and underdeveloped world
- Must deliver real results at lower emissions
- Must be secure and affordable
- AI: Efficiency catalyst for processes and operations

New US administration facilitating a conversation "re-set"

Seeking durable policies supported by legislation

Europe: Needs industrial competitiveness reset; Asia: Development moving up the value chain

US Permian: CVX-1 M BPD Advancing on efficiency and productivity, +10% per year

US Gulf of America: Optimistic near field exploration of offshore projects, leverage infrastructure

CAPEX: 65% USA, reversal from previous years

New energy supply coming from natural gas and renewables

• New buildings strategically located near reliable energy generation CVX developing AI experts by training internal senior professionals





Wael Sawan CEO Shell



CEO
BlackRock

Need to advance multiple energy sources and businesses

Need to advanced geographically diversified LNG infrastructure; LNG 60% growth to 2040 Energy demand to increase 20% by 2050 and will need LNG and oil Gas to be the baseload for renewables in Europe EU energy import needs to continue to detach from Russia AI development stimulates growth

- Simpler processes; Vendor continuance; Operational delegation, decentralization
- From 56 refineries to 5 larger ones, strategically located

Private capital is available, needs incentives

Concern on debt: Interest exceed defense budget.

Shell Strategy: Portfolio simplification

Debt 36T today; Solution: Grow economy

BAD: 40% of deficit financed by foreigners. Need private capital investment in infrastructure Need to reduce debt backed investment Changes Impact:

- Short-term-inflationary >> Deportations >> labor shortage
- Long-term-deflationary >> AI efficiency

Global trade has strong outlook; Private capital strength moves the economy.

Panama Canal: Blackrock bought 44 ports, includes 2 in Panama

Energy focus last 3 years: Only renewables >> Prefer renewables >> Need all sources





Ahmed Al Jabber CEO ADNOC



Vicki Hollub
CEO
Occidental

We need to continue with "Energy Realism" - "Energy is the Solution"

All energy options; AND + AND approach; All electrons, all molecules; Energy for AI, AI for energy World mega trends Emerging world will use more energy; AI growth, higher energy demand;

COP: Realism injected; Corrected bad narrative; Energy not an enemy; Message of balance corrected Need consolidated market realities versus unrealistic mandates

By 2030 10% of energy will go into AI; Need more positive energy; Make Energy Great Again

UAE consensus: Investing in all energies; Balanced progressive approach to energy framework

XRG – AND + AND world; Transform future of energy; Full energy value chain; multiple energy operator

Bringing DAC of CO2 to commercial viability

- Reduces emissions; Helps produce more oil EOR
- DAC stems from need to secure CO2 to produce Permian; Carbon Engineering offered technology
- OXY competencies in KOH + PVC complemented
- Completing 250K plant growing to 500 K Tons in 2026
- Gaining interest with other operators; Technology will be licensed when lower costs are achieved
- 5-7 years: Technology available anywhere, located where needed
- CO₂: Helps produce conventional plays; Most impactful EOR technology; Game changing
- CO₂ Goal: Produce Net Zero Oil; Displaces the oil, remains in the pore space; Low decline EOR

OXY:2/3 unconventional 1/3 conventional.

US production will peak 2027-2030



Murray Auchincloss CEO BP

Redefined BP strategy: Reduce cost; Focused energy transition; Grow upstream

- Drivers: Reliability, affordability
- Business transformation and realignment; Reduce inefficiencies; Reduce to fewer profitable businesses
- Upstream growth: GOA Paleogene 10B Resources; Gas in shale 30 TCF
- Middle East: return to Iraq and Abu Dhabi; Growing in India, East and West
- Strengths: Wells, upstream, adding AI; Adding digital AI to downstream; Trading
- Efficiencies: Merging engineering with data science; Well planning: 6 mos. to days
- Challenges: Safety; Refining efficiency; Opportunities: Paleogene resources, Shale, Iraq, technology



Meg O'Neill CEO Woodside

Understand energy demand and focus on what is needed to meet demand

- Japan forecasting energy demand growth for the first time
- Southeast Asia has diverse needs:
 - Singapore Lower carbon footprint
 - Malaysia, Thailand, Indonesia need to develop base load

Partnerships were the start of Woodside and still applicable today Australia has fallen behind in regulatory process efficiency Woodside US, acquired Tellurium (Louisiana); LNG to market by 2029 Purchased low carbon ammonia plant: Decarbonization initiative





Shaik Nawaf Al-Sabah CEO Kuwait Petroleum

Sees KPC as one of world's residual supplier

- OPEC quota (BOPD): 2.4M; Today: 3.0M Future: 4.0M Peak: 2035
- Looking at offshore as new horizon:
 - 3.2 B field, 1st well; 2.0 B field 2nd well; 3rd well looking good
- Tapping onshore fields for improved resources
- Revitalizing original fields for residual production

Developing Integrated Production Management models with service companies Working on strategic storage solutions for select customers: Japan, South Korea



John Pettigrew
CEO
National Grid

Demand growth in next 15 years is 6X versus past 15 years

Grid must facilitate transport of all electrons regardless of color

- USA challenges:
 - Northeast : May need alternatives if renewables do not continue
 - Meeting capacity demand of hyper-scalers with grid build timeframes
 - Interconnection of intermittent sources
 - Regulatory frameworks need to adapt to demand growth pace
 - Planning and siting; Supply chain; Bottlenecks; Skills availability

Needed from regulators: Out of detailed engineering; Allow permits for investment anticipating needs US transmission investments: Upgrades, New loads



Mike Dunleavy
United States
Governor of Alaska

Natural gas: The baseload fuel of the future

Alaska proximity to Asia is an advantage; Massive gas resources Comprehensive executive order unleashed available resources and projects

- Alaska potential unleashed; 70 restrictions were lifted; Unleashes oil, gas, minerals
 Advancing 800 miles pipeline with LNG plant: 42", expected completion 2-3 years; All permits are issued
- LNG exports can start 2030-2031
- Alaska oil: Today: 500K BOPD; New projects: 200-500K more
 Proposed Federal permitting standards but the actual permitting delegated to the states
 NGO's continue pressuring for restrictions



Ryan Lance CEO ConocoPhillips

"Positive administration's moves to streamline permitting of petroleum projects"

Oil price bearish in short term; Demand growing

US growing production for 10-15 years

Some signs of inflationary forces; US economy still has strong fundamentals

Drill-baby-drill: Manifestation of abundant resources; Industry has been executing on Drill-Baby-Drill

- Optimistic on Alaska oil project that was slowed by environmental challenges
- Permian will peak and plateau; need to manage decline
 United States and Europe should coordinate their regulations on greenhouse gases
 US will set the floor for global LNG prices





Patrick Pouyanné
CEO
TotalEnergies

Optimistic that "all of the above" energies will be needed.

US a large market; TotalEnergies will continue heavy investment in the US liquefied natural gas business

- TotalEnergies largest exporter of US LNG
- Maybe it's the time to go back to exploring the Gulf of America Placing some renewable projects in a pause
- Projects like Brazil are attractive: 50K BOPD wells, low production costs, low emissions
 Business climate will improve with reduced uncertainties
 Europe will have a debate between geopolitics and economics to address post war gas sources
 Expects liquefied natural gas prices to soften by the end of the decade



Ricardo Markous
CEO
Tecpetrol

New Argentina government solving above ground challenges

- Reducing and optimizing regulations
- Developing large resource to a 1.5 M BPD goal
- Oil 20B + Gas 300 TCF

Neighbors as customers: Brazil, Bolivia, Chile Looking at US as role model for innovation





Magda Chambriard
CEO
Petrobras



Gustavo Baquero
EVP – Managing Director
Harbour Energy

Brazil has ample resources and potential for diverse energies

Working towards a fair energy transition; Not only one path; Adapt to capabilities of each country

- 70% investment to replace reserves; Pre-salt to peak 2030+
- Expanding to explore in the equatorial deep-waters

Exploring abroad: India, Colombia, West Africa

Goal to lower gas prices by investing in local gas infrastructure and resources developments Latin America can benefit from a regional gas integration

Brazil strong in energy from biofuels. 15%+ of energy mix

Strategically placing biofuel processing near customers

"Why gas resources struggle to come to market? Brazil, Mexico, Colombia?"

Latin America should strive to make regional basins competitive: Follow UK + Norway example Latin America a region of opportunities

- Vast resources
- Community friendly to hydrocarbons
- High quality human resources

Harbour: Acquired Wintershall, became a large independent

- Scope: UK + Norway + Mex 70K BOPD +6K in other countries
- Largest private partner with PEMEX.





CONCLUSIONS

U.S. Energy Policies

Drilling and mining on public lands support the presidential agenda. It facilitates fossil fuel and mineral production with fewer regulations. Royalties reduce debt. Deregulating 30% of the country speeds up permits for energy and mining projects, lowering costs.

Climate Change Debate

The U.S. promotes increased fossil fuel production while minimizing climate change. Saudi Aramco and Chevron advocated for consistent and long-term climate policies to combat emissions, seeking stable regulations without frequent changes that complicate business planning.

Concerns in the Oil Industry

The U.S. administration promotes "energy dominance." The industry expressed concerns over regulatory uncertainty and the potential negative impact on prices due to fluctuating policies. The current approach could have severe climate consequences; stability in energy policies is needed.

Artificial Intelligence: Adopting AI to Optimize Operations

BP: Managing drilling muds, predicting well problems

Devon Energy: Improved drilling efficiency by 15% with AI

Chevron: Al-powered drones monitor operations, reducing downtime

Gulf of America: Accelerating seismic data evaluation

U.S. Oil Production Projections

OXY forecasts a peak in U.S. oil production between 2027-2030; ConocoPhillips predicts it between 2035-2040. The U.S. EIA projects a record 13.6 MBPD in 2025, 13.7 million BPD in 2026. Growth slowing down, Wall Street seeking profits, discipline, rather than uncontrolled activity.



Daniel Yergin, Louis Carranza y Jamey Rosenfield

"To face the Energy challenges, we need the most important energy of all: Human Creativity" Daniel Yergin





Additional Conclusions and Notable Quotes

Geopolitics

Framework Matters, It's Complex

- Rule changes create uncertainty
- Interdependencies and partnerships are important: Aim for 1 + 1 = 5

Trump as a Disruptor

- Uncertainty, destabilizing actions
- Executive orders are fragile; they need legislative support

The world needs a predictable U.S.—currently not present

- The U.S. should not view every international issue as terrorism
- The U.S. must maintain aid programs and seek to exert influence

Depopulation will have impact: similar to Climate-Change

75% of the world is growing below replacement levels

Need for Regulatory Efficiency and Agility

- Fast permitting, avoid project blockages
- Private sector doesn't make policy—it implements it
- Its role: Delivery, efficiency, technology

Market Considering Unconventional Partnerships

- Basic Services Providers + Exploration & Production
- Combining assets, sharing risks

China: Aging before getting wealthy

Family implosion, loss of family networks, depopulation

Lesson from Russia-Ukraine: Diversified supply chains

Africa: 1.2 billion people

Increasing share of the global population, doubled in one generation

Latin America

- Region of opportunities
- Vast resources; Friendly community; Human talent
- 9 MBPD; Multiple competitive factors
- Multiple resources Oil + Gas + Renewables + Minerals
- Need to develop a regional strategy
- Integration challenged by differing regulatory regimes
 - Regulatory integration to facilitate synergies
- U.S. policies encourage strengthening connections with China





Additional Conclusions and Notable Quotes

- Oil: Everyone agrees it will reach a plateau
- Gas: 25% of the energy mix 75% of the CERAWeek agenda
- LNG: A Global Story
- Multiple technological pathways: Ecosystems; Enabling innovators
- **Hydrogen:** Broad, realistic restart; Needs to improve competitiveness
- Nuclear: Renewed focus and interest; SMRs; Modular, smaller footprint
- Geothermal: Maturing; Technology can improve affordability
- CCUS: Developing commercial viability
- Electric Vehicles: Slowing down due to uncertainty
 - Anxiety: Range, infrastructure, nostalgia, emotion
 - Norway: 100% new sales are EVs; Anxiety resolved
- Materials Transition: Polypropylene replacing steel
 - Efficiency, substitution, circularity, new products
 - Nanomaterials: Carbon-based; Lower energy usage
- AI: Overwhelming Context:
 - Impact yet to come Enabling foundation
 - Catalyst for optimization; Accelerates product development
 - Data & AI Demand growth:
 - Infrastructure, supply will lag w/o adjustments
 - We need data centers: 20% of the industry is in the cloud.
 - Education needed to accept data centers and their value
 - The world will have 6,000 data centers by 2050

Transition in Trouble: The Fundamentals Remain

- Promises are not achievable
- "Blink" responsibly

Energy is needed to eliminate poverty

- Transition: All Energies
- All electrons, molecules, colors

Not heard: ESG, DEI, NET ZERO – Still Important

Energy Realism – All Energies Are Needed

- Technology pathways: "Just do it"
- Energy industry compelled to deliver

Transition or Security → Transition and Security Energy Transition to *Energy Expansion*

Word of the Week: **AND** not **OR**

This OR This \rightarrow This AND This





Transition

Energy Realism – All Energies
All electrons, all molecules, all colors

Technology: "Just do it"

Energy industry: Compelled to deliver

Transition and Security

Energy Expansion

AND not OR

This AND This





Venezuela Proyecta su Futuro

"We are back in the global energy stage"

María Corina Machado and Edmundo González Urrutia presented their policy plan to rebuild and relaunch the economy to make Venezuela **The Energy Hub of the Americas**

Highlights of the Plan:

- **Total Privatization**: The oil and gas industry will be entirely managed by the private sector. The government will act as a transparent regulator.
- Investment Protection: High legal standards will be established to ensure stability and security for investors.
- Property Rights and Bidding: Oil and gas fields will be opened to private operators with full guarantees. State-owned companies will be auctioned transparently to attract international investment.
- **Tax Incentives**: A competitive framework will accelerate development, reinvesting revenues into infrastructure, education, health, security, and economic growth.
- **Production Expansion**: Venezuela will massively increase its oil production, taking advantage of low costs and its strategic location.
- Regional Energy Hub: The country will establish serious and transparent leadership, ensuring energy security and prosperity in the Americas.









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