

THE ENERGY FUTURE FORUM

Insights and Highlights from the
2025 Energy Future Forum



PRESENTED BY
RealClear



The future of energy is shifting—are you ready?

Elections, rising energy demand, and geopolitical shifts are reshaping the energy landscape. The second annual Energy Future Forum brought together top minds to cut through the noise, explore what's next, and discuss the realities of energy security, affordability, and reliability.

The truism that “elections have consequences” is roiling the U.S. and European energy landscape. No policymaker any longer disputes the importance and challenge of simultaneously pursuing energy reliability, affordability, and security, but there remains a great divide over the means to do that. This year's Energy Future Forum tackles the change in the “direction of travel” for energy policies while dealing with the “surprise” of rising energy demands. From powering AI-infused data centers and reshored factories, to global appetites to fuel economic growth and enhanced security, businesses and policymakers increasingly find that plans must bend to the achievable and affordable -- an emerging energy realpolitik.

There has been a shift in the so-called “Overton Window” regarding what's sensible and acceptable in energy domains. The Energy Future Forum again features leaders and experts without “canned pitches” or PowerPoints, in no-nonsense conversations to candidly explore what's happening, and what's around the corner, in service of the goals of flourishing and abundance.

Visit realclearenergy.org/forum for video content and more from the 2025 Energy Future Forum.



About

The Energy Future Forum, presented by RealClear in partnership with the U.S. Chamber of Commerce and the National Center for Energy Analytics is a one-day event featuring one-on-one conversations with experts across energy and environmental policy, capital markets, alternative energy, automotive, oil & gas, mining, nuclear, and the grid.

The 2025 Energy Future forum took place on May 19 in Washington, D.C.

The chapters that follow in this book are adapted from interviews and talks that took place on stage at the Forum.



Co-Sponsor Welcome

Introduction – Marty Durbin

President, Global Energy Institute, U.S. Chamber of Commerce

Welcome to the second annual Energy Future Forum. If the current moment could be summed up in a single word, that word would be more. It's increasingly clear that we need more electrons, more molecules, more transmission lines, more pipelines, more critical minerals, more factories—and so on.

At the heart of this, of course, is soaring energy demand, especially from data centers and artificial intelligence applications—both of which are critical national and economic security imperatives.

But let's take a step back and consider the energy landscape in the U.S. over the past 20 years. Back then, we were still living in what we referred to as energy scarcity. We were building LNG import facilities and remained relatively dependent on other countries for our energy.

That changed, of course, with the shale revolution, which ushered in an era of energy abundance. Then, three years ago, Russia reminded us—and the entire world—of the importance of energy security. And now, my hope is that with a clear-eyed recognition of growing energy demand, we are entering a new era: one of energy reality.

That's what today's conversations are all about—driving a more realistic discussion of our current needs and how to meet them.



It's fascinating to watch an issue disrupt the energy scene with the speed and intensity we've seen around data centers and load growth. Fifteen years ago, we saw a similar disruption with the shale revolution. In 2007 and 2008, very few anticipated how rapidly U.S. production would rise—maybe Dan Yergin did, but he can speak to that when he's up here later.

By 2011, it was abundantly clear, and by the end of that decade, the U.S. had become the world's largest producer of oil and natural gas.

Similarly with AI—consider this: In October 2023, just 20 months ago, the International Energy Agency published its World Energy Outlook—a 400-page tome tasked with identifying global energy trends. Artificial intelligence, data centers, and the resulting load growth weren't mentioned at all.

That's not a criticism of the IEA—it just goes to show that nobody was talking about data centers as recently as two years ago. Except, of course, for our friends across the river in Lyon County.



But fast-forward just a few months, and by early 2024, everyone was talking about it. Last year, the world saw surprise year-over-year electricity demand growth—60% higher than historical averages—a figure that's expected to continue as data center energy demand triples over the next decade.

Naturally, trends like this affect the entire energy and economic system. Which brings us back to the big question: more. Can we deliver more electrons, more molecules, more infrastructure, more technology—and the policy needed to meet the moment?

This is at the core of what our speakers will tackle today. And we hope the sessions provide a shared learning opportunity as we all try to wrap our arms around the fast-evolving energy landscape.

Co-Chair Preface

A Shift in What's Possible – David DesRosiers President, RealClearFoundation

Welcome to our second Energy Future Forum. Thank you to our new host, the U.S. Chamber. I told my mother she needed to tune in to our livestream because her son was playing at the Carnegie Hall of American capitalism.

Thank you all for waking up early and being here. Unlike the many watching this from home in their PJs, the assembled group before us is a handsome, caffeinated bunch.

A special thanks to Mark Mills. If you want to know what the future holds—short, mid, or long term—there is no better cartographer of the Promised Land of free science, free markets, and free politics than Mark. And with that in mind, our thanks to all of today's participants. Thank you for being the best of the future class and for taking part in Mark's vision of a more abundant energy future.



What's the public's job today? Pay attention—and afterward, do what you can to help unleash the promise and opportunity Mark is putting before us. In doing so, we'll help lay the foundation for greater energy abundance next year.

What a difference a year makes. What a difference an election makes. Talk about a shift in the window of what's possible. That's what the term "Overton Window" refers to—the mental guardrails around what's deemed possible now and in the future. The window shifts when those guardrails dramatically move.

So, here's a good question to start the morning: Have the guardrails of energy discourse changed at all over the past year? Past years? Are we still living in the energy world that gave birth to the Green New Deal? No. The window has shifted. Not a little—but a lot.

How much is a lot? We've gone from scarcity to abundance. From the Green Gospel of scarcity and its trinitarian ESG god to the Promised Land of abundance, guided by values of Affordable, Reliable, and Clean—a new ARC. That's a major shift.

Evidence of this shift: for most of my public life, I've been pleading with the energy-scarcity crowd to adopt an "all of the above" approach. The engineering and market conditions for the 2050 Promised Land didn't yet exist, and to pretend otherwise wasn't wise. But that mindset has dramatically shifted. In today's energy window, it's wind and solar that must now make the case for "all of the above."

Portugal and Spain's recent Green-Induced Energy Hunger Games—not to mention what happened in Texas, or Germany's predicted failure—are real and limiting. Wind and solar are no longer the cornerstones of a clean energy economy. Natural gas and nuclear should be.

Why is RealClear so invested in an abundant energy future? First, our business lives in the cloud. It runs on—and requires—affordable and reliable electrons that are as clean as we can reasonably afford. Every business in America depends on this. So does our way of life—and so does the rest of humanity.

Second, the unelected Fourth Estate—of which RealClear is a member, independent and therefore poorly regarded—does not share this common-sense, existential, self-evident starting point. Like the universities and NGOs, the American and global media operate from a scarcity mindset. RealClear sees it as our duty to stand up, in defiance of the historic march toward scarcity, and offer an alternative.

We've given scarcity a multi-trillion-dollar try—and it's proven to be a road to serfdom. Let's give an abundance mindset an American try.

This conference reads like a script for a better energy future—one that's within reach. I do think Mark Mills, now spending more time in Texas, is feeding Land Man creator Taylor Sheridan all these great lines that Billy Bob Thornton is delivering. Not all futurists are created equal. In fact, most of them—to quote the French—are *merde*.

Mark is a futurist rooted in reality. His future doesn't wait on breakthroughs in fundamental science. It doesn't require energy markets to be restructured with triple bottom lines or endless subsidies. The only real obstacle to Mark's vision is just outside this door: politics and organized entropy as usual. The scarcity camp and its lobby still exist—even in this new window of ours.

Yes, the current politics favor the Abundance Mindset. One of last year's participants, Chris Wright, isn't here today because he's too busy setting the conditions to seize this window of opportunity.

He and the administration are working with a sense of urgency that we all need to start modeling. Secretary Wright understands that to Drill Baby Drill, the American economy must

also Build Baby Build—building the infrastructure that connects growing supply to growing onshoring demand, and then exporting the rest to a hungry world.

This is the challenge before us. This is what stands in the way of our vision for abundant American energy.

The United States remains a can't-do country. My concern is that this systemic, can't-do entropy will strangle the opportunity and close the window currently open to us.

This isn't my first time at the abundance rodeo. The last time I felt this excited was when T. Boone Pickens pitched his Pickens Plan in 2008. I said a version of the following to myself back then: If this self-evident plan—within immediate reach—were made a national industrial priority, it would Make America Great Again.

I still think the Pickens Plan remains a Shark Tank, top-of-class idea that deserves our reconsideration and implementation. But what happened then could happen again now.

Windows open for transformational change don't stay open forever. This one won't either. Let's use the limited time we have to keep it open. An American Century built on energy abundance is ours for the taking.

Carpe Abundance!



Co-Chair Introduction

A Future Without Limits – Mark P. Mills

Executive Director, National Center for Energy Analytics

Thank you, David DesRosiers, for your vision in pioneering the abundance framing before it became fashionable. Others, on both sides of the political aisle, have now rediscovered that abundance is a basic social, and thus political driver. It's the abundance imperative that has, arguably more than the 2024 election, shifted the Overton Window.

And thank you Marty Durbin for partnering with us on this, the second annual Energy Future Forum, and for your succinct framing of the state-of-play in energy domains with one word: more. Of course, the more electrons, more molecules, more pipes, mines and infrastructures are all in service of more of the products and services that enables the pursuit of abundance.



Marty is also spot on in pointing to the fact that the International Energy Agency, an organization at the pinnacle of the energy punditocracy, has until very recently assiduously ignored, and now joins the legions surprised by, the energy implications of the digital revolution.

The consequence of the pursuit of more digital services, and more AI are easy to summarize: It drives the need for more energy. We are witnessing the realization of the truth in the aphorism coined by the great science fiction writer Philip K. Dick: "Reality is that which, when you stop believing in it, doesn't go away."

Eleven days ago, we witnessed a regression to reality in testimony before the U.S. Senate. OpenAI CEO Sam Altman testified, saying, and I quote: "Eventually the cost of intelligence, the cost of AI, will converge to the cost of energy. How much of it you can have, the abundance of

it will be limited by the abundance of energy. In terms of long term strategic investments the US can make, I can't think of anything more important than energy."

Some of us are not surprised that the pursuit of abundant AI shares a key characteristic with the pursuit of all forms of abundance. To borrow another aphorism, this one coined by my friend and colleague Scott Tinker, who is one of our interlocutors today – abundant energy won't end poverty, but you can't end poverty without it. Nor can you win what is now framed as a Great Power Competition in AI without energy.

How much energy will end up being needed is the question of the decade.

The digital cognoscenti have long been aware of and studied the energy appetites of the information infrastructure. But, as with so much else in the current excitement and hype surround AI, it was the November 30th, 2022, release of ChatGPT that history will record as the pivot moment. Relevant to our meeting, it was also the trigger leading to the fleet of studies seen since that all attempt to guess how many data centers will be built, and how much power they'll consume.

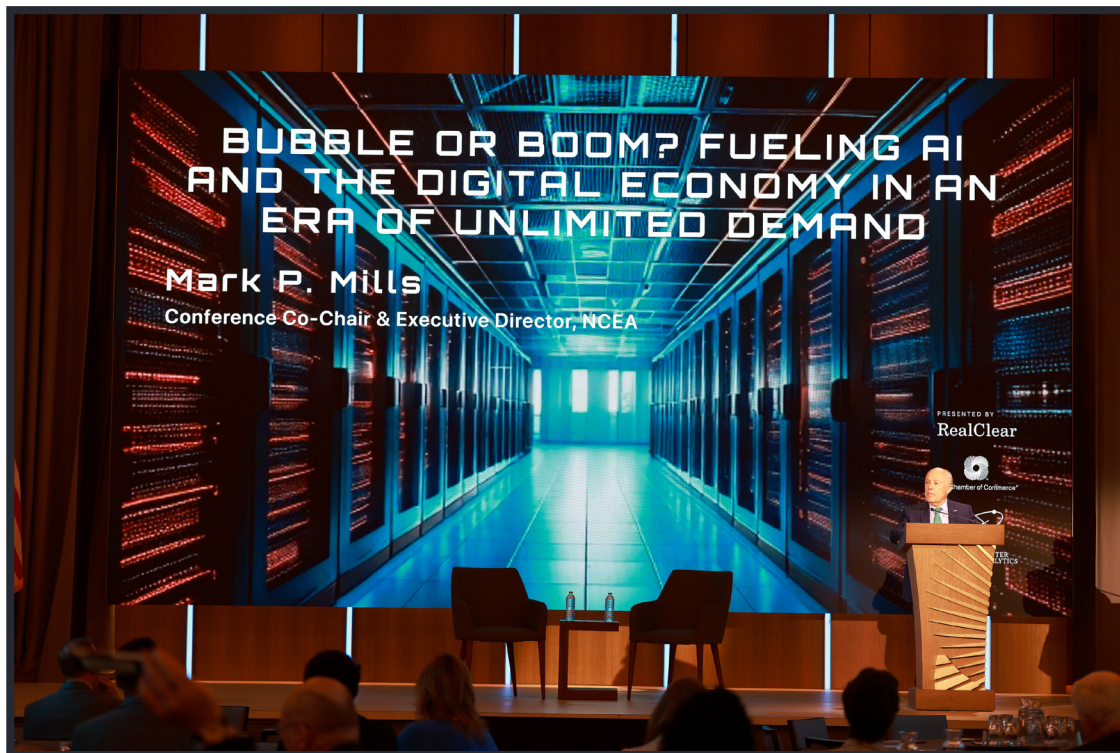
Amongst the most recent of such studies, last month the IEA released a 300-page tome titled Energy and AI. That report begins, like most, with context on the energy demand of AI systems. The IEA repeats what has only recently become common wisdom, that single large AI data center can use as much electricity as two million households. With myriads of data centers planned, this means that lighting up digital infrastructures will soon have demands equivalent to reliably powering hundreds of millions of new households, a possibility that continues to surprise, and worry, many.

To understand why so many seem so surprised at AI's voracious energy appetites we might blame it on an idea emerging from the phrase, "atoms to bits." The birth and rise of our modern digital society has engendered a seductive idea, that economic growth now happens, in effect, weightlessly.

That "atoms to bits" phrase was created 30 years ago by Nicholas Negroponte, founder of the MIT Media Lab, in his book "Being Digital." Negroponte presciently predicted the kinds of commercial and structural impacts that the digital revolution has delivered. Negroponte wrote back then that "bits are weightless and virtual and allow for instant global movement." It's that "bits-are-weightless" framing that delivered an unintentional misdirection.

The reality is that all bits exist in physical machines that have real weight and require real energy to build and operate. Nowhere is that more obvious than in the rush to build AI-infused data centers.

It takes more materials to build a single giga-scale data center than to build a skyscraper. Just one such data center uses 200,000 tons of concrete, 100,000 tons of steel, 10,000 miles of power cables. Apropos Sam Altman's convergence observation, once completed, operating that single data center consumes as much natural gas every day as each SpaceX rocket launch.



And you need to build megatons of machinery in order to convert all that natural gas into electrons. Or, if you prefer converting photons into electrons, you face a non-linear increase in the tonnage of materials required.

The pace of construction of giga-scale data centers continues to surprise. Set aside the blizzard of announcements for what's coming, last year the U.S. saw some 30 million square feet of new data center space completed. That's already roughly double the average construction rate of the previous five years. It's also six-fold greater than the square footage added annually over the prior decade. The trillion-dollar question now is how much gets built in the next half-dozen years.

Big Tech, the so-called Magnificent Seven, have announced an eye-watering \$300 billion in infrastructure spending. BlackRock forecasts that annual spending could top \$1 trillion by 2030. It's fair to say that no one knows whether it'll end up that high, or lower, or higher. But even if spending flatlines in the \$300 to \$400 billion a year rate, the power implications are sobering.

Every \$100 billion in new data centers will consume something like \$100 billion in power over one decade of operation. There's the Altman convergence.

Whether or not all the forecast hardware gets built, and how much power it will all use, is determined by just two variables: The rate of growth in demand for bits, and the pace of energy efficiency gains in digital hardware. Both are proceeding at exponential rates.

Forecasters who are allergic to growth in energy demand are already claiming that forecasts of soaring AI power demands are hype, that efficiency will conquer the monstrous power growth. Such forecasters are half right. The efficiency gains are coming fast and furious. But, they're wrong about the implications of rising efficiency; that is precisely what will propel the net growth in demand. We have seen this movie before.

If it were not for staggering gains in energy efficiency, the Internet and all of the derivative businesses and benefits wouldn't exist today. A single smartphone, if it operated at the energy efficiency of a 1984 computer, would use more electricity than a city block. A single data center operating at 1984 energy efficiency, would require the entire U.S. power grid. The exponential gains in energy efficiency are what made it possible for there to be billions of smartphones and thousands of data centers today. All that hardware, collectively, already uses more electricity than the country of Japan.

When it comes to the prospect for vastly more efficient AI chips and data centers, history won't just rhyme, it will indeed repeat. And this time the efficiency gains are more significant and coming faster. What that means is that the net increase in power demands will come sooner.

As for the other variable, society's appetite for harvesting and consuming bits is the prime driver of all things digital. And with the demand for bits we have in fact entered unique territory with a key feature that divides the worlds of bits and atoms. In the domains of atoms-- buildings, food, cars, there are clear limits as to how much society can consume as in the domains of bits, of information, there are no limits to the demands.

There is no limit to how much information we would like to have, at increasingly deeper levels of granularity, at greater volumes, about everything in our society, in our infrastructures, in our machines, in our individual bodies, and about nature and the universe. As the cost to harvest data keeps collapsing, society's consumption of that data expands apace. Virtually all of that data is used in service of improving lives, whether for the serious businesses of, say, healthcare or supply chains, or the ostensibly frivolous uses in entertainment; the essence of the information revolution is the pursuit of productivity.

Google just issued its own assessment and roadmap for the implications of AI and its power needs. Google's animating observation: "The United States has a generational opportunity to build a new era of American innovation and growth." To which I say, "amen."

Innovation and growth are in service of abundance. If AI delivers on the productivity boom it promises, the consequences are tectonic. Consider one overarching metric: economic growth itself.

If AI boosts annual U.S. productivity growth rate only to the long-run average, rather than the current anemic rate, that will generate over the coming decade some \$10 trillion more to the U.S. GDP. That much more capital would go a long way to solving a lot of so-called intractable problems, not least the deficit.

And set aside the energy needed to power the digital infrastructure itself, the far more consequential energy impacts from AI will come from spurring economic growth. The core promise of an AI-infused infrastructure is the opportunity for a roaring 2020s.

But growth always boosts broad societal energy demands. Wealthier citizens buy bigger homes, travel more, spend more on all manner of products and services. All that will consume more energy than is now baked into the conventional wisdom.

Coming back to the theme of our conference, we'll need to ensure that power is an enabling and not a constraining feature of the AI boom. As one Nvidia executive said at another recent conference, the tech community wants "all options on the table" because at "the end of the day, we need power. We just need power."

That's why this year's Energy Future Forum is constructed the way it is. Our purpose today is to help illuminate energy realities for precisely the reasons David, Marty, and I have highlighted.

We've brought together leaders, experts, and thinkers across the energy landscape to engage in one-on-one conversations about the realities of where we are, and where we might go.



In the domains of bits, of information, there are no limits to the demands.

There is no limit to how much information we would like to have, at increasingly deeper levels of granularity, at greater volumes, about everything in our society, in our infrastructures, in our machines, in our individual bodies, and about nature and the universe. As the cost to harvest data keeps collapsing, society's consumption of that data expands apace. Virtually all of that data is used in service of improving lives, whether for the serious businesses of, say, healthcare or supply chains, or the ostensibly frivolous uses in entertainment; the essence of the information revolution is the pursuit of productivity.

Google just issued its own assessment and roadmap for the implications of AI and its power needs. Google's animating observation: "The United States has a generational opportunity to build a new era of American innovation and growth." To which I say, "amen."

Innovation and growth are in service of abundance. If AI delivers on the productivity boom it promises, the consequences are tectonic. Consider one overarching metric; economic growth itself.

If AI boosts annual US productivity growth rate only to the long-run average, rather than the current anemic rate, that will generate over the coming decade some \$10 trillion more to the U.S. GDP. That much more capital would go a long way to solving a lot of so-called intractable problems, not least the deficit.

And set aside the energy needed to power the digital infrastructure itself, the far more consequential energy impacts from AI will come from spurring economic growth. The core promise of an AI-infused infrastructure is the opportunity for a roaring 2020s.

But growth always boosts broad societal energy demands. Wealthier citizens buy bigger homes, travel more, spend more on all manner of products and services. All that will consume more energy than is now baked into the conventional wisdom.

Coming back to the theme of our conference, we'll need to ensure that power is an enabling and not a constraining feature of the AI boom. As one Nvidia executive said at another recent conference, the tech community wants "all options on the table" because at "the end of the day, we need power. We just need power."

That's why this year's Energy Future Forum is constructed the way it is. Our purpose today is to help illuminate energy realities for precisely the reasons David, Marty, and I have highlighted.

We've brought together leaders, experts, and thinkers across the energy landscape to engage in one-on-one conversations about the realities of where we are, and where we might go.

Interlocutors



Scott W. Tinker, PhD

Director Emeritus for the Bureau of Economic Geology, University of Texas

Scott W. Tinker, PhD is Director Emeritus of the Bureau of Economic Geology at UT Austin and CEO of Tinker Energy Associates. He is the creator and host of the PBS show Energy Switch and the voice behind Earth Date, and co-produced the Switch documentary series. A geoscientist and global energy expert, Tinker has delivered over 1,100 talks across 60 countries and serves on numerous boards.



Peter Bryant

Chairman of Clareo and Key Minerals Forum

Peter Bryant is Chairman of Clareo and co-founder of the Development Partner Institute, advising mining and energy companies on innovation and sustainability. He leads the Key Minerals Forum in Washington, DC, and serves on the advisory boards of NCEA, Fundamental, Oryx Global, and various tech startups. His writing appears in Chief Executive, Mining Global, and the Journal of Petroleum Technology.



Zabrina Johal

Senior Vice President, Nuclear Strategy & Commercial, AtkinsRealis

Zabrina Johal is Senior Vice President of Nuclear Strategy & Commercial at AtkinsRéalis, where she directs global nuclear market growth. A former U.S. Navy nuclear officer and strategic director at General Atomics, she is a recognized advocate for resilient and sustainable energy technologies. Johal broke barriers in the Navy and now champions innovation in advanced nuclear systems.

Session Highlights

Daniel Yergin

Vice Chairman, S&P Global

The New Energy Map: At the Intersection of Politics and Practicalities

The pursuit of an energy transition is, as in the past, seeing additions to, not replacement of extant energy systems. Policymakers everywhere are increasingly bending to economic growth and energy security imperatives.

Key Quotes

On the flawed concept of a linear energy transition:



“

“Energy security is so fundamental. And I think particularly during COVID, when demand went down, prices went down, the world went to sleep on energy security.”

On the importance of energy security:

”

“The way people have thought about the energy transition has been wrong. That’s been what we call the linear energy transition rather than different mixes of technologies, different paces and different priorities... It is time for a rethink.”



Session Highlights

Terrence Keeley

Chairman & CEO 1PointSix & the Impact Evaluation Lab

Financing the Boom: Capital, Reshoring, and the Limits of “Spend Baby Spend”

From industrial revival to energy infrastructure, capital is critical. What happens now with financial markets in the pursuit of energy aspirations?

Key Quotes

On the scale of investment needed for energy infrastructure:

“

“We have to invest somewhere between one and a half and \$2 trillion in generation and about a half, 500 billion to 1 trillion in transmission in the next ten years. And with rising costs, you could easily double that.”



On the flawed concept of a linear energy transition:

”

“It’s immoral how we have prevented them from building coal and gas infrastructure. What’s our role in the global South as the U.S.? What’s our role to get electricity into the global south, into Africa?”



Session Highlights

Mark Christie

Chairman, FERC

The Elephant in the Room: Permits, Pipelines, and Power Lines

When it comes to building energy infrastructure, permitting is the “long pole in the tent.” Managing, or removing, regulatory choke points is key to ensuring there are more pipes and wires.

Key Quotes

On the reality of grid reliability and dispatchable resources:



“

“The funny thing about reality is, you can put it off for a while, but eventually it’ll track you down. And it’s tracking us down in terms of what it takes to keep the grid.”

On the arithmetic problem of demand and supply:

”

“We have a situation in the United States, and this is the reality dragging us down. Demand is going up, driven again by the marginal old users like data centers. And on the supply side, the dispatchable resources that we need are unfortunately retiring and they’re not being replaced with sufficient dispatchable capacity. So, it’s just arithmetic. You don’t need to be a Ph.D. in math to see the numbers are not adding up.”



Session Highlights

Clay Gaspar

President & CEO, Devon Energy

"Drill Baby"? Fueling America and the World

The opportunity & challenge in meeting domestic and foreign demands for oil and gas.

Key Quotes

On the holistic nature of energy and global perspective:

“

“When I think about abundance and I think about energy, I think it really starts with thinking globally. This isn't a one state, one city, even one nation problem.”



On the importance of energy and growing demand:



”

“If you grew up in the U.S. and every time you walked into a room, you flipped the light switch and the lights turned on, it's easy to forget how important energy is. I think on the West Coast, through the conversations that we're having around AI in particular, they're starting to realize the importance of energy to accomplish the amazing things that the technology world is doing.”

Session Highlights

James Robb

President & CEO, NERC

Dispatch and Disruption: The Reliability Challenge of Rising Non-Dispatchable Power

The electric grid is being challenged by rapid growth of non-dispatchable wind and solar resources. This shift is stressing reliability; everyone wants to keep the lights on in an increasingly volatile system.

Key Quotes

On the Iberian blackout:



“

“There was very little traditional generation operating at the time of the time of the blackout. It’s about a 74% inverter-based resource. So that’s wind, solar... some hydro and then some natural gas. And the great thing about hydro and gas and nuclear is that when you make electricity the old-fashioned way by boiling water, making things spin, you get this quality called inertia.”

On the value of resource diversity and inertia for grid reliability:

”

“We’re going to learn a lot about the value of diversity of resources on a grid. Diversity is reliability.”



Session Highlights

Kimberly Greene

Georgia Power Chairman, President & CEO

Critical Power: Meeting Demand Reliably & Affordably

As electricity demand rises, utilities are at the intersection of investing to support growth while keeping rates affordable for everyone.

Key Quotes

On the importance of a diverse resource mix for reliability:

“

“It’s really important to have a diverse mix of assets. There’s not a one-size-fits-all solution to provide the reliability and the affordability that our customers need. It takes everything.”



On maintaining affordability through stable rates:



”

“We’re looking at load growth and what means for rates going forward for our customers in Georgia. We have filed an agreement with the Public Interest advocacy staff and we have agreed to keep our base rates flat for the next three years.”

Session Highlights

Brandon Craig

President, BHP Americas

Upstream Realities: Rethinking Security and Supply in the Age of Critical Minerals

It's no "secret" that energy transition aspirations and modern technologies require massive use of critical minerals. The world's miners are at the epicenter of supply realities, geopolitical tensions.

Key Quotes

On the lengthy lifecycle of mining:



“

“So the lifecycle of the mine unfortunately, is a is a very long process. So if you have a look at the rate of mine discoveries, you'll see major discoveries of major minerals, for example, copper. The major discoveries come, if you're lucky, once every one or two decades.”

On the challenge of meeting future copper demand:

”

“When you look at the total known projects that are in the pipeline today, there are not enough projects in the pipeline today to actually meet the projected demand. Assuming those demand forecasts hold to be true, where copper demand goes to 50 million tons or thereabouts by 2050, it's very difficult to see where the projects are going to come from.”



Session Highlights

Eric Gray

President & CEO, Gas Power, GE Vernova

Grid-Scale Power, Engineered at Scale: The Gas Turbine Supply Challenge

With surging demand for dispatchable electricity, all eyes are on the urgent need for utility-scale gas turbines. Can the manufacturers, and the supply chains meet the scale of demand emerging?

Key Quotes

On supply chain pressures impacting gas turbine delivery:

“

“If you rewind about 18 months ago, you could have called us and we would have told you we’ll have your gas turbine to you in 12 to 18 months. If you call us today, we’re likely talking about a 28 month delivery. So the cycle times to get a gas turbine today have definitely increased.”



On workforce challenges in meeting energy demand:

”

“There is just a lot of manufacturing work to be done in this country and that’s probably one of the biggest concerns I have is do we have enough people who have been educated in the trade schools who are really going to be able to install all this equipment that the people who installed the equipment do not become the bottleneck to us being successful in terms of getting those electrons on the grid.”



Session Highlights

Mike Howard

Chairman & CEO Howard Energy Partners

Pipes & Molecules: The Infrastructure and Technology of Hydrocarbon Pipelines

Pipelines are key to connecting surging demand for gas with the productive American shale fields. They're also the Achille's Heel.

Key Quotes

On the complexity and scale of the U.S. pipeline system:



“

“We have an incredibly complex energy system in the U.S. We have about 3 million miles of pipeline in the U.S. today. And to put that number in context, we have about 49,000 miles of interstate highways. So, the number of pipelines that we have is tremendous.”

On the challenges of permitting and judicial delays:

”

“So permitting is getting all the attention right now. There’s a whole judicial component to that, meaning that once you get a permit, you get sued the very next day. They’re suing the regulator and they’re suing the potential builder.”



Session Highlights

Dan Lipman

President, Energy Systems, Westinghouse Electric Company
Nuclear Fission's Next Act and the Rise of SMRs

The nuclear renaissance is gaining momentum. Back to the future: The rediscovery of nuclear fission and the prospects for building more nukes.

Key Quotes

On the global resurgence of nuclear energy:

“And so we've in the last several years seen just a tremendous uptick in business, particularly in Central and Eastern Europe, which shouldn't be much of a surprise, I suppose. There are countries currently in the Russian energy ecosystem that are that have made decisions to prioritize energy independence.”



On nuclear's role in supporting grid reliability with renewables:



“And I was really, really struck by a survey of first time voters, generally a younger demographic. Sixty-seven percent were in favor of new nuclear and renewable sources. And I think that's important because nuclear works with renewables when the wind isn't blowing or the sun isn't shining... Nuclear runs 24/7.”

Session Highlights

Dan Golding

CTO & Partner ASG

Powering Intelligence: Inside the Infrastructure Race Behind AI and Cloud Growth

The AI boom isn't just about algorithms—it's about infrastructure. The massive buildout of data centers underway is roiling markets, especially those involving energy.

Key Quotes

On projected power demand for data centers:



“

“The important thing to understand about data centers is that we've got a huge installed base of cloud computing that's growing 20% year over year.”

On uncertainty surrounding future AI applications and energy infrastructure needs:

”

“We have no idea what the end applications of AI will be, except that they're going to be really, really significant...”



Session Highlights

Scott Gatzemeier

Corporate Vice President of Front End U.S. Expansion, Micron
Picks & Shovels 2.0: Energy, Infrastructure, and the New Fab Boom

A U.S. semiconductor manufacturing resurgence is underway. Supply chains, workforce, water, and power, are now bottlenecks. Real-world manufacturing is back, so are its power needs.

Key Quotes

On Micron's significant investment in U.S. semiconductor manufacturing:

“At Micron, we've announced our 600,000 foot expansion in Boise, Idaho, which I can see from my office, and we're actively doing construction right now. By the time we fully outfit that with construction and all the front end equipment, it will be about a \$25 billion investment.”



On the importance of maintaining affordable energy for cost competitiveness:



“The cost of power is actually one of the advantage areas that the U.S. has today. We pay between 25 and 40% here in the U.S. compared to what we pay in some of the high cost energy areas in Asia.”

Session Highlights

Aaron Zubaty

CEO & Founder, Eolian

Storage Surge: Key to Expand Both Transmission and Generation

The real opportunity of grid-scale batteries: optimize and manage both tsunami of utility-scale solar and the rush to deploy new gas-fired generation.

Key Quotes

On the evolving role of energy storage in enhancing grid reliability:



“We’re now entering the next phase, which is much bigger in scale at grid critical locations. So, we’re building a two-gigawatt hours site right now in Texas next to a retiring coal power plant. We’re finishing multiple one-gigawatt hours sites right now in Portland, Oregon. These are designed to be in locations so that you don’t need to rebuild transmission and so that the grid runs more efficiently.”

On untapped potential of existing grid capacity through storage:

“We have a huge amount of spare capacity sitting around all the time on the grid. And so, while a lot of people are saying we need more, we need to use what we have. Just building our way out of this is not going to work. We have so much wasted transmission capacity, so much wasted capacity in power plants that have already been built.”



Thank You

RealClearFoundation would like to thank the following partners:

**Achelis & Bodman Foundation
The Empowerment Alliance
The Alta and John Franks Foundation
Robert and Ardis James Foundation
Geoffrey Pohanka
Authur N. Rupe Foundation
Searle Freedom Trust**

**National Center for Energy Analytics extends sincere thanks to:
Texas Public Policy Foundation**

**The U.S. Chamber of Commerce thanks the following for their
continued support:
Our Members and The Global Energy Institute Leadership Council**



Energy Future Forum Highlights



PRESENTED BY

RealClear



U.S. Chamber of Commerce®



NATIONAL CENTER
FOR ENERGY ANALYTICS

Visit realclearenergy.org/forum for
video content and more from the
2025 Energy Future Forum.