KOUNTOUPES DENHAM CARR & REID

FROM: Kountoupes Denham Carr & Reid

DATE: Wednesday, July 23, 2025

RE: Senate Energy and Natural Resources Full Committee Hearing to Identify Challenges to Meeting Increased Electricity Demand

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Topline Summary

- Members of the Senate Energy and Natural Resources Committee convened on Wednesday, July 23, 2025 for a hearing to "Identify Challenges to Meeting Increased Electricity Demand.
- Republicans stressed the need for reliable baseload energy sources like natural gas, coal, and nuclear to handle the increasing electricity demands driven by AI and data center growth. They warned that overreliance on intermittent sources like wind and solar could lead to blackouts, brownouts, and economic instability. Many Republicans Senators raised concerns about regulatory and permitting delays, and criticized federal policies enacted during the Biden administration that favored renewables at the expense of affordability and reliability. Sen. Cassidy specifically urged the United States use Europe's energy model as a cautionary tale.
- Democrats focused on expanding access to clean energy through faster permitting, modernizing the transmission grid, and supporting technology-neutral policies that encourage renewables, storage, and innovation. They emphasized that wind, solar, and storage are already reducing prices in many regions and are essential to meeting future energy needs affordably and sustainably. Several Democrats also highlighted the economic and security importance of clean energy in the AI era, arguing that grid upgrades and broader energy choices are critical to keeping the United States competitive.

Senators Attending: Chairman Mike Lee (R-UT), Ranking Member Martin Heinrich (D-NM), Sen. Ron Wyden (D-OR), Sen. Angus King (I-ME), Sen. John Hoeven (R-ND), Sen. Alex Padilla (D-CA), Sen. Cindy Hyde-Smith (R-MS), Sen. John Hickenlooper (D-CO), Sen. Catherine Cortez-Masto (D-NV), Sen. Jim Justice (R-WV), Sen. Maria Cantwell (D-WA), & Sen. Lisa Murkowski (R-AK)

Live Hearing Link

Meeting called to order by Chairman Mike Lee

Opening Statements

Chairman Mike Lee (R-UT): The hearing will come to order Good morning and welcome to all of you. Today's hearing focuses on the challenges that America faces in meeting the increased demand for electricity, something that's got gotten a lot of attention with good reason. Demand has been trending upward in recent years, and some expect it could grow by 25% just in the next five years alone. Data Centers supporting artificial intelligence, advanced manufacturing, the planned retirement of current production sources are just a few of the causes creating this increased demand, and as more people are drawn toward electric cars, that could put additional demand as well in play, America needs to put more electrons on the grid.
We'll be hearing from three witnesses to better understand these issues today, and we're very fortunate to have them. They are First Peter Huntsman, the Chairman and CEO of Huntsman Corporation. Jeff Tench, the Executive Vice President of Vantage data centers. Welcome.
And finally, Rob Gramlich, the president of grid strategies. So thanks to all of you for being here. Now let's, let's begin with the simple fact America's electricity demand is surging. It's not creeping up.

It's surging for decades, power demand in this country remained relatively flat. Utilities planned for it, markets priced for it, regulators counted on it. But That era is over. We're now entering a new era of electrification, data centers, AI, computing, manufacturing, returning home, electric vehicles, all of it, even conservative estimates suggest that we could see two to 3% annual growth compounded over the next decade.

Now that number two to 3% annually, compounded. That might not sound like much, but it's, it's like a two way highway it was built decades ago that's now expected to carry rush hour traffic to and from a major city every time, every day of the year, more cars, bigger trucks, constant congestion, and if the road hasn't changed, but everything around it has changed, that's going to be an issue now that it's a fairly decent analogy, something to help understand our power grid and the challenges now facing it. Now, here's the real problem. We have spent much of the last 20 years shutting down the generation that can actually meet that demand.

Coal plants retire nuclear blocked, natural gas tied up in endless litigation, and we replaced a lot of that capacity with wind, solar and batteries, resources that, by design, don't work all the time, work roughly a third of the time, 1/3 of the time. That's not enough, not enough to support the dispatchable base load power that we got from the other sources. I mentioned these resources being non dispatchable, it means that they cannot be dispatched at the exact moment that they're needed with predictability and the reliability that that is required. They do not provide base load power, and they do not build themselves.

They require massive transmission overhauls, grid upgrades, and, most importantly, in many circumstances, subsidies. So this isn't a free market in many ways. It's a rigged one. The federal government has been investing heavily in certain green energy technologies for decades, handing out tax credits like candy.

So naturally, developers follow these credits, and why wouldn't they? But what's the result? 95% of the projects waiting to connect to the grid happen to be wind, solar and batteries, but only 10% of those ever make it online onto the grid. Meanwhile, gas plants, nuclear reactors, geothermal. These things that can actually power a modern economy, providing predictable, reliable, affordable, clean, base load power, they get crowded out or delayed endlessly or blocked entirely. Why? Well, government red tape is responsible for a lot of it, and activist funded lawsuits also have a fair amount to do with it, because a government that picks winners and losers, and consistently picks losers, creates a lot of this problem. Now look at what FERC tells us.

According to FERC, between now and 2028 we're set to retire 24 gigawatts of coal fired generation just in the next three years alone, and replace it with just five gigawatts of gas fired power. That math doesn't work, not in theory, not in practice, not now, not then, not anywhere or at any time. The system was built for slow, steady growth. What we're facing now is a tidal wave, and if we don't change course, if we don't wake up to this reality, the lights are going out. We need utilities, developers, states and Congress to start telling the truth about this. The grid is not ready. The system is not built for this, and the path that we're on will culminate quite predictably in rolling blackouts, rising prices, National Vulnerability and our inability to remain competitive in what many are describing as The AI global arms race. In fact, only July 7, the US Energy Department warned that between the growth and demand and the retirement of some current sources, if we don't take steps to respond to the increased demand, the risk of blackouts in the United States will increase 100 fold, I repeat, increasing 100 times what we currently face in terms of blackouts across the country.

We currently experience annual outage hours in the single digits, and if we don't take effective steps, the estimate is more than 800 outage hours per year in the next five years, we cannot allow that to happen. We've got too much riding on that. It's time that we face the facts, and that's what this hearing is about. And the Chair now recognizes the ranking member, Senator Heinrich.

Ranking Member Martin Heinrich (D-NM): Thank you, Chairman, Lee. Welcome to our witnesses, Mr. Gram like Mr. Huntsman and Mr. Tench, as we'll discuss today, the scale and drivers of today's rising electricity demand are relatively unprecedented. It's not just that electricity demand is reaching record highs. It's that we're entering a new era of sustained load growth.

The structural forces underlying today's load growth are converging the growth of AI data centers, the electrification of vehicles, buildings industry, as well as a resurgence in domestic manufacturing. And meeting this load growth will require structural changes to how we permit and build our energy infrastructure. In his testimony, Mr. Tench states that vantage would prefer to source power from the grid, but that the system is out of sync from interconnection time lines that are too long, transmission lines that take too long to build, and permitting that is too fragmented. The challenges that Mr. Tench articulates are the same ones that this committee has been trying to address for some time.

As Mr. Tench notes in his testimony, no single business or technical work around can substitute for a coordinated, modern, responsive grid. Fortunately, we sit on the committee that can help make that happen. The urgency isn't just about maintaining our edge in AI innovation. It's about affordability.

As Mr. Gramley points out in his testimony today, electricity bills are becoming unaffordable for too many Americans, and recent actions by President Trump and by the big bad bill will make this worse. The reconciliation bill alone is estimated to increase annual energy costs more than $16 billion in 2030 and more than $33 billion by 2035 this is because at a time when we need every single electron we can get the reconciliation bill is causing many clean energy projects to be canceled, and the President's tariffs are driving up equipment costs, raising the cost of all energy generation resources, all of them, this is leading directly to American spending more on their utility bills and. On top of this, an aging electrical grid is causing many energy projects to be stalled for years in interconnection cues. In June 2025 grid strategies released a study that found that investing in well planned high capacity transmission could save us households between 6.3 and $10.4 billion annually, and that's even after accounting for the cost of actually building those transmission lines.

The amount of energy currently in US interconnection cues substantially exceeds the existing electricity demands, if only the grid could integrate it, according to the Energy Information Administration in 2024 the US installed nearly 49 gigawatts of new grid capacity, 95% of which was for renewable resources. This year, the EIA estimates that developers will build 63 gigawatts of new capacity, including 32.5 gigawatts of new utility scale solar, 7.7 gigawatts of wind power, 18.2 gigawatts of energy storage, and just 4.4 gigawatts of natural gas, fire generation. Clean Energy is the most affordable and it's the fastest type of energy generation to deploy, outpacing natural gas, which is facing years long backlogs in turbine availability. If you order a gas combined cycle natural gas turbine today, you'll be lucky if it puts its first electron on the grid before 2032 meanwhile, states like Texas and California are demonstrating that high levels of renewable energy do not compromise grid reliability.

In fact, they improve it. After Texas added 9600 megawatts of clean energy, including 5400 megawatts of solar, 3800 megawatts of energy storage and 253 megawatts of wind. ERCOT CEO Pablo Vegas said that the risk of grid emergencies dropped to less than 1% that's down from 16% the previous year, nercs 2025, summer reliability assessment confirmed this trend, showing that the risk of rolling blackouts in Texas fell from 15% to 3% as battery capacity came online. I'll close by saying that I am deeply disturbed by the recent Department of Interior policy that requires Secretary Doug Burgum to personally review and sign off on wind and solar projects on federal lands.

This nakedly political decision will risk delaying new generation additions to the grid when we need them the most, and consequently, it will drive up costs, according to the Department of Energy, federal lands in the contiguous United States could support more than 7.7 700 gigawatts of renewable energy capacity. And with that said, I look forward to discussing how we can meet the rise in electricity demand and lower energy costs for households by integrating the most

affordable and rapidly deployable energy resources today while also investing in long term modernization. Thank you, Chairman.

Witnesses
Peter Huntsman, Chairman, CEO, President, Huntsman Corporation
Testimony

Jeff Tench, Executive Vice President, North America and APAC, Vantage Data Centers
Testimony

Rob Gramlich, President, Grid Strategies LLC
Testimony

Q&A
Chairman Mike Lee (R-UT) asked Mr. Tench to explain why Vantage chose to use gas for the Onsight generation. Mr. Tench said they had no choice left, and in this case, they were subject to a change in the demand algorithm from the local utility, and after construction began and hundreds of millions were committed, they were told the original 100 megawatts would no longer be available for a few years. Chairman Lee asked why not wind and solar. Mr. Trench said they need to build something not attached to the grid, and their land could only fit a turbine plant. Chairman Lee asked Mr. Huntsman asked to explain how sustainability commitments harm energy affordability and reliability. Mr. Huntsman said many of the objectives have been longer term and stated that the CEOs he's spoken with have noted that they can make the commitment today because they won't be around later. He added that people build gas turbines for reliability and their predictability. Chairman Lee asked what would happen if a data center had to rely on an intermittent energy source. Mr. Huntsman said you are shutting down, and if they go down unexpectedly it can take up to 30 days to restart

Ranking Member Martin Heinrich (D-NM) asked Mr. Tench how the Department of Interior requiring the approval of the Secretary for wind and solar projects further impacts the business prospects. Mr. Tench said their observation and requirement is for more electrons, and said their company is agnostic about what source produces that electron. He added that a rule making that slows the production of those electrons would be a negative for his business. Ranking Member Heinrich asked if we should be focused on putting as many electrons as possible on the grid agnostic to the source. Mr. Tench said their position is that moving electrons through enhanced transmission is important but insufficient compared to the need for more generations particularly from a reliable, and dispatchable source. Ranking Member Heinrich asked if you do not allow projects in the queue that consist of renewable storage that to be added to the grid today, what does that do to price pressure. Mr. Trench said their goal is to encourage speed of change in regulatory process to bring more electrons on the grid. Mr. Gramlich said anything that limits generation from coming online, and cutting off supplies will cause prices to go up. Ranking Member Heinrich asked if he has seen prices go down in certain areas and what has caused those prices to go down. Mr. Gramlich said the supply stack for Texas has seen their peak demand this summer being handled by renewables and storage, without rolling blackouts. He added that rolling blackouts were seen in California years ago because they got behind on energy abundance

but built a lot of solar to fill the gaps. Ranking Member Heinrich asked what Congress can do to improve the interconnection queue process. Mr. Gramlich said FERC has been working on the issue, along with each RTO. He added that there are some good models like the southwest entry fee and stated that congress and FERC can do something similar.

Sen. Cindy Hyde-Smith (R-MS) began by talking about how adding to the grid can take around 5 years for traditional baseload power. She asked Mr. Tench what short term solutions Vantage has explored for initial builds and whether he thinks other companies will follow a similar pattern waiting to connect to the grid. Mr. Tench said that Vantage has been far more planful in terms of the expectations of delays, primarily through investing in turbines and natural gas engines. He said that they are working on mobile settings so that they can be deployed on trailers and used for 3-5 years while waiting for the grid connection. He said that in terms of other companies, that would be up to them. Sen. Hyde-Smith then asked what Vantage's plan would be once utilities meet generation demand. He said that their plan would be to connect to the grid and operate according to the state's regulations and then use that as their primary source to power data centers and emergency power generation.

Sen. Ron Wyden (D-OR) began by stating that Republicans have been doing favors for their "big oil buddies" at the consumers' expense. He said that this is a major reason why costs are going through the roof. He said that looking backward, we had 50 years of gridlock on climate; no pricing, no regulatory reform, no nothing. He said that in the Senate Finance committee, they put together an alternative based on markets and technology neutrality. He said that this allowed for more choices and reductions in carbon. He said that in the following couple years, they got billions of dollars committed to ensuring that those renewable energy sources were available. He then talked about how the natural gas industry has emphasized that they would take electrons from anywhere because of AI, growth, and innovation. He said that despite this, Republicans have blocked their access to alternative choices like renewables, preventing us from properly meeting demand. He said that as Ranking Member of the Senate Finance Committee, he is going to do everything in his power to make more choices available. He said that the natural gas industry says that the cheapest backup power is solar and wind, and that they need it now. He asked Mr. Gramlich to talk about some ideas to resurrect a choice-based system, rather than handing out "goodies" to the big oil companies, emphasizing that fossil fuels cannot meet all of our demand. Mr. Gramlich said that he is sad to see the early phase out of such great technologies, and that it is important for Treasury to implement what Congress already passed. Sen. Wyden said that they need to make sure there is no more stalling around. Mr. Gramlich said that certainty is key and that you can't invest if you don't know what the rules are.

Sen. Catherine Cortez Masto (D-NV) asked Mr. Trench to explain why renewables are important, depending on the region, and if they are using a renewable source for the data center in Nevada. Mr. Trench said the location was chosen because it's in the west and is another option besides California, and because of Nevada's energy mix. Sen. Cortez Masto asked Mr. Gramlich if he could summarize current market considerations and why current grid operators are not in a position to turn away renewable power. Mr. Gramlich said grid operators need all the power they can get and are hopeful for the growth of geothermal. He added that they do rely on renewable energy and if any of them are taken out of the mix it will cause downwind price increases. Sen.

Cortez Masto asked if the energy mix should be driven by the needs of the states, by their region, and by their private sector. Mr. Gramlich said generation is largely in the preview of states, and the micromanagement of individual power plant dispatch or certain targeting of projects is micromanagement at the federal level when it's a state issue. Sen. Cortez Masto asked if it is current that federal micromanaging should not occur, and should be driven by the states, and private sector and onward. Mr. Gramlich said that it was current, and each state has a different sector and uses different sources to meet their power demand needs.

Sen. Angus King (I-ME) noted that he has heard the committee talking about how important transmission is, in contrast to DOE cancelling a transmission projects. Sen. King shared his concern that as we rebuild our grid it will be done in an expensive way that will increase price for the ratepayer. Mr. Gramlich expressed his agreement and said we are doing transmission sometimes in the most expensive way. Sen. King highlight that reconductoring can help us increase throughput on the grid by about 40% for just a fraction of cost. Sen. King asked Mr. Gramlich how Congress can incentivize rebuilding the grid in the most cost-effective way with the least amount of impact on the ratepayer. Mr. Gramlich said 90% of a company's sales go abroad to other countries that are using grid-enhancing technologies. Sen. King asked if that is because companies don't have an incentive to use them here. Mr. Gramlich said that is generally right but noted that many utilities are looking at them now, but we need to work to get them past pilot. Sen. King asked if demand response to promising technology. Mr. Gramlich said it is a promising technology, and it is not about the peak hour but also flexible data centers and being able to curtail at a time of a grid contingency we would be able to add many more data centers to the grid.

Sen. Jim Risch (R-ID) began by talking about how increases in demand in the coming years will require a significant amount of additional power on the grid, something which many witnesses have now testified before the committee. He then discussed the potential of nuclear energy in meeting our demands. He said that hopefully we will flip the switch in the next few years on SMRs and that this August, they are cutting the ribbon on a microreactor in Idaho. He said that we want to be all-of-the-above, but nuclear is going to be essential to do that. He asked Mr. Huntsman to provide some of his thoughts on this matter. Mr. Huntsman responded that he believes nuclear will eventually be able to fulfill our baseload, but we need to acknowledge that solar and wind are failing in Europe where it has been implemented on a widespread basis. He said that prices are going up there and we cannot afford it here. He then discussed Texas and how sources like natural gas are the backbone of their energy mix, stating that while renewables can be helpful when used incrementally, we need baseload power to fulfill our energy demands. He said without our hydrocarbon energy base, we would not be able to compete. Sen. Risch asked the witnesses if they get any solace from the effort of utility companies to increase their sourcing of nuclear power. Mr. Huntsman said that unfortunately it does not, because we are still around 10 plus years away from being able to scale up nuclear power. Mr. Tench said that we are fortunate to be able to utilize nuclear power now as a complement to the grid, and that he hopes nuclear can continue to become a greater part of our supply. Mr. Gramlich said that he has not seen a change in public perception about technology as much as we have with nuclear, given that people are realizing it is clean and reliable.

Sen. John Hickenlooper (D-CO) began by talking about the importance of winning the AI race for both our economic and national security. He asked Mr. Tench whether we will remain competitive in the global AI race without this Administration and Congress taking more action to increase high voltage transmission. Mr. Tench said that he can't definitively say that without interregional transmission we will fail to be competitive, but our ability to move electrons seamlessly across the country is critical to opening more access to power where it is needed. Sen. Hickenlooper asked if our probability of losing the AI race increases if we don't address this issue. Mr. Tench answered yes. Sen. Hickenlooper then asked Mr. Gramlich to explain the value of interregional transmission for reliability and affordability. He talked about how we lack many of the necessary horizontal connections and our regulatory structure is only trying to keep up with. Sen. Hickenlooper said that the hard truth is we need 100 gigawatts of power or more by 2030, yet only 4 gigawatts of natural gas projects are in the pipeline. He asked what kind of state level intervention studies and subsidies Congress and the Trump administration should do in order to build that 100 gigawatts. Mr. Gramlich responded that we can't just do it with things like natural gas, adding that nuclear power will not be able to get to the necessary scale to support our demand by then. He said that we need to complement those sources with renewables, especially those that are already in the queue and ready to be built. Sen. Hickenlooper said that we need to build up everything we can right now.

Sen. Bill Cassidy (R-LA) discussed the flattening of Europe's GDP over the past 20 years in comparison to the United States stable growth. He continues that the deindustrialization of Germany has harmed their ability to attract investors and if the United States has a similar policy, it would also be negative. Sen. Cassidy asked Mr. Huntsman to expand on that. Mr. Huntsman said they have never had power outages in Germany, the question has never been about the availability of electrons, but rather the value of electrons. He added that in Germany you are paying for 5 energy sources while only two are being used to power the facility, estimating that it cost 6x more to power the same facility in Germany as it does here. Sen. Cassidy asked at peak how many people did he employ in Germany. Mr. Huntsman said over a thousand. Sen. Cassidy asked him to elaborate on resources that may be more carbon intensive to produce but prove to be less carbon intensive over its lifecycle. Mr. Huntsman said the newest generation of airbus is about 35% more efficient and ultimately benefits the environment 100x more.

Sen. Alex Padilla (D-CA) asked Mr. Gramlich to explain how building more transmission would impact affordability. Mr. Gramlich said the transmission network is critical to making prices lower and holding them at that price. Sen. Padilla asked to expand on how new technology, particularly reconductoring, can be to deliver more energy. Mr. Gramlich said we have the right of ways around the country that are a great asset, and if we can get more energy out of them and then add grid-enhancing technologies, they can provide more headroom on the grid. Sen. Padilla asked if it was correct that we can provide more energy faster than building new generation. Mr. Gramlich said we will need both but creating that headroom quickly and much more affordably seems like no brainer. Sen. Padilla asked to name some more states that are working to improve their grid reliability. Mr. Gramlich said the whole center of the country is adding more solar and wind, and Texas is reaching record demand that is being met with solar and storage.

Sen. Lisa Murkowski (R-AK) said that these kinds of hearings are so important because they speak to the diversity of the country's energy needs. She said that in Alaska, they are proud to be producing oil and natural gas, but the reality is that most of their oil is exported, and their natural gas supply in Cook Inlet is dwindling. She said that their utility companies are already discussing how they are going to keep the lights on in the state's most populous south-central region, and that they are now looking to Canada to supplement their energy needs. She said that Alaska has been leading in the country in developing isolated grids. She said that we need to recognize that there is more that must be done in recognizing the extraordinary diversity. She said that they have been pushed behind due to the wind and solar EO from a few weeks ago. She said that they have been working to piece together many different energy sources to adequately meet the state's energy needs, but valuable opportunities to do so are being taken away from this. She said that picking "winners" and "losers" is a dangerous path to go down, comparing it to the time when the government wouldn't allow natural gas to be used for electricity generation. Sen. Murkowski asked the witnesses to talk about the importance of ensuring that our federal policies are not in a position in which we are picking winners and losers. She commented on the fact that the Secretary of Energy was going to be spending time at DOI to put more scrutiny on wind and solar project approvals. She said that this does not seem efficient if we are really trying to get as many energy projects on the grid as possible. Mr. Huntsman said that he is glad they are looking closer at wind and solar project approvals as he feels that they are very expensive for consumers. Sen. Murkowski said that it seems like they are on slightly different pages and emphasized the importance of supplementing baseload power with things like wind and solar. She said he needs to better understand the challenges that these remote grids are facing. Mr. Gramlich expressed concerns about the department wasting time and practically taking whole generating sources of the grid. He added that the workforce cuts at the permitting agencies are incredibly concerning. Mr. Tench said that anything they can do to increase the amount of power generation and transmission is important.

Chairman Lee began by talking about how while tech companies often claim to be "net-zero", the reality is that one of the most efficient and reliable ways to power their big data centers are through natural gas. The Chairman asked Mr. Huntsman how the Huntsman Corporation focuses more on innovation than sustainability as a means to achieve both economic growth and cleaner supply chains. Mr. Huntsman said that in the chemical industry, a lot of the innovation that goes on simultaneously improves the sustainability of the supply chain, like making plastic items lighter. Chairman Lee then asked Mr. Tench to talk about what barriers exist in traditional utility business models to deploying large data centers at scale. Mr. Tench said that he is not an expert, on the underlying business model but what he has observed is that when they begin their planning cycle, they will submit applications that are coupled with other developers looking to do similar things. He said that their key need is speed and efficiency and right now those seem to be moving in the opposite direction. Chairman Lee then said that there isn't anything inherently wrong with wind and solar, but at the end of the day they do not provide baseload power.

Ranking Member Heinrich discussed New Mexico's energy mix and gave a brief description as to how much they cost. Ranking Member Heinrich asked Mr. Gramlich if our permitting agencies stall or slow walk permits for generation projects, and as a result don't get on the grid

or get on the grid slower; what will the impact be on ratepayers. Mr. Gramlich said it will raise prices and noted that many utilities have put in place plans for how they will meet the load. He added that it is largely wind, solar, and storage that apart of these plans. Ranking Member Heinrich asked if you remove just a third of what will replace it in the short term. Mr. Gramlich said nothing will and it will result in curtailment. Ranking Member Heinrich highlighted that wind and coal have the same capacity factor at around 40%, wind due to it not always being windy and for coal because of its cost. Ranking Member Heinrich asked what were the assumption that were baked into the claim that a 100-fold increased risk of outage if forecasted retirements occur as predicted from now and 2030. Mr. Gramlich said the DOE vastly overstated the retirements of generations, and we have markets that discourage retirement, while understating the new generation. Ranking Member Heinrich asked what the impact is of having a loan be changed based on politics rather than metrics have on reliability and on price pressure. Mr. Gramlich said so many utilities have testified to the need for stability, as many of them plan years and years into the future. He added that FERC can do a little more, but we need reliability.

Sen. Jim Justice (R-WV) questioned why we keep making it harder for ourselves in the energy space and highlighted the work he did as the Governor of West Virginia to revive the state and its economy. He continued that we know the answers and solutions needed to solve the problem. Sen. Justice asked to layout the danger of retiring all fossil fuels. Mr. Huntsman said it would be national suicide. Mr. Tench said we are at the edge, and we need to preserve and add generation wherever we can. Mr. Gramlich said each state is different with their power needs and power sources and said that is why the decision should be left to the states.

Sen. Maria Cantwell (D-WA) spoke about affordable electricity in Washington and raised Fusion energy as an option so the U.S. can continue to be a leader in breakthrough technology. She discussed the need for more energy in the AI revolution and asked Mr. Huntsman if they would be able to create efficiencies using AI, then making it more efficient in the development of the lightweight materials and intensity it takes to make them in a feedback loop. Mr. Huntsman said the Senator was correct and using the material sciences to lightweight anything you will require less energy to move that product so AI would greatly facilitate the design specifications and raw material usage to do this. Mr. Huntsman emphasized the need for a permitting process to allow for the quick production of new materials. Sen. Cantwell asked Mr. Huntsman how to accelerate that. Mr. Huntsman said that if the EPA followed congressionally passed laws on TSCA requiring 90 days to approve a product or not, they could build composite materials domestically. Sen. Cantwell said they wanted to see advancement particularly in manufacturing thermal plastics and AI for large scale plane parts. She asked Mr. Huntsman what agencies or stakeholders they needed to involve to understand that AI can help speed up the chemical analysis process. Mr. Huntsman said if they make it applicable to the average person, it could supplant fears of AI taking jobs. Sen. Cantwell reiterated that fusion was a good idea to continue making progress in, and Mr. Tench agreed.

Sen. John Hoeven (R-ND) asked the witnesses how they could get more baseload on the grid to keep up with growing AI energy demand to keep lights on for everyday consumers when variable rate sources continue to be added that create grid instability. Mr. Tench spoke about ways they could ensure they could gain access to electrons already on the grid through

interconnection and enhancement to the grid itself so it can be more adaptive to load changes, however they need to encourage as much new generation, such as nuclear as they can. Sen. Hoeven added that they need to balance it out, because if they just kept adding wind power or other variable sources they would have problems. He asked the witnesses how they would break through opposition to certain sources and upgrades to transmission lines to keep up with the AI energy demands. Mr. Tench said hearings like this where they inform people with the ability to influence regulation so other agencies that are involved will help ensure U.S. AI dominance for national security. Sen. Hoeven said nuclear was going to take time, they would have to change how they build it to improve timing and cost, and would have to keep baseload coal around, and asked the witnesses how they did that other than telling Congress what to do. Mr. Huntsman said if the industry had the funds, they would always be able to afford the power, but every day people would pay the price and get the last bit of electricity, so they had to build out baseload power through natural gas. Sen. Hoeven agreed with Mr. Huntsman. Mr. Gramlich said they need every source and could not take one of them off the grid. Sen. Hoeven said how they communicate the issue is important.

Chairman Lee pushed back against the notion that renewable energy with storage is significantly cheaper. He noted that renewables don't always provide sufficient energy needs during peak hours, especially when peak demand lasts longer than 4 hours. Chairman Lee compared his state, Utah, that relies largely on natural gas and New Mexico that relies on a more renewable heavy energy mix. He noted that his states electricity is cheaper than what can be found in New Mexico.

Chairman Lee brought the hearing to a close