

Chairman Manchin's Opening Remarks During a Full Committee Hearing to Examine the Opportunities and Challenges Associated with Developing Geologic Hydrogen in the United States

- The Committee will come to order.
- Today we are here to discuss the opportunities and challenges of developing geologic hydrogen – that is, hydrogen produced below the Earth's surface.
- We haven't talked about geologic hydrogen in this Committee before but it's gaining momentum.
- And we must ensure the United States continues to lead the world in advanced energy technologies by using all of our abundant resources in the cleanest way possible – including all types of hydrogen – to safeguard our country's energy security.
- I want to thank our witnesses for being here to provide their valuable perspective from the Administration and private sector on the opportunities for geologic hydrogen to become a part of America's energy system.
- We've talked a lot about how hydrogen can give us the same horsepower as our baseload fossil fuels for industrial manufacturing, transportation, dispatchable electric power, and more.
- And industry knows it - in fact, the Department of Energy predicts demand for hydrogen to increase tenfold by 2030 in the United States and it has the potential to decarbonize up to 25% of global energy emissions.
- The development of the hydrogen industry is also expected to promote new economic opportunities for Americans and create over 100,000 new good jobs, particularly exciting for the areas that have historically carried the load of powering our nation.
- Now hydrogen isn't a new concept, but it wasn't nurtured in the same way some other energy technologies have been to get to maturity.

- Congress acted to rectify that and support exponential growth for the hydrogen industry by providing tools and incentives in the Bipartisan Infrastructure Law and Inflation Reduction Act to help make all types of hydrogen cost competitive.
- Specifically, this Committee provided DOE with \$8 billion dollars to pursue hydrogen hub projects, \$1.5 billion dollars for hydrogen technology research and development, and \$750 million dollars for small and medium sized businesses to manufacture clean energy technologies, like hydrogen, in coal communities.
- We doubled down in the Inflation Reduction Act with the creation of the first-ever Clean Hydrogen Production Tax Credit to incentivize the production of clean hydrogen.
- Fast forward to today, and seven hydrogen hub projects have been chosen across 16 states, representing ground zero of what will be a national clean hydrogen industry.
- West Virginia is proud to be partnered with the Appalachian Regional Clean Hydrogen Hub, known as ARCH2, as part of the DOE's hydrogen hub program.
- The impact of ARCH2 is substantial, with the project expected to result in over \$5 billion dollars of new investment, thousands of new, high-paying jobs, and public-private partnerships that will create a network for hydrogen manufacturing and production in West Virginia.
- I know many of our committee members are excited about similar benefits expected to come to their states through hub projects.
- But the laws we passed will only be successful if the Administration implements them as written and abandons its efforts to impose extreme limitations on the hydrogen tax credit that weren't included in the law that created it.

- This is an egregious example of an agency overstepping the authorities Congress provided.
- Nowhere in the IRA will you find language authorizing Treasury to limit hydrogen credits only to those producers who get energy from “additional” new power plants, or to require producers to match the hour of power generation with the hour of hydrogen production, or to restrict the location where electricity for hydrogen is sourced from.
- And unfortunately, the hydrogen tax credit just one example in a long line of this Administration trying to implement the law they wanted, not the one that passed.
- This administration takes the most liberal view possible for credits that benefit the industries the extreme Left likes—like EVs and solar—and the most restrictive view possible when it comes to incentives for industries that these activists oppose—like hydrogen and critical minerals production credits.
- In this case, this Administration initially celebrated the announcement of the hub awards and the jobs that would be created, however now they have bent to pressure to obstruct hydrogen development, which will kill the progress that was intended and that was being made.
- Just this week, all seven hydrogen hubs – again, representing major investments in 16 states – wrote to the Administration urging them to change course on proposed rules for the hydrogen tax credit that threaten the success of the hubs.
- These hubs are staffed by some of the nation’s leading experts on clean hydrogen, and here’s what they had to say:
- “Unless Treasury's guidance, in its current form, is significantly revised . . . many of the projects generating these investments and supporting jobs will no longer be economically viable.”
- Furthermore, the hubs go on to say, “the proposed guidance poses a significant risk to the ability for the U.S. to be a global leader in the hydrogen economy.”

- When we have hubs in West Virginia, California, and many states in between all in agreement that the Treasury proposal won't work, it's clear the Treasury rules must be changed to, quite simply, align with the law.
- I am glad the hubs are making their concerns known. I will support them every step of the way pushing back on this Administration's unlawful proposal.
- Let me now pivot back to geologic hydrogen and the spur of new activity we're seeing, both to map and access naturally occurring hydrogen underground and to develop ways of producing hydrogen underground.
- Knowing where the hydrogen reserves are is fundamental to advancing geologic hydrogen as an energy source to help meet the nation's future energy needs.
- The USGS Energy Resources Program maps and conducts scientific research on geological resources and their supply chains, including geologic hydrogen.
- Specifically, Earth MRI, a USGS mapping program which was authorized in the Bipartisan Infrastructure Law, provides essential data for identifying areas with mineral and geologic hydrogen potential.
- Meanwhile, the Advanced Research Projects Agency Energy at the Department of Energy – better known by its acronym, “ARPA-E” –recently announced sixteen new geologic hydrogen project awards to universities, national labs, and companies that will propel innovation and growth in the geologic hydrogen industry.
- I am pleased to say that Shepardstown, West Virginia will be hosting ARPA-E's Geologic Hydrogen Kick-Off event in May.
- This event will serve as the launch point for numerous new ARPA-E and other federally funded geologic hydrogen projects.

- As America's energy powerhouse, West Virginia is excited to be supporting these advanced energy technologies.
- With all that we have accomplished through recent legislation, I know this Committee remains committed to fostering the growth of hydrogen in the United States due to its potential to reshape our energy landscape, create economic opportunities, and contribute to ensuring our energy security.
- We look forward to continuing our work with DOE, USGS, and the private sector in this area, and I look forward to hearing our witnesses' perspectives today on advancing geologic hydrogen.
- With that, I will turn it over to Ranking Member Barrasso for his opening remarks.
- Thank you, Senator Barrasso.
- I'd like to turn to our panel of witnesses for their opening remarks. We have:
 - The Honorable Dr. Evelyn Wang, Director at the Advanced Research Projects Agency-Energy
 - Dr. Geoffrey Ellis, Energy Resources Program Lead for Geologic Hydrogen at the U.S. Geological Survey
 - Mr. Pete Johnson, Co-founder and CEO of Koloma
- Now to witness opening remarks.
- Dr. Wang, we'll begin with you.
- Thank you. Next, we'll hear from Dr. Ellis.
- Thank you. Now, we'll hear from Mr. Johnson.

- Thank you all again for being here with us and for your testimony. We will now begin with questions.