Testimony of Richard J. Powell
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U.S. House Energy and Commerce Subcommittee on Energy
"Reviving our Economy: COVID-19's Impact on the Energy Sector"
June 16, 2020

Good afternoon Chairman Rush, Ranking Member Upton, and members of the committee. My name is Rich Powell. I am the Executive Director of ClearPath, a 501(c)3 organization that develops and advances conservative government policies that accelerate clean energy innovation. In our view, clean energy is energy with no or very low carbon emissions - the full suite from nuclear to fossils with carbon capture to renewables of all types. ClearPath provides education and analysis to policymakers and collaborates with relevant partners to inform our independent research and policy development. An important note: we receive zero funding from industry. Thank you for having me back before the subcommittee to discuss this vital and timely issue.

These past several months have been incredibly difficult for everyone — from small business owners, to employees who were laid off, and families who had a loved one exposed to COVID-19. We grieve with the now more than one hundred thousand families in the United States who have lost someone in this pandemic. We appreciate the leadership of this Committee, as well as your colleagues, in taking swift and decisive action, and are grateful for the hard work and sacrifice of America's healthcare workers and first responders working tirelessly to combat COVID-19.

As this Committee considers its part in a serious set of economic recovery measures for the energy sector, those solutions should be ambitious but also politically and substantively pragmatic. Too often, energy policy, especially clean energy or climate policy, is oversimplified to false choices. Renewables versus fossils, economy versus environment, 100% reductions around the world versus inaction here at home — these false choices ultimately cloud potential solutions.

The reality is solutions for economic recovery in the energy sector must follow a technology-inclusive agenda to ensure hardworking Americans in one sector or another are not left behind. Policy should focus on making the global clean energy transition cheaper and faster. Clean energy investments will be essential for immediate aid AND long-term economic benefits. While dealing with this immediate crisis, it is our responsibility to create a stronger, healthier, and more resilient future. We must avoid pitting these false choices against each other, as our politics has too often done for the last decade.

Given this Committee's role in helping to shape the future of America's energy sector in the context of COVID-19 and beyond, I plan to cover a few topics:

- first, the impacts of the pandemic to date;
- second, the likely evolution of these impacts ahead; and
- third, the policy measures Congress ought to take for energy in the broader recovery.

Impacts of the Covid-19 pandemic on the global energy sector

Photos of beautiful, blue skies over Southern California, and clean, clear water where fish have returned in Venice have made their rounds in news and social media. Globally, carbon dioxide emissions have fallen a massive 6 percent. The International Energy Agency estimates 2.6 billion metric tons of carbon dioxide will not be emitted in 2020.[1] To put that in context, this is equivalent to nearly one half of annual U.S. emissions (5.8 GT/year as of 2017).

But, cheering on that good news of emissions reductions is part of the climate trap. Achieving these reductions resulted from the global economy tragically screeching to a halt in light of the coronavirus pandemic. Using less energy should not be seen as the key to clean air. According to modeling from the International Energy Agency (IEA), a perfectly healthy global economy that simultaneously *uses more* energy around the globe and *emits less* CO2 is possible.[2] Economic growth and environmental stewardship must be compatible, not in conflict, if global climate efforts are to succeed.

Throughout the COVID-19 crisis, overall energy use has dramatically decreased due to temporary business closures, but it has also underscored that reliable electricity is essential. Obviously one way to combat the virus is to keep people at home, which leads to more Netflix streaming, lights on, laundry machines, and importantly, air conditioners running – especially as we approach summer. Our hospitals need 24/7 power for ventilators and to be prepared for a surge of patients. Additionally, workers in the factories making personal protective equipment aren't doing it in the dark, or by hand. Affordable, reliable power is right up there with hand soap as an essential commodity for fighting COVID-19.

On the reliability side, the U.S. energy system has performed incredibly well, despite the stresses. Nuclear, for example, successfully went through its spring refueling cycle in the midst of lockdowns. Each refueling outage requires 1000 or more extra workers to perform incredibly complex and precise fuel handling operations – all without major incident. In our conversations with industry, 29 of the 30 reactors are now back up and running. There have been no blackouts or other major disruptions due to the pandemic.

While the system performed reliably to keep America running, its workforce felt the pain just as deeply as the broader economy. The Department of Labor shows 18 percent of the clean energy industry's workforce filed for unemployment benefits in March and April. Oil and gas has lost 89,000 drilling jobs since March, which is 16 percent of that workforce, or 5-7 years of job growth wiped out.[3]

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[1] Bloomberg. *Covid-19 is Affecting Emissions on a Planetary Scale.* https://www.bloomberg.com/news/articles/2020-05-08/covid-19-pandemic-cuts-carbon-emissions-changes-planet-earth

[2] International Energy Agency. *Sustainable Development Scenario*. https://www.iea.org/reports/world-energy-model/sustainable-development-scenario

[3] Bloomberg. The Oil Industry Shed 51,000 Jobs in March https://www.bloomberg.com/news/articles/2020-04-21/oil-industry-shed-51-000-jobs-in-march-amid-accelerating-crash

Likely evolution of the crisis' impacts on the global energy economy

So what should we expect ahead? We're reaching the height of summer in much of the country where we have to bite the bullet and turn on the AC. For the many for whom AC is unfortunately an unaffordable luxury, many cities offer cooling centers, but we cannot expect elderly or vulnerable populations to risk a crowded cooling center during this crisis, further complicating public health efforts.

Given the way the electric grid works, it doesn't matter that overall demand is down. On demand electricity to run that ventilator at a hospital in my hometown, Scranton, Pennsylvania, still requires 24/7 reliable power. Imagine if that hospital was attempting to rely on 100% variable energy – as an ever smaller but highly vocal fringe imagine – with slim options when the sun isn't shining and the wind isn't blowing. To be blunt, the false choice between some activists' vision of 100% variable renewable energy or climate catastrophe ignores the challenges of running a stable grid and value of uninterrupted power, particularly in a crisis.

Those who have long called for "de-growth," limiting capitalism, or changing global behavior as essential to solving the climate challenge have been disproven. Even the massive slowdown in global economic activity during the height of the crisis is on track to deliver that 6% decrease in emissions. For most of us, it's inconceivable that this slowdown would continue indefinitely, much less deepen into the future to drive even more emissions reductions. Clearly, the solution to this global challenge is not less economic activity – it's creating even more economic activity – more development, more prosperity, globally – year after year, in ways that do not emit CO2 into the atmosphere. And that is about rapidly adopting clean technology, new clean energy innovation – not about ending growth.

While the American power sector continues to get cleaner, significant hurdles remain. The COVID-19 crisis has proven we need reliable and clean electricity everywhere, particularly in areas of the globe that are struggling to meet their growing electricity needs. I know many of you on this Committee have been working on concrete solutions which will globally impact emissions reductions, even as the world's economy gets back to work.

This all comes as the U.S. was experiencing tremendous growth and international leadership, achieving milestones like becoming a net exporter of crude, building or planning dozens of new liquified natural gas (LNG) plants, and half a dozen next generation nuclear reactor designs. At the start of 2020, IEA estimated global energy investment was on track for growth of around 2%. That would have been the largest annual rise in spending in six years. But, due to the COVID-19 crisis, IEA now estimates global energy investment is dropping by 20%.[4] Energy companies in

[4] International Energy Agency. *The Covid-19 crisis is causing the biggest fall in global energy investment in history.* https://www.iea.org/news/the-covid-19-crisis-is-causing-the-biggest-fall-in-global-energy-investment-in-history

the U.S. are expected to spend nearly a third less in 2020 on drilling for gas, for example, than in 2019.[5]

Despite the blue skies and clear water, plus the trillions of dollars Congress is appropriating to tackle the pandemic, there has not been a sustainable shift to a cleaner environment globally. While Americans debate incorporating the energy sector into the next recovery package, China just authorized 8 GW of new build coal without carbon capture in March as part of its recovery package.

While in the U.S. we are cementing major incentives, research, and demonstrations for carbon capture and storage technology for both our coal and gas fleets, China's state energy planners are easing coal power plant restrictions. Last year, they brought dozens of new unmitigated coal power plants online, roughly 20% of the size of the entire U.S. coal fleet. Looking forward, they are planning about 100 gigawatts of new coal capacity within their own borders.[6] Through the Belt and Road Initiative, China is developing or financing more than 80 gigawatts in other countries – including outdated subcritical coal power plant technology to countries with poor environmental controls.[7]

For those still keeping track, the projected increase in emissions in developing Asian countries alone will be greater than all U.S. power emissions, which today represent about 15% of global emissions.[8] To tackle the global climate challenge, simple logic suggests policy must target where the future tons of carbon emissions are.

China's climate problem is our climate problem, just like their virus problem became our virus problem. This is precisely why we don't like the false choice that if China and the rest of the developing world aren't doing anything to slow their CO2 emissions, then the U.S. shouldn't either. We must act – but do so in ways that have a real chance of decreasing global emissions, while building new markets and news jobs for Americans.

The rest of the world is purchasing high-emitting Chinese technology, like their coal plants in Pakistan, because it's cheap. The developing world can't yet afford the "green premium" required for much clean energy, but the emissions are only part of the problem – China's stronghold on international markets for coal, and other energy technologies like wind, solar,

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[5] Houston Chronicle. *Oil and gas drilling investment forecast to fall to 15-year low.* *https://www.houstonchronicle.com/business/energy/article/Oil-and-gas-drilling-investment-forecast-to-fall-15332721.php*

[6] Bloomberg. *China Seen Adding New Wave of Coal Plants After Lifting Curbs*. https://www.bloombergquint.com/onweb/china-seen-adding-new-wave-of-coal-plants-after-lifting-curbs

[7] Columbia University. *China-Pakistan Economic Corridor Power Projects: Insights into Environmental and Debt Sustainability*. https://www.energypolicy.columbia.edu/research/report/china-pakistan-economic-corridor-power-projects-insights-environmental-and-debt-sustainability

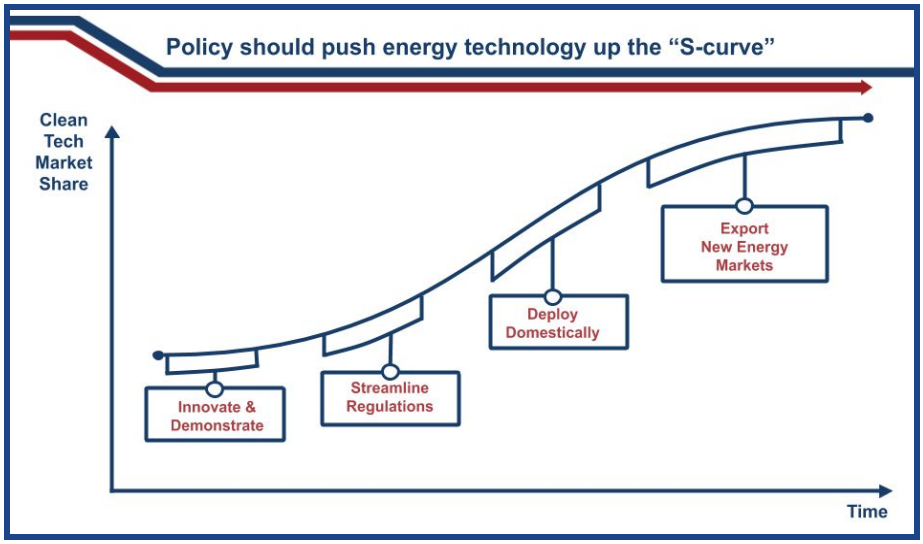
[8] U.S. Energy Information Administration. *International Energy Outlook 2019.* *https://www.eia.gov/outlooks/aeo/data/browser/#/?id=10-IEO2019&region=0-0&cases=Reference&start=2010&end=2050&f=A&linechart=Reference-d080819.3-10-IEO2019~~Reference-d080819.16-10-IEO2019~&ctype=linechart&sourcekey=0*

energy storage, and soon to be nuclear, ever increases Chinese soft power. And, given reports that China's government sees as a competitive advantage their early re-emergence from COVID-19 even as the rest of the world struggles, we must move quickly.

Lastly, the past few weeks of unrest over tragic racial and economic disparity and continuing discrimination in this country are a stern reminder that many different conditions also exist here in America. There are communities of color, tribal communities, and communities in generational poverty who would struggle to pay a green premium for more clean energy, yet would benefit enormously from a clean energy future. Our focus must also be to provide for them better options -- for affordable clean energy, for clean air and water, for projects that build up and support communities, tax bases, and employment sustainably for generations.

Policy options for Congress ahead

There has been significant momentum for clean energy innovation in Congress in recent years. We thank this Committee for its role leading that effort, like the Nuclear Energy Innovation Modernization Act and the assortment of hydropower bills enacted last Congress, and those efforts ought to be expanded through the recovery. So, how can the Congress restart the U.S. energy economy and re-invigorate American energy exports, all while reducing CO2 and preserving clear skies worldwide in the coming decades? American business leaders and CEOs, like the American Energy Innovation Council (AEIC), are working to create jobs in new industries, and reestablish America's energy technology leadership. Pairing our world class innovators with public investments, there are four legs to success.



First, we must innovate. That means developing clean technologies the world wants to buy that give America a competitive advantage. Big energy projects can't be done in someone's basement with a small angel investor like a new food delivery app. The SpaceX rocket launch that captivated us all a few weeks ago was not done solely by the private sector. It took years of research, development and designs between SpaceX and NASA under a promise of Federal procurement. Big projects require big solutions, including ambitious goals across multiple classes of technology. Policy must drive progress on those goals with public investments in innovative technology, in close partnership with the private sector, with very clear accountability

at the Department of Energy and other agencies to produce huge cost and performance improvements. This includes H.R. 3306, the Nuclear Energy Leadership Act; H.R. 1760, the Advanced Nuclear Fuel Availability Act; H.R. 3607, the Fossil Energy Research and Development Act; H.R. 3828, LEADING Act for natural gas carbon capture demonstrations; H.R. 1166, the Utilizing Significant Emissions with Innovative Technologies (USE IT) Act; H.R.5374, the Advanced Geothermal Research and Development Act; and H.R. 2986, the Better Energy Storage Technologies Act.

The time-based demonstration goals in these bills - many requiring multiple plants to be up and running by 2025 - effectively mean that design and construction would need to start *yesterday*. A big program of these demonstrations would mean putting tens of thousands of American innovators and energy workers back to the job site with nearly immediate effect.

Second, unnecessary regulatory hurdles that needlessly slow down putting energy workers back on the job quickly must be limited. Members of this committee are supporting important reforms to the National Environmental Protection Act (NEPA) and Nationwide Permit (NWP) 12. Representative Griffith has a bill to streamline the cumbersome New Source Review process for emission reducing technology retrofits. The efficient permitting of projects is essential to the efficient use of scant taxpayer resources and to scaling clean energy deployment rapidly. We can only put energy workers of all stripes back on the job as fast as we can permit the projects.

Third, we must deploy technology to prove it at scale and bring down costs. Dozens of U.S. utilities have raised their hands and have committed to "net zero" emissions by 2050. Working backward from that goal, they will need to build new, zero-emitting 24/7 technology – meaning the decade ahead is the vital one to demonstrate the remarkable new technologies they will deploy at scale in the 2030s. Let's work with them, not against them. Congress is working on authorizing bills for tax incentives targeted at demonstrating new technology, and rewarding technology that's on a path to commercialization like H.R. 5523, the Energy Sector Innovation Credit, and H.R. 5883, the enhancement of the 45Q incentive for carbon capture and storage and direct air capture of CO2 introduced in February as part of the House Republican climate and clean energy package.

In 2018, ClearPath published a study with the Carbon Utilization Research Council, with support from the International Brotherhood of Boilermakers, International Brotherhood of Electrical Workers, and the United Mine Workers of America, on the potential for market-driven deployment of carbon capture, utilization and storage (CCUS) technologies. Even with a shorter 45Q credit and steady progress in carbon capture innovation, the analysis found an opportunity worth over a quarter million new jobs. The expanded proposals now on the table would greatly exceed that.[9]

Fourth, we must export the proven technology and create new clean energy markets. Everything we are innovating and demonstrating must not only have a niche in our own energy

[9] CURC. *Making Carbon a Commodity: The Potential of Carbon Capture RD&D.* http://www.curc.net/making-carbon-a-commodity-the-potential-of-carbon-capture-rdd

sector, but also apply to a country like Nigeria[10] or Tanzania[11], which are growing rapidly. What would they be willing and able to buy from us?

For example we could be tapping vast export markets for U.S. technology champions – more than $100 billion annually[12] for nuclear, over $600 billion total through 2040 for energy storage[13], over 300 large-scale projects that capture carbon dioxide at power plants by 2030.[14] In your reauthorization of the Export Import Bank last year, you afforded a special role for transformational technologies to push back against China's Belt and Road Initiative. While that appropriately named renewable energy as one target sector, nuclear, energy storage, and carbon capture were left out and should be added to the target list.

There are many levers to achieve this, but a prime example came last week – the U.S. International Development Finance Corporation (DFC) had limits on financing nuclear put in place in 2009 due to the World Bank guidelines. Last week, Adam Boehler, CEO of the DFC announced they would lift that prohibition.

Conclusion

When you're dealing with a massive challenge like economic recovery, every tool in the box must remain in consideration. And solutions must work with markets, not against them.

And as we work towards this bold American-led strategy for a clean energy world, there are immediate wins we could put on the board. I've already discussed several bipartisan bills that authorize ready-to-build projects which would also get Americans back to work. Others provide support for skilled labor and manufacturing jobs. As Congress continues working on forthcoming stimulus and economic recovery measures, clean energy innovation and job-creating critical infrastructure projects like these must be included.

As these solutions continue to advance in this Committee and through Congress, we must always keep the end in mind. The false choices trap avoids the politically and technically realistic debate we need on climate solutions. Done right, we can advance stronger policies that commercialize the cutting-edge clean energy technologies needed to create new energy markets, new jobs, and lower emissions. And when the next pandemic comes, as it surely will, it will face a healthier, stronger world, ready to confront it.

Thank you again for this opportunity, and I look forward to the discussion.

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[10] International Energy Agency. *Nigeria Energy Outlook.* https://www.iea.org/articles/nigeria-energy-outlook
[11] International Energy Agency. *Tanzania Energy Outlook*. https://www.iea.org/articles/tanzania-energy-outlook
[12] Stanford University. *2016 Top Markets Report: Civil Nuclear*. http://large.stanford.edu/courses/2017/ph241/morris-s1/docs/ita-may16.pdf
[13] BloombergNEF. *New Energy Outlook 2019. https://about.bnef.com/new-energy-outlook/*
[14] International Energy Agency. *Carbon capture, utilisation and storage.* https://www.iea.org/fuels-and-technologies/carbon-capture-utilisation-and-storage