Testimony of Secretary Jennifer M. Granholm

U.S. Department of Energy

Before the

U.S. House Committee on Science, Space, and Technology

May 27, 2021

Chairwoman Johnson, Ranking Member Lucas, and Members of the committee, it is an honor to appear before you today to discuss the President's FY 2022 discretionary request for the Department of Energy ("the Department" or "DOE").

As you know, I was confirmed on February 25, 2021. It is a privilege to serve as the 16th Secretary of Energy and have the responsibility of leading the Department in delivering technological advancements and scientific discoveries, and advancing the energy, economic, and national security of the United States.

I am proud to say we have accomplished a lot in my first few months at DOE.

In addition, of course, to continuing to advance our core science and security missions, we have jump-started efforts to create jobs and build the clean energy economy of the future, an economy that works better for American families and an economy that works for all kinds of communities with jobs for all kinds of workers. We declared to the world that America is back at the table for climate action, and followed it up with new funding opportunities for technologies ranging from carbon capture to geothermal energy to extracting critical minerals from coal waste. And we set ambitious new goals to cut solar costs by more than half and add 30 gigawatts of offshore wind capacity by 2030. We will deliver these goals while prioritizing addressing long-standing and persistent racial and environmental injustice and targeting benefits to disadvantaged communities

We announced over $1 billion in new funding opportunities, grants, and awards for projects with the potential to punch through obstacles in our way to a net-zero carbon future by 2050. These new funding opportunities, grants, and awards for projects include developing cutting-edge solar technology, improving vehicle efficiency, modernizing water infrastructure, and researching everything from microelectronics that can launch the next digital revolution, to powerful particle accelerators that can help us answer some of our biggest questions about the universe.

In April 2021, DOE announced multiple funding opportunities that provided demonstration and deployment support to the sustainable transportation sector, totaling $224M. This includes funding for bioenergy pre-pilot technologies to pilot scale and/or demonstration scale projects that support sustainable aviation and marine fuels, CO_2 conversion, waste and underutilized carbon feedstocks. Additionally, this funding will demonstrate efficiency improvement and

emission reduction opportunities in medium- and heavy- duty trucks and their associated freight systems.

We have had a number of achievements. We set an ambitious new target to cut the cost of solar energy by 60% within the next ten years, and announced nearly $128 million in funding to lower costs, improve performance, and speed the deployment of solar energy technologies. We developed a national offshore wind goal to support 77,000 jobs, power 10 million homes, and cut 78 million metric tons in carbon emissions. We also announced $109.5 million in funding for carbon capture, critical mineral recovery, and geothermal energy projects that directly support job creation in coal communities impacted by changes in the energy economy. We kicked off a 100-day plan to address cybersecurity risks to the U.S. electric system. And we witnessed Perseverance roving around the surface of Mars, powered by tech produced in our National Labs.

Internally, we held our very first Jobs & Justice town hall, spelling out what it means to center job creation and equity in all of our work.

We have kept our country safe by supporting a safe, secure, and effective nuclear stockpile, and a continued modernization program. And all the while, our labs continued working toward groundbreaking discoveries, including in the fight against COVID-19.

But these investments are really just a down payment on what we need to do as a nation. To really build an economy that positions American families and American communities to thrive, we need the resources the American Jobs Plan and the FY 2022 discretionary request will provide to take us further.

The American Jobs Plan

In March, President Biden released the American Jobs Plan. This represents the biggest investment in America since World War II, and is a once-in-a-generation investment in our nation's economy, and especially in our energy infrastructure and our ability to win the global energy market. This plan will put millions of people to work and lay the foundation for economic growth for decades to come.

Globally, there is a $23 trillion market for clean energy products and for products that will reduce carbon pollution. This is a massive opportunity for this country. Other countries are seeing that opportunity as well, and our economic competitors are working to corner the market on those opportunities. The question is: Where are those products going to be built, and who will build them?

Through the American Jobs Plan, our country is going to corner the market on a number of these products to put our people to work. It's going to take a lot of work, literally. We need millions of people in the United States working to build energy technologies and energy products and energy infrastructure. And we all know that, in the 21st Century, making sure that we have the

right infrastructure is critical.

Infrastructure is roads and bridges, it is the electrical grid that keeps the lights on, it is ports, airports, and trains, it is pipes that pump water into our homes, and it is the broadband that both brings the world and learning to our children and brings opportunity to our businesses. Infrastructure is so broad that it creates jobs in all pockets of America.

I want to work with you to make these investments so that together we deploy the energy infrastructure that our economy needs now, at the same time that we advance cutting-edge clean energy technologies, creating millions of good-paying union clean energy jobs, and building an equitable clean energy future.

FY 2022 President's Discretionary Funding Request

President Biden's proposed FY 2022 discretionary funding request for the Department of Energy invests $46.2 billion to advance key priorities including creating jobs through clean energy projects, bringing America to the forefront of clean energy innovation, tackling the climate crisis with the urgency that science demands, investing in communities that have been left behind, and ensuring the safety and security of the nuclear stockpile.

Creating Jobs through Clean Energy Projects and Energy Efficiency Retrofits
The discretionary request supports the President's vision of achieving carbon pollution-free electricity by 2035 while creating good-paying jobs by investing $1.9 billion in a Building Clean Energy Projects and Workforce Initiative at DOE. This Investment will support programmatic infrastructure for a new energy efficiency and clean electricity standard, a new Build Back Better Challenge Grant competition to support novel State-, local-, and tribal-level approaches to clean energy deployment that provides benefits to marginalized and overburdened communities, and streamlined transmission investment. These investments will develop and deploy technologies that will deliver a clean energy revolution resulting in cheap, abundant clean power delivered on a modern energy grid that is resilient and reliable.

Spurring Innovation in Clean Energy Technologies
Within DOE, the discretionary request invests more than $8 billion in clean energy and climate innovation. From investing in advanced nuclear, electric vehicles, and green hydrogen, to funding innovative approaches to air conditioning and refrigeration, the FY 2022 discretionary request puts the Nation on a path to quadruple clean energy research in four years, emphasizing U.S. pre-eminence in innovating the technologies needed to tackle the climate crisis.

These investments will leverage the tremendous innovation capacity of our 17 National Laboratories, America's universities, and entrepreneurs to transform our power, transportation, buildings, and industrial sectors to clean, emissions-free power sources and help achieve a net-zero emissions economy by 2050. The discretionary request advances us towards these goals by building on the basic science breakthroughs at our National Laboratories; and employing the resources that turn those science breakthroughs in energy and deployable technologies like those supported by the Advanced Research Projects Agency-Energy. Meanwhile, the Department's energy programs, which run the gamut from renewables to efficiency, carbon capture to

hydrogen, and grid technology to storage are going to make it their mission to bring clean energy solutions to life. Building on ARPA-E's success, the discretionary request also includes funding to establish the Advanced Research Projects Agency for Climate, to develop transformative solutions for the climate crisis through R&D support for high-impact innovative technologies to address adaptation and resilience challenges, as well as non-energy emissions mitigation. ARPA-C will work with other Agencies to lay the foundation for future climate change solutions across the Federal Government.

Revitalizing the Office of Fossil Energy and Carbon Management while Supporting Coal and Power Plant Communities
The discretionary request supports increased funding for a revitalized Office of Fossil Energy and Carbon Management that will advance carbon reduction and mitigation in sectors and applications that are difficult to decarbonize, including the industrial sector, with technologies and methods such as carbon capture and storage, hydrogen, and direct air capture – all while ensuring that overburdened communities are protected from increases in cumulative pollution.

The discretionary request also helps DOE build the energy economy back better in a way that lifts up communities who haven't yet seen a future for themselves in the energy transition and those who have just been left behind for far too long. This includes funding DOE's role in supporting the newly established Interagency Working Group on Coal and Power Plan Communities and Economic Revitalization. By supporting the POWER+ Initiative, DOE will help communities impacted by the energy transition and ensure their success. DOE programs can support fossil fuels workers translating their skills to new positions in various areas, from extracting critical minerals from coal mine sites and upgrading pipelines to reduce methane to building carbon capture and hydrogen systems on existing industrial and power plant facilities; from building zero-emissions buses and upgrading the power grid to drilling for geothermal energy. Their predecessors built the U.S. economy of the 20th Century; they will power the economy of the 21st Century.

The Department will also support communities of color living with the toxic legacy of air pollution, those who are still paying too much for their energy, and who are often the first and worst impacted by the climate emergency. With targeted investments, DOE will help communities impacted by the energy sector and advance environmental justice and equity.

Expanding Foundational Research, Emphasizing Climate and Clean Energy Science
The discretionary request invests $7.4 billion, an increase of more than $400 million over 2021 levels, in the Office of Science to better understand our changing climate, identify and develop novel materials and concepts for clean energy technologies of the future, advance artificial intelligence and quantum science, as well as the world's most advanced computing to enhance prediction and decision-making across numerous environmental and scientific challenges, and of course to support the national research community with cutting-edge scientific facilities. This investment in foundational research will support America's first-rate scientists, engineers, and entrepreneurs, who develop and deploy technologies that improve our lives and jumpstart new industries.

Investing in Historically Black Colleges and Universities and Minority Serving Institutions
The FY 2022 discretionary request creates and enhances research funding opportunities and invests in infrastructure such as laboratory facilities and information technology upgrades for Historically Black Colleges and Universities (HBCUs) and Minority-Serving Institutions (MSIs). It also increases resources for workforce development programs to augment pathways to good-paying Science, Technology, Engineering, and Math (STEM) careers for students attending these schools. New grant awards, including a research center focused on climate, will expand research capacity and create new opportunities at HBCUs and other MSIs. The FY 2022 discretionary request will build on the Department's existing relationships with HBCUs and MSIs, establish new partnerships with these institutions, and include them in our efforts to target disadvantaged communities for new clean energy investments, jobs, and businesses, while doubling down on our commitments to racial justice.

Strengthening the Nation's Nuclear Security
The President's FY 2022 discretionary request for the Department supports a safe, secure, and effective nuclear stockpile, and a continued modernization program. This includes the recapitalization of the National Nuclear Security Administration's (NNSA's) physical infrastructure and essential facilities to ensure our deterrent remains viable. The discretionary request ensures continued, robust investments in the Department's nuclear security mission, including safeguarding and ensuring the reliability of America's nuclear weapons stockpile. The request also funds key nuclear nonproliferation and counterterrorism programs and increases funding for the Naval Nuclear Propulsion Program, which designs, builds, operates, maintains, and manages the reactor systems of the Naval nuclear fleet, and increases the number of highly skilled staff to carry out the mission. Additionally, the discretionary request sustains our investment in the Environmental Management mission to clean up World War II and Cold War nuclear sites.

Conclusion

In conclusion, I am humbled to reaffirm my commitment to lead the Department of Energy. I look forward to our continued partnership to achieve these ambitious yet necessary goals.

Thank you for the opportunity to be here today. I am happy to answer your questions.