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Governor

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Cabinet Secretary, Environment Department

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State and national laboratories execute agreement on development of zero-carbon hydrogen

Agreement leverages national lab expertise with state agencies to deliver economic growth, jobs, and clean energy to New Mexico

Santa Fe — The New Mexico Economic Development Department, Energy, Minerals and Natural Resources Department, and Environment Department entered into a Memorandum of Understanding (MOU) with Los Alamos National Laboratory and Sandia National Laboratories to build a zero-carbon hydrogen economy not only in New Mexico but across the United States. The MOU leverages their respective areas of expertise to deliver timely, material and efficient transformation of energy systems to achieve economic prosperity, reach net zero emissions by 2050 economy wide, and reduce greenhouse gas emissions in New Mexico at least 45% below 2005 levels by 2030, in accordance with Governor Michelle Lujan Grisham’s Executive Order 2019-003.

The need for clean, domestically produced energy has never been greater. Climate experts agree that the energy challenges facing the world cannot be solved by any single approach and the State of New Mexico is developing a portfolio of clean energy solutions that include solar, wind, geothermal, energy storage, and zero-carbon hydrogen. The MOU allows these organizations to partner on the science, technologies and policy impacts of zero-carbon hydrogen as it relates to climate, economy, energy, environment, equity, research, water, and New Mexico’s workforce.

“The agreements between the State and New Mexico’s federal research laboratories prove once again that these partnerships give us a competitive advantage over other states in developing new technologies and low-carbon energy solutions,” said **Economic Development Department Cabinet Secretary Alicia J. Keyes**. “These innovative advancements right here in New Mexico will benefit the planet and create incentives for new businesses to grow and relocate in the state. These are companies with skilled, high-paying jobs that want to be part of this exciting new clean-energy industry.”

“Governor Michelle Lujan Grisham has set clear goals for all of us in achieving a transition to a low-carbon state,” said **Energy, Minerals and Natural Resources Secretary Sarah Cottrell Propst**. “The MOU we signed today ensures we’ll use the best science and data in powering New Mexico with clean and sustainable sources.”

“A partnership between our national labs and state agencies will ensure the rapid development and deployment of zero carbon hydrogen technologies for the private sector while shaping public sector policies,” said **Environment Secretary James Kenney**. “New Mexico is the epicenter of innovation in the Southwest when it comes to decarbonization efforts and this partnership will help us reach our ambitious climate goals that much

sooner.”

“Los Alamos is committed to and engaged in helping find technical solutions to today’s urgent energy challenges; we also recognize that we must partner with impacted communities in delivering solutions,” said **John Sarrao, deputy Laboratory director for Science, Technology and Engineering at Los Alamos National Laboratory**. “We look forward to applying our scientific expertise and partnering with the state and Sandia to move together toward a sustainable, zero-carbon future for our region and our neighbors.”

“Sandia National Laboratories is excited to partner with the State of New Mexico and Los Alamos National Laboratory to forge a path to zero-carbon hydrogen,” said **Andrew McIlroy, the associate labs director for Integrated Security Solutions at Sandia National Laboratories**. “Sandia has long history in hydrogen-materials interactions, hydrogen safety, emerging energy technologies and geosciences. Our experts will work with our partners to accelerate research on the production, storage and distribution of zero-carbon hydrogen for transportation, industrial and other applications.”

This MOU identifies the following areas of cooperation:

- Zero-Carbon Hydrogen Generation from Methane and Biomass
- Zero-Carbon Hydrogen Generation using Concentrating Solar Power
- Zero-Carbon Hydrogen Generation from Brackish and Saline Waters
- Large-Scale Hydrogen Storage
- Hydrogen Distribution
- Production of Carbon-neutral Alternatives to Petroleum-based Products
- Direct Air Capture of CO₂
- Fit for Purpose End Use Applications
- Safety, Codes and Standards
- Monitoring
- Lifecycle Analysis of Zero Carbon Hydrogen Emissions

Now that the MOU has been signed, each party will identify lead coordinators to facilitate the overall planning and implementation of this partnership, including quarterly meetings, the formation of technical workgroups, technology transfer within the public and private sectors, and the development of New Mexico’s zero-carbon hydrogen workforce.

A copy of the MOU is available [here](#).

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