

Report identifies new opportunities on the path to decarbonization

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Credit: Santa Fe Community College, Solar Energy Program

New Mexico is moving toward a renewable and low-carbon energy economy. Emissions reduction targets are written in the Energy Transition Act of 2019 that set statewide targets to achieve carbon-free electricity generation by 2050.

How to reach these targets while simultaneously growing New Mexico's

economy is the subject of a new report from a Santa Fe Institute workshop, which brought together local and international experts who work in [energy research](#), government, and New Mexico's public utilities. The report, published in October of 2020, builds on this workshop and additional discussions with local stakeholders. It describes opportunities for New Mexico to fuel [job growth](#) and take a leading role in the Southwest region as it moves toward decarbonization.

While it's well-known that clean energy jobs are growing faster than those in the U.S. economy as a whole, the SFI report details six innovation strategies that have not been widely reported that could accelerate [economic growth](#) in New Mexico. Each strategy includes actionable steps for New Mexico decision-makers, in consultation with communities, to incentivize job creation; foster synergies between the [power grid](#) and other sectors of the economy; lead regional power coordination across the Southwest; electrify more energy services, such as water heaters and transportation; lead innovations that reduce the soft costs of renewable technologies; and regulate transmission in a way that anticipates the pace of technological change.

Each of the six innovation strategies generates what co-author Jessika Trancik (MIT, SFI) calls "beneficial feedback," where acting on any one of the strategies leads to economic growth and jobs, and also to more innovation, thereby setting up a virtuous cycle of innovation with benefits beyond emissions reductions. By leading and innovating its own transition to renewables, for example, New Mexico could additionally serve as an energy supplier to population centers in Arizona, Nevada, Colorado, and Southern California through regional power coordination. Through demonstration projects to reduce soft costs, New Mexico could foster the growth of new industries offering high-quality and sustained jobs. "This will require a concerted effort," Trancik says, "but you stand to get back much more than you put in."

The sixth strategy—anticipating the pace of technological change—could be particularly relevant for the Public Regulation Commission (PRC), which regulates utilities and replacements for aging power infrastructure. When considering whether to invest in a combined solar, wind, and battery system, for example, the report suggests that regulators should consider the steady trend toward less expensive renewable energy systems. (The costs of solar photovoltaics and battery storage have fallen more than 95% in the past four decades.) Additionally, when considering whether to build a natural gas "peaker plant," regulators should account for the cost of retrofitting or retiring such plants early to meet legally-mandated New Mexican emissions targets. "There is no reason to create potential stranded assets that disincentivize the transition away from [fossil fuels](#) when this transition is now largely predictable, based on the state's adopted policies, and supported by economic arguments," the authors write.

"New Mexico can punch far above its weight," says co-author Cristopher Moore (SFI). "This state has fantastic solar and wind resources that it can use to attract clean industry or export through a regional grid, and opportunities to innovate in new technologies like hydrogen."

Co-author Seth Blumsack (Penn State, SFI) puts it another way: "The targets are already there. You can get to the targets in a way that leaves a bunch of \$20 bills on the ground or creates a bunch of \$20 bills, metaphorically."

Regardless of the future of federal [energy](#) policy, it is clear that U.S. states will play critical roles in determining the paths to reaching emissions targets. The report outlines innovation strategies that are tailored to New Mexico's strengths and can help spur economic recovery within the state and beyond.

More information: [The Energy Transition in New Mexico: Insights](#)

from a Santa Fe Institute Workshop: [tuvalu.santafe.edu/~moore/NM-E... Transition-final.pdf](https://tuvalu.santafe.edu/~moore/NM-E...Transition-final.pdf)

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