

DECEMBER 2020
REPORT

INNOVATION AND CLEAN ENERGY INDUSTRY RECOMMENDATIONS FOR ECONOMIC RECOVERY

Policy Options from Arizona's Business Community



THE WESTERN WAY

REPORT PRESENTED ON BEHALF OF:

Arizona is emerging as a national leader in technology and innovation, including developing and adopting clean and renewable energy solutions for our advanced economy. As we look ahead to the state's post-COVID economic recovery, we believe the clean energy sector has the potential to play a significant role. With that in mind, The Western Way and Arizona Technology Council partnered to convene a stakeholder process bringing together business leaders from across Arizona to generate ideas and recommendations for best incorporating the clean energy and innovation sectors into our state's economic recovery plan. The enclosed report is the product of that process.



EXECUTIVE SUMMARY

Arizona's business community is leading our state's economic growth and developing the technologies we need to thrive. We understand how policy ideas and opportunities for clean energy innovation, development and adoption can drive the state's economic recovery. But we cannot do it alone. Leveraging the leadership and innovation of the private sector will require smart public policy and effective public-private partnerships.

COVID-19 and climate change present unique challenges that we must address in order to ensure Arizona's economic outlook remains strong. As representatives of a diverse group of businesses and organizations committed to advancing our state's thriving innovation sector, we have worked together to develop a set of recommendations to ensure it is an integrated part of Arizona's post-COVID economic recovery plan.

The following report provides policy recommendations and tools to help leverage the strengths of Arizona's innovation sector to benefit the economic and environmental condition of the entire state. **Specifically, we recommend:**



ENCOURAGING support of demand-side adoption of energy efficiency measures and clean and renewable energy technologies, preempting height and setback restrictions and exempting renewable energy storage equipment from transaction privilege taxes;



INVESTING in infrastructure and identifying opportunities for public-private partnerships;



PLANNING for long-term integration of renewable hydrogen into Arizona's energy portfolio and economy;



SUPPORTING policies that encourage advanced manufacturing, including funding programs that enhance the talent pipeline from Arizona's community college and state university systems into the clean energy and advanced manufacturing sectors; and



PRIORITIZING clean and renewable energy opportunities by creating a state Clean Energy Innovation Office or Designated Clean Energy Innovation Specialist at the Arizona Commerce Authority.

INTRODUCTION

Arizona has not been spared the economic consequences of COVID-19. While indicators suggest our state may be faring better than others, huge sectors of our economy have suffered major financial losses. The unemployment rate spiked to over 14% early in the pandemic and is now hovering around 10%. While that may be slightly better than the national average, there is no question that Arizona's economy is hurting.

At the same time, Arizona's policymakers, businesses large and small, research institutions and academics, and community leaders are working to mitigate the impacts of changing climate conditions like poor air quality, prolonged drought and excessive heat while ensuring the economy remains strong.

As Arizona has demonstrated, there is a proven nexus between supporting the economy and addressing environmental challenges. That nexus is the innovation sector, which represents everything from clean and renewable energy technology to advanced manufacturing. Arizona is emerging as a national leader in technology and innovation, including developing and adopting clean and renewable energy solutions for our advanced economy. We know investing in this sector is good for the state's economy, and [polling shows](#) a large majority of Arizonans support such an investment. We also know the clean energy sector and low carbon emissions are important tools for ensuring Arizona has clean air, a secure and sustainable water supply, and a healthy environment—all critical for our communities and economy. As we look ahead to Arizona's post-pandemic economic recovery, the innovation sector has the potential to play a significant role.



AS WE LOOK AHEAD TO ARIZONA'S POST-PANDEMIC ECONOMIC RECOVERY, THE INNOVATION SECTOR HAS THE POTENTIAL TO PLAY A SIGNIFICANT ROLE.

INTRODUCTION CONTINUED

Understandably, efforts by our elected leaders to ensure the health and safety of Arizona's citizens have been the primary focus of 2020. Even as the full scope of the economic consequences wrought by COVID-19 is being evaluated, we believe it is time to plan for a robust recovery that not only replaces jobs that were lost but also prioritizes technology and innovation in a way that catapults Arizona's economy to new heights.

While the Arizona Corporation Commission's effort to update to the state's Energy Rules has been ongoing, there has been recent progress. The Commission voted on November 13, 2020, to approve a package of new rules that will require Arizona's utilities to provide 100% carbon-free energy by 2050, with interim benchmarks until then. These rules also include an updated energy efficiency standard, battery storage policies, and important updates to the Integrated Resource

Plan and purchased power agreement processes that will introduce more transparency and competition. While the package must go through a formal rulemaking process before becoming final, the Commission's progress is a welcome development and represents a significant step toward Arizona becoming a national leader in clean energy. However, much more can be done to support the clean energy sector in this state.

To that end, these recommendations are intended to give policymakers a roadmap for incorporating the energy innovation sector into Arizona's economic recovery plan. It is critical for us to find new and innovative ways to produce the energy we need for our economy to grow while at the same time curb the impact of energy production on our environment. Together, we can ensure Arizona is positioned for a strong economic recovery and, at the same time, demonstrate national leadership in driving clean energy technology and innovation while mitigating the impacts of changing climate conditions.

TOGETHER, WE CAN ENSURE ARIZONA IS POSITIONED FOR A STRONG ECONOMIC RECOVERY.



RECOMMENDATIONS



1

ENCOURAGE CLEAN AND RENEWABLE ENERGY TECHNOLOGY ADOPTION

We support policies that encourage adoption, use and installation of clean and renewable energy technologies. We also support removing barriers that disincentivize or hinder the adoption, use and installation of these technologies.



Support demand-side adoption of energy efficiency measures and clean and renewable energy technologies. A significant percentage of the energy we generate and consume is used to operate homes and businesses. Although technology exists for enabling homes and businesses to meet more of their energy needs from renewable sources, the cost of integrating such technology into new buildings or retrofitting existing buildings has been a barrier to more widespread adoption.

On November 13, 2020, the Arizona Corporation Commission voted in favor of a new Energy Rules package, which includes an updated energy efficiency standard that by 2030 would require utilities to implement energy efficiency measures equivalent to 35 percent of their 2020 peak demand. The standard would take effect only if adopted as part of a formal rulemaking process.

Using existing generation more efficiently with less waste is generally regarded as the cheapest way to avoid higher rates for energy. Utilities already offer a range of programs to meet Arizona's existing energy efficiency standard, including residential rebates for smart thermostats, energy efficient pool equipment, lighting and home improvements, and commercial programs dealing with demand response and incentives on efficient upgrades. If finalized, the new standard has the potential to open the door for even greater use of existing energy efficiency measures, as well as innovations in home storage, automation and smart grid technology. It also would provide the kind of long-term market certainty necessary to drive increased innovation.

To further encourage and incentivize more widespread demand-side adoption of energy efficiency measures and renewable energy technology, the Arizona Legislature could consider passing an enabling law allowing local governments to offer Property Assessed Clean Energy (PACE) financing to homeowners and commercial property owners. PACE financing provides low-cost, long-term financing for energy efficiency, renewable energy and water conservation projects, and is repaid as an assessment on a property owner's regular tax bill. By enabling PACE financing here, the Legislature could incentivize more widespread market-driven adoption of energy efficiency measures and clean energy technology among property owners—without government mandates—by removing cost barriers while increasing building value and marketability, boosting local economies and driving down energy costs for consumers.



Preempt height and setback restrictions. Relaxing or preempting certain regulatory requirements that can inadvertently frustrate the use and installation of renewable energy technology is one way to encourage more widespread adoption. Specifically, height and setback requirements can disincentivize the installation of wind and solar power systems because they are frequently installed on rooftops, causing them to be considered part of the structure and calculated toward a building's maximum height. As a result, builders nearing a maximum allowable height are forced to reduce the overall height of the interior space to make room for solar or wind power systems or seek a variance.

While there may be good reasons for local governments to maintain height and setback requirements, those regulatory requirements should not be inadvertently discouraging more widespread adoption of renewable energy technology. We recommend state policymakers consider legislation that would preempt cities from including rooftop, wind or other renewable power installations when calculating building height except where height restrictions may be necessary to maintain safe air space.



Exempt renewable energy storage equipment from transaction privilege taxes. Arizona law already provides a transaction privilege tax (TPT) exemption for retail sale of solar energy equipment and installation of solar energy devices. The current exemption applies to active and passive systems, including wind electric generators and wind-powered water pumps in addition to daylighting, passive solar heating, active solar space heating, solar water heating, solar photovoltaics and systems capable of storing solar energy for future use.

To further incentivize the adoption of clean and renewable energy technology, Arizona could also exempt renewable energy storage equipment from TPT. The Legislature considered such a measure (HB 2293) in 2020 but it failed to receive full consideration and final vote due to the impact of COVID-19 on the legislative session. We encourage lawmakers to pass this TPT exemption in the 2021 session.

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INVEST IN INFRASTRUCTURE AND IDENTIFY OPPORTUNITIES FOR PUBLIC-PRIVATE PARTNERSHIPS

Investment in transportation and energy infrastructure plays a critical role in marrying clean and renewable energy technology with economic recovery. Not only does investment finance important infrastructure upgrades, it creates short- and long-term job opportunities and regional economic growth and benefits.

Specifically, we support investment in the build-out of electric vehicle (EV) charging stations throughout the state, particularly in rural Arizona; research, development and deployment of energy storage technology; and enhancement of renewable microgrids to support green development projects, large scale industrial and commercial facilities, and smart region initiatives.



Plan for integrated statewide EV infrastructure. We support integrated and strategic build-out of electric vehicle infrastructure statewide. To that end, the Legislature should consider legislation directing the Arizona Department of Transportation to develop a plan for a statewide EV charging network in partnership with state and local agencies, local governments, and private entities. A forward-thinking plan for statewide EV infrastructure should also contemplate medium- and heavy-duty transportation fueling hubs, including fuel production and retail facilities, to support industrial and commercial businesses and their onsite charging needs as they look to adopt new fleets in the future.

This approach is already being put in place by neighboring states. For example, in 2020 Utah Governor Gary Herbert signed into law a bill that requires the Utah Department of Transportation to lead in the creation of a statewide EV charging network plan. The bill passed with overwhelming bipartisan support in the Utah Legislature.



Strategically finance statewide infrastructure. While large-scale infrastructure improvement projects can be costly, securing investment from a variety of sources and employing public-private partnerships (PPPs) can ensure they are financially feasible.

First, Arizona should aggressively pursue federal grants, subsidies and incentives where available. Although Congress has thus far failed to explicitly include funding for clean energy technology, storage and infrastructure in its COVID-19 recovery packages, we anticipate more federal stimulus in the coming months. In addition, other pieces of pending federal legislation include funding for these types of projects. Arizona leaders must be prepared to support federal legislation that helps our state achieve its energy goals and advocate to receive those dollars if and when they become available. Specifically, America's Transportation Infrastructure Act accelerates infrastructure projects and funds efforts to reduce carbon emissions, and includes a competitive grant program funded at \$1 billion over five years for states and localities to build EV fueling infrastructure. The American Energy Innovation Act modernizes domestic energy laws by, among other things, investing in clean energy technologies.

Second, state policymakers and Governor Ducey should consider dedicating general fund dollars toward transportation and renewable energy infrastructure projects in next year's state budget.

Third, state and local governments should leverage opportunities to employ PPPs to support and encourage new technology and innovation in how energy is

produced and used. For example, PPPs have been employed to help governments in the United States and around the world ensure their buildings meet or exceed energy efficiency standards. Senator Cory Gardner of Colorado introduced a federal bill in 2019 to create PPPs in which private companies use their own resources to make energy efficiency upgrades to federal buildings and receive a portion of the money saved as a result of the buildings' increased efficiency.

COVID-19 has presented an opportunity to employ PPPs in Arizona to find new and innovative kinds of efficiencies. As our state begins to consider its building needs and inventory in light of virtual working conditions now and likely into the future, PPPs can be used to help Arizona's Department of Administration conduct an audit to define the state's needs, as well as identify and implement traditional energy efficiency measures and innovative opportunities to increase efficiencies through inventory consolidation and reduction.

3

PLAN FOR LONG-TERM INTEGRATION OF HYDROGEN INTO ARIZONA'S ENERGY PORTFOLIO AND ECONOMY

Research and development of hydrogen as a zero-emissions fuel source is already underway in Arizona, and there are opportunities to support and encourage adoption and integration of hydrogen into our energy portfolio and economy. We support renewable hydrogen (hydrogen produced with energy from renewable sources such as solar, wind and geothermal) and policies that will encourage the adoption of hydrogen vehicles, fund the Hydrogen Investment Capital Special Fund, and support investment in renewable hydrogen infrastructure and the transition of commercial fleets to cleaner fuels. Specifically:



Establish a Hydrogen Investment Capital Special Fund. This special fund would provide seed capital for and venture capital investments in private sector and federal projects for research, development, testing and market commercialization of hydrogen technologies. The program would be responsible for designing, implementing and administering a full range of activities, including 1) strategic partnerships for research, development, testing and deployment; 2) demonstration projects, including infrastructure for renewable hydrogen production, hydrogen storage and fueling; 3) statewide renewable hydrogen economy public education and outreach; 4) promotion of Arizona's renewable hydrogen resources to potential partners, investors and related supply chain business attraction opportunities; and 5) a 10-year hydrogen roadmap for implementation to transition Arizona to a renewable hydrogen-based economy.



Extend the Arizona Renewable Energy Production Tax Credit and Include Hydrogen.

The Arizona Renewable Energy Production income tax credit was established with the intention to promote investment in renewable energy production using low-emission and zero-emission electricity generation technologies. The credits are for the production of electricity using qualified energy resources.

Currently, an income tax credit is available for taxpayers who own a qualified energy generator that first produces electricity between December 31, 2010, and January 1, 2021, using a qualified energy resource (e.g., wind, solar, biomass). However, the credit only applies to qualified energy generators with at least 5 megawatts generating capacity and does not include electricity produced from renewable hydrogen.

We recommend that this tax credit be extended beyond 2021 and include electricity produced from hydrogen electrolysis using renewable energy sources as an eligible technology under this program.

Hydrogen has already been identified as a qualified zero emission fuel for innovative vehicle technologies. Expanding the eligibility of hydrogen sourced from renewable energy sources will also attract additional hydrogen-related industries and support expanded production of hydrogen to advance zero emission transportation, clean energy production and grid reliability efforts in the state.



SUPPORT POLICIES THAT ENCOURAGE ADVANCED MANUFACTURING

Arizona's clean energy and advanced manufacturing sectors are critical parts of our economy. They create new jobs, support existing businesses and attract new ones to the state, and help ensure air quality and the environment are healthy for our communities. We support policies and investments that help the advanced manufacturing and clean energy sectors by building a larger talent pipeline to support the growth of the existing advanced manufacturing and energy innovation sectors, as well as encourage new businesses to locate here.

Specifically, we support opportunities to create and enhance partnerships between the advanced manufacturing and renewable energy sectors and Arizona's community college systems to design certificate programs that teach skills for high-paying jobs and create lifelong learning opportunities for Arizonans while at the same time supporting the growth of the innovation and energy sectors. One way to do that is to ensure our community colleges and job training programs are adequately funded.

In 2019, the Legislature considered a bill (HB 2657) to create the Technology and Innovation Workforce Program within the Arizona Commerce Authority, which would distribute grants from the Technology

and Innovation Workforce Fund. Had the program passed, it would have provided grants to community colleges offering training programs that develop skills and training for high-wage jobs in high-demand employment sectors and that result in a credential-certifying readiness for specific industry jobs or skills. The bill had broad stakeholder support and deserves reconsideration. In the 2021 session, the Legislature should pass a bill to establish the Technology and Innovation Workforce Program.

We also support opportunities to create and enhance partnerships between Arizona's universities and the advanced manufacturing and renewable energy sectors to design and offer innovative programs that prepare students for careers in these industries coupled with internship, recruitment and employment opportunities. Partnerships of this nature would attract qualified candidates to our state university system and help retain qualified graduates in Arizona after they finish their studies. To do this effectively, the university system must be sufficiently funded.

The Arizona Board of Regents is seeking additional investment for fiscal year 2022 for the New Economy Initiative. Designed to enhance Arizona's competitiveness, the Initiative proposes strategic investments in workforce development targeting high-value industries at Arizona's three public universities, including engineering programs; development and expansion of academic programs for new industries, job growth and partnerships; and five new "science and technology centers" pairing companies specializing in innovation economy disciplines with students for capstone projects, entrepreneurial fellowships, and other curricular and extra-curricular pathways. If Arizona receives additional federal stimulus dollars as part of a COVID relief package, Governor Ducey should consider allocating a portion of that relief to the three universities. The programs envisioned in the New Economy Initiative would support workforce development, job creation, and growth in the innovation and clean economy sectors, which are critical components of our state's economic recovery. As such, Arizona's public universities would be appropriate recipients of COVID relief funds. In addition, the Legislature should consider funding this Initiative as part of its 2021 state budget allocation for the universities.



PRIORITIZE CLEAN AND RENEWABLE ENERGY OPPORTUNITIES BY CREATING A STATE CLEAN ENERGY INNOVATION OFFICE OR DESIGNATED CLEAN ENERGY INNOVATION SPECIALIST AT THE ARIZONA COMMERCE AUTHORITY

Given the significant role of clean and renewable energy technology and innovation in Arizona's economy, the tremendous economic development opportunities presented by growth in this sector, and the impact of clean energy technology on the environment, it would be advantageous to have a dedicated Clean Energy Innovation Office or clean energy innovation specialist housed within the Arizona Commerce Authority. Oversight would include research and development, public and private funding opportunities for innovation, talent pipeline management and reskilling opportunities.

To that end, we support Governor Doug Ducey's opening a reimagined State Clean Energy Innovation Office. This office would not merely replace the now-closed State Energy Office or the State Energy Program administered through the Arizona Office of Grants and Federal Resources, a coordinated agency of the Arizona Department of Administration that is broadly responsible for helping state agencies, local governments and non-profit organizations find, win and manage grants. Rather, the State Energy Innovation Office or an energy innovation specialist would focus on emerging energy technology and innovation in a comprehensive way to ensure Arizona is leveraging its talent, resources and emerging technologies to drive economic development. In addition, this reimagined office would give Arizona the operational structure and support to more quickly set priorities, identify and leverage opportunities, and make our state more competitive overall in these emerging markets.

Such a dedicated office would place Arizona in the same league as leading state governments driving energy innovation through active engagement to create and fund public-private partnerships, and would give Arizona the opportunity to become a national leader with its approach to energy innovation.

We appreciate your commitment to shepherd Arizona through these challenging and unforeseen economic circumstances. Although you are invariably still managing the immediate crisis, the time to plan for recovery is now. It is incumbent on all of us—from the private sector to the public sector—to work together to rebuild the economy. It is our hope that the above recommendations provide you with the policy ideas and tools you need to leverage the strengths of Arizona's innovation sector to benefit the economic condition of the entire state.

WE LOOK FORWARD TO WORKING WITH YOU.




ABOUT THE ARIZONA TECHNOLOGY COUNCIL:

The Arizona Technology Council is Arizona's premier trade association for science and technology companies. Recognized as having a diverse professional business community, Council members work towards furthering the advancement of technology in Arizona through leadership, education, legislation and social action. The Council offers numerous events, educational forums and business conferences that bring together leaders, managers, employees and visionaries to make an impact on the technology industry. These interactions contribute to the Council's culture of growing member businesses and transforming technology in Arizona. To become a member or to learn more about the Arizona Technology Council, please visit <http://www.aztechcouncil.org>.

ABOUT THE WESTERN WAY:

The Western Way is a nonprofit organization urging Western conservative leaders to acknowledge actual environmental challenges and deliver efficient, pro-market solutions. The Western Way engages policy makers across the Interior Rocky Mountain West region of our country to provide proactive and constructive solutions that grow our economy and benefit the environment. The Western Way works with leaders from Arizona, Colorado, Idaho, Montana, Nevada, Utah, and Wyoming. To learn more and to stay up to date with The Western Way, please visit <http://www.thewesternway.org>.

Special thanks to technology and energy industry thought leader Jason Makansi for input throughout the stakeholder process.



TO LEARN MORE ABOUT THESE RECOMMENDATIONS
OR WORKING WITH US TO PROVIDE ADDITIONAL
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