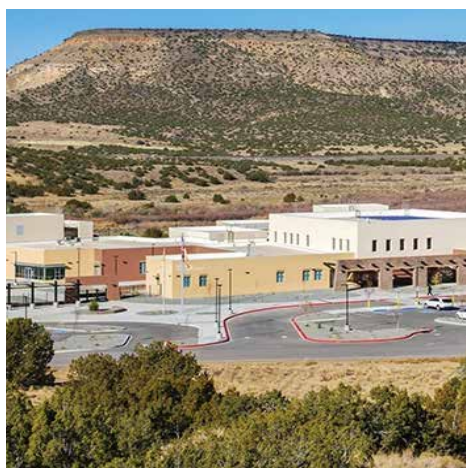


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ELECTRIFY NEW MEXICO – THE RENEWABLE ENERGY TRANSITION

GREEN FIRE TIMES

News & Views from the Sustainable Southwest



REGENERATIVE ARCHITECTURE AND THE BUILT ENVIRONMENT

VOLUME 16 NUMBER 2

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COVER: COVER (TOP, L-R): LAGUNA PUEBLO ELEMENTARY SCHOOL; HEAT PUMP; NATIONAL PARK SERVICE (ADOBE) OFFICE BUILDING IN SANTA FE; CENTER: SOLAR INSTALLER; ENERGY WORKS EFFICIENCY UPGRADE IN ALBUQUERQUE; ADOBE IN ACTION PROJECT; SOLAR INSTALLATION ON CHURCH ROOF; BOTTOM: LAGUNA ELEMENTARY, SOLAR PANELS ON OLD ADOBE HOME; ELECTRIC VEHICLE CHARGING; CUSTOM HOME DESIGNED BY GROUNDED ARCHITECTURE, LOUISVILLE, COLORADO (A WILDFIRE REBUILD).

GREEN FIRE TIMES REALLY NEEDS YOUR SUPPORT

Green Fire Times is a platform for regional, community-based voices—useful information for residents, businesspeople, students and visitors—anyone interested in the history and spirit of New Mexico and the Southwest. GFT's small, dedicated staff and multitude of contributors generate articles documenting the interrelationship of community, culture, the environment and the regional economy. The sustainability of our region affects all of us, and requires people from all backgrounds working together to create solutions. One of the unique aspects of GFT is that it provides multicultural perspectives that link green, cutting-edge innovations with time-honored traditions.

Storytelling is at the heart of community health. We have an opportunity to change the story going forward, which can lead to positive transformational change. GFT shares inspiring stories of hope and community action. By helping our communities discover who they once were and what they can become, a more positive future can be created.

Of course, it is an extremely challenging time to continue to produce a free, quality, independent publication. Production costs have greatly increased. Many local and regional publications have folded or have been bought up by corporate entities. Fortunately, a growing number of publications are receiving boosts from nonprofits that are devoted to protecting journalism. GFT is owned by Southwest Learning Centers, Inc. (est. 1973), a nonprofit educational organization. SWLC provides a mentorship program for some of GFT's writers, aspiring journalists and documentarians.

Green Fire Times is struggling to survive. We also need funding to upgrade our online archive and make 15 years of articles more accessible to community members, students and researchers. Don't assume that someone else will help. Please consider making a tax-deductible donation through our website, or send a check made out to Southwest Learning Centers (with a notation 'for GFT') to P.O. Box 8627, Santa Fe, N.M. 87504-8627. Also, please advertise! The print edition—currently published every other month, while our website is updated more frequently—is widely distributed from Albuquerque to Taos and beyond. For a rate sheet, visit GREENFIRETIMES.COM.

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GREEN FIRE TIMES

News & Views from the Sustainable Southwest

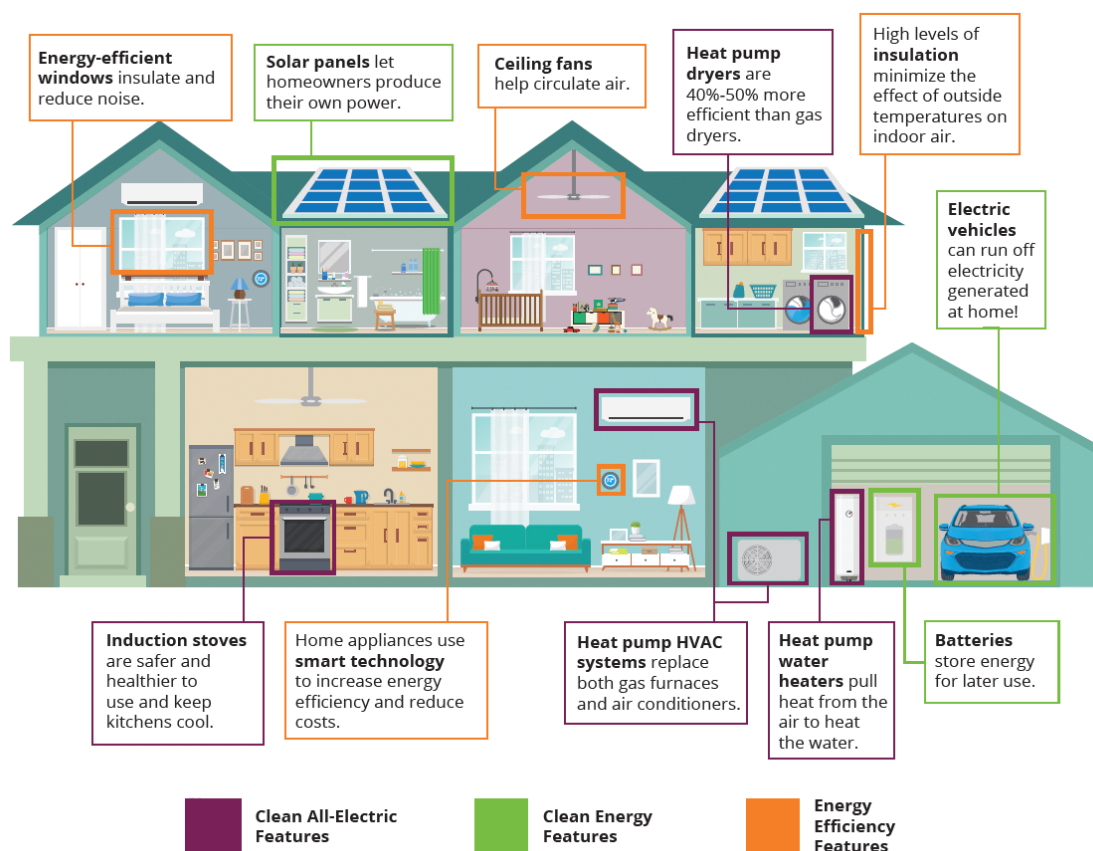
ELECTRIFY NEW MEXICO—THE RENEWABLE ENERGY TRANSITION REGENERATIVE ARCHITECTURE AND THE BUILT ENVIRONMENT

These two interrelated themes are the focus of this edition of Green Fire Times.

Architecture is at the nexus of culture, economy and climate. People can certainly see the effects of global heating—and architecture can definitely help because at least eight to 10 hours a day, most people are either in homes or buildings. Buildings contribute more emissions than transportation in most cities, and the building industry has a huge ecological footprint.

Architects are being called to transition to the next wave, a wave that is wholly accepting of the profession's critical role in slowing the harmful impacts of the built environment and adapting to the changing climate and all aspects of the new normal that comes with it. But hope doesn't just lie with brick-and-mortar architects; it also lies with landscape architects and allied professions that design/build nature-based and sustainable solutions. That includes designing projects that lead to regeneration of our communities and ecosystems. Starting the design process with an intimate knowledge of place, asking what materials are available and who can co-create them, leads to a very different outcome, one that not only reduces harm but lifts up local voices, amplifies culture and creates jobs and livelihoods.

Accomplishing this calls for us all to rethink whom we consider experts, particularly when it comes to building in the face of climate change, showing how Indigenous wisdom must work in harmony with new science and technology if we want to create a sustainable future. Of course, as the United Nations Department of Economic and Social Affairs notes, because "so many of the components of existing economic systems are 'locked into' the use of non-green and non-sustainable technologies," this is not an easy goal, but it is a worthy one.



Credit: Edison International

As evidenced by the people and initiatives documented in this edition of GFT, there are a lot of opportunities for this transition in New Mexico. You will be able to learn about many renewable energy- and green-building options at the Earth Day New Mexico 2024 Festival on April 21

ELECTRIFICATION IS THE NEXT STEP FOR A CLEAN ENERGY ECONOMY

BY **JIM DESJARDINS**

EXECUTIVE DIRECTOR, RENEWABLE ENERGY INDUSTRIES ASSOCIATION OF NEW MEXICO

New Mexico, like many other states and countries across the world, is making serious efforts to transition to a clean-energy economy. Passage of important policies over the last few years, including the Energy Transition Act, the Efficient Use of Energy Act and more recently the Sustainable Building Tax Credit and the Clean Car tax credit, are helping to diversify our future economy and make our skies cleaner. Recent policies at the federal level, such as the Inflation Reduction Act and the Bipartisan Infrastructure Investment Jobs Act, provide even more opportunities in this transition.

Electrification has the potential to impact multiple areas of our lives.

As our energy resources are increasingly becoming carbon free, electrification is identified as the next big opportunity in a clean-energy economy. What is electrification and what are its benefits? Electrification aims to replace technologies or processes that use fossil fuels. This will reduce climate-changing

greenhouse gas emissions and can help add efficiencies and reduce energy demand. According to the International Energy Agency, electrification is one of the most important strategies for reducing CO2 emissions in a Net Zero Emissions scenario.

Electrification has the potential to impact multiple areas of our lives, including what we drive, the buildings we live and work in, and the sources we use to generate energy. In a home, this could be replacing gas fuel appliances like water heaters and furnaces with electric heat pump water heaters, mini-split heating/cooling systems and doing yard work with electric lawn mowers and leaf blowers. For companies, this could be replacing fossil fuel fleet vehicles with electric or plug-in hybrid vehicles, using electric forklifts, and electrifying more processes and equipment.

And for all buildings, the combination of renewable energy plus storage will help reduce emissions, add resiliency in case of grid outages and potentially save lives. Networking of residential and commercial solar + storage through an aggregator offers the potential of using these systems to dispatch energy to the grid. School districts can replace old diesel fueled school buses with clean, no-emissions buses, helping protect the health of children.

Electrification will also contribute to economic development in our state through greater purchases of supplies and the training and hiring of more local labor to perform this important work.

Given this push for electrification, I am not unmindful of the many challenges presented by this vision. Change is often long and difficult. It encompasses everything from supply chain issues, development of new workforce training, the need for increased electric delivery infrastructure, and those with low to moderate incomes are not unduly affected with this transition.

Electrify New Mexico Workshop – April 4 in Albuquerque

These opportunities and challenges will be part of a dynamic one-day workshop, Electrify New Mexico, hosted by the Renewable Energy Industries Association on April 4 at the Sid Cutter Pilots Pavilion at Balloon Fiesta Park in Albuquerque. This event will explore policies that will impact the transition including how the Inflation Reduction Act (\$369 billion) as well as other federal and state funding can be used to expedite the transition. Thought leaders, policy makers, business executives, educators, energy companies, elected officials and others will discuss partnerships and collaborations to best unlock these resources and highlight how this transition can be accomplished through the adoption of newer technologies including building electrification, electric vehicles and distributed energy resources like solar, and energy storage.

Gov. Michelle Lujan Grisham is expected to keynote the event. The Public Service Company of New Mexico (PNM) is the main sponsor. Other sponsoring organizations include Mitsubishi Electric, ABC

Supply, Sunrun, SunState Solar, Affordable Solar and Xcel Energy. Sponsorship information and registration is at WWW.ELECTRIFYNEWMEXICO.COM. The event will include breakfast, lunch and an evening reception. ■

The Renewable Energy Industries Association of New Mexico, a nonprofit organization that represents more than 60 companies engaged in the renewable energy business with a focus on clean energy job creation. REIA is an affiliate of the Solar Energy Industries Association. REIA NM's mission is to support, promote and advance the transition to renewable energy industries in New Mexico. Visit WWW.REIA-NM.ORG.



ELECTRIFY NEW MEXICO CONFERENCE – APRIL 4

*Sid Cutter Pilot's Pavilion, Albuquerque
Renewable Energy Industries Association of New Mexico
Registration: WWW.ELECTRIFYNEWMEXICO.COM*

The Renewable Energy Industries Association of New Mexico (REIA-NM) will host the Electrify New Mexico conference on April 4 at the Sid Cutter Pavilion at Balloon Fiesta Park. The event will bring together business leaders, renewable energy thought leaders, elected officials, local government representatives, policy analysts and other experts to help New Mexico leverage the billions of dollars of federal and state incentives to support the transition to clean energy. Gov. Michelle Lujan Grisham, the keynote speaker, will discuss statewide opportunities. Public Service Company of New Mexico (PNM) is the presenting sponsor. The event will include breakfast, lunch and an evening reception.



The conference will feature panel discussions and a trade show to highlight new technologies, electrification best practices, and the importance of strategic partnerships in New Mexico's renewable energy

(RE) transition. Expertise and case studies will be provided to demonstrate the economic benefits and opportunities afforded by renewable energy technologies and incentives through landmark legislation including the \$369 billion Inflation Reduction Act.

“There is a real upshot for New Mexico to harness clean energy technologies to transform our state,” said Jim DesJardins, executive director of REIA-NM. “Electrify New Mexico will be a signature event that will share tools and best practices for participants to access critical state and federal funding to expedite New Mexico's transition to a renewable future.”

Other sponsors include Mitsubishi Electric, ABC Supply, Surun, SunShade Solar, Affordable Solar and Xcel Energy. Sponsorship information and registration is at ELECTRIFYNEWMEXICO.COM.

ELECTRIFY NEW MEXICO

Why Electrify?

Our homes and vehicles emit a lot of climate pollution—42 percent of all U.S. energy-related emissions, in fact, come from heating residences and water, cooking meals and moving us around. That is why electrifying your household is one of the most significant steps you can take to cut your carbon emissions.

Switching from a gas, propane, wood or even electric resistance heater to a highly efficient electric heat pump, for example, will slash your emissions, reduce your energy use and improve your indoor air quality. In most cases it will also cut your fuel costs and provide more predictable billing, since electricity prices are steadier than those of fossil fuels. An added benefit is that heat pumps cool your home in the summer too! As sweltering summer temperatures surge, this is a great replacement for swamp coolers or aging ACs that struggle to keep up. No wonder heat pumps outsold gas furnaces in the U.S. for a second year in a row and are widening their lead.

Opting for an all-electric house or apartment is a great choice because the lack of gas infrastructure lowers building costs. But for most of us, electrification means retrofitting, possibly upgrading electrical panels and installing electric equipment in existing residences. This can be expensive and more complex than you expect.

Financial Incentives

Luckily, there are unprecedented tax credits and rebates from:

What would Santa Fe be Without History?

While virtually everyone acknowledges Santa Fe is a historic place, the stories and spaces that communicate our history to residents and visitors need constant upkeep and reinforcement.

The Old Santa Fe Association works to preserve Santa Fe's cultural and architectural heritage.

Through history education, community service, and historic preservation advocacy, we promote and maintain Santa Fe's unique charm and distinction that combines culture, tradition, and environment—the priceless assets of our region.

Help us keep Santa Fe the “City Different.”
Learn more at oldsantafe.org



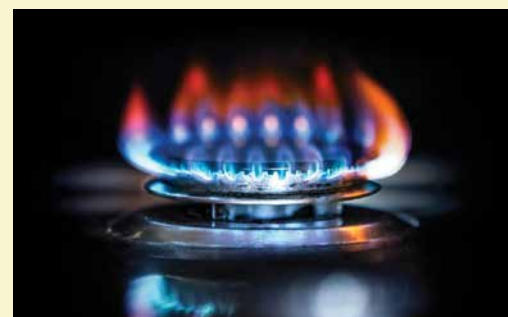
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ELECTRIFY FOR HEALTH. DITCH YOUR CARBON MONOXIDE METER.

Getting rid of gas may make you breathe easier. Studies show that gas stoves emit hazardous pollutants such as nitrogen dioxide, a respiratory irritant linked to childhood asthma, and benzene, a potent carcinogen found in levels comparable to that in secondhand smoke. In poorly ventilated kitchens these emissions can easily exceed outdoor standards. (There are no indoor air pollution standards.) Even with a stove turned off, unburned methane (natural gas) escapes, often containing pollutants such as benzene and toluene. And it's not only stoves. In the U.S., 58 million gas water heaters emit 91,000 tons of unburned methane per year. Improperly vented water heaters can pull caustic combustion gases back into a residence.

Methane is also a strong planet-warming gas, and global warming is proving to be a health hazard—from increasing heat-related illnesses and death—to sparking increasingly severe wildfires, such as we have experienced in New Mexico.



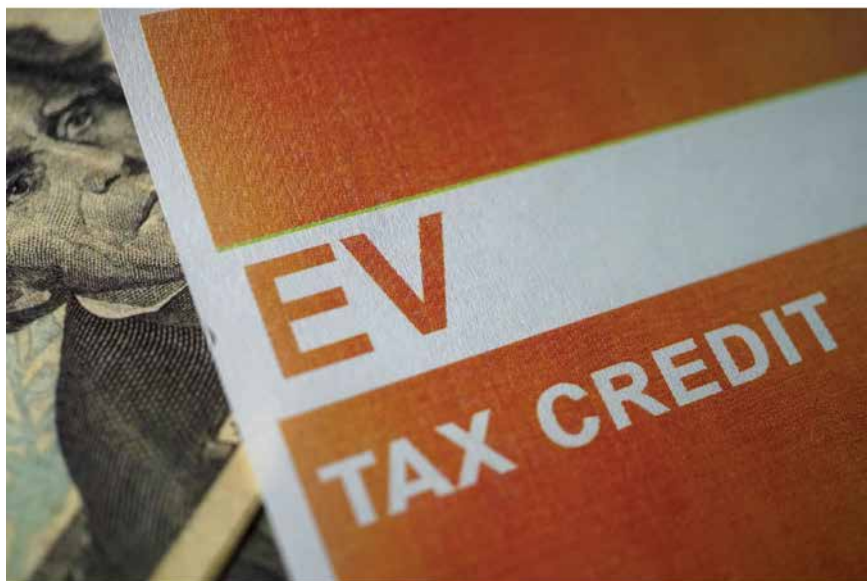
- The federal Inflation Reduction Act (IRA)
- The State of New Mexico
- Electricity providers—utilities and Rural Electric Co-ops

These incentives can be stacked or combined to reduce the pain to your pocketbook on projects including installing:

- Electric air-source and ground-source heat pumps for heating and cooling
- Heat pump water heaters—some versions plug into existing 120-volt outlets
- Heat pump dryers—these are ventless and are great for renters; some models plug into 120 volt outlets.
- Electric and induction stoves—if you can't afford a full 240-volt upgrade or just want to see why people love the fast, precise and emissionless induction experience that doesn't heat up kitchens or burn curious hands, get a one- or two-element countertop induction hot plate or cooktop to try out.
- Rooftop solar and battery storage
- Selected new and used electric vehicles (EVs)
- EV chargers, which combined with time-of-use electricity plans cost the equivalent of less than \$1/gal to fuel your EV at home
- Electric panel and wiring upgrades
- Weatherization-installments such as window and door upgrades, insulation, leak sealing, window films and even some window treatments

Many Rural Electric Co-ops also have rebates on thermostats, outdoor equipment like electric riding mowers and snow blowers, and much more. See, for example, Socorro Electric.

There has also been a boost in funding for programs that reduce the energy burden of residents with very limited resources, including the state's new \$10-million/year Community Energy Efficiency Development (CEED) Program, the new Climate Investment Center, the expansion of the New Mexico Mortgage Finance Authority home rehab services into new counties, and the state's applications for the Department of Energy's Solar for All and the IRA home-efficiency and energy-rebate programs.



MAJOR TAX CREDIT PROGRAMS PROPEL NEW MEXICO TOWARD A SUSTAINABLE AND GREEN FUTURE

House Bill 252 “driving a robust green-energy economy”

House Bill 252, the Omnibus Tax Package, sponsored by Rep. Derrick J. Lente, supports a robust clean-energy economy for all New Mexico households and businesses, protecting the environment, human health and natural resources, according to the state's Energy, Minerals and Natural Resources Department (EMDRD). The EMNRD will administer the new tax credit programs.

The programs include the following:

- Tax credits for purchasing clean cars and clean-car charging units.
- Expansion of the new Solar Market Development income tax credit for installing solar energy systems on homes and businesses.
- Introduction of a new tax credit for companies constructing advanced energy equipment in New Mexico to recoup some of their pre-production capital costs.
- Extension of industrial revenue bond eligibility to cover utility-scale energy storage facilities.
- Tax credit for installing geothermal heat pumps to heat and cool houses and businesses.
- Tax credit for new production of geothermal electricity and a gross receipts tax deduction for equipment purchased to support that generation.

The clean-car tax credit program offers New Mexico taxpayers a refundable, transferable tax credit of up to \$3,000 when they purchase an eligible new electric vehicle. Those buying a used electric vehicle can receive a \$2,500 credit. For plug-in hybrid and fuel cell-powered vehicles, the available credits are \$2,500 for new and \$2,000 for used. These credits gradually decrease over time and expire in 2029.

To charge these vehicles, a tax credit of \$400 is available for a home charging unit, or the cost to purchase or install the unit, whichever is less. For businesses intending to install commercial-scale direct-current fast chargers or fuel-cell charging units, a credit of \$25,000 is available, or the cost to purchase and install the unit, whichever is less.

Changes to the new Solar Market Development tax credit include raising the annual cap on the total amount of credits that can be issued to \$30 million per year. Over the past three years, EMNRD has had to reject hundreds of solar tax credit applications because the current \$12 million annual cap was quickly reached.

In addition to raising the annual cap, the revisions to the program in HB 252 ensure that tribal members who hold property in leasehold are eligible for the credit. The bill also makes \$20 million in tax credits available to individuals whose applications were rejected after the cap was reached in previous years.

Geothermal ground-coupled heat pumps play a role in efficiently heating and cooling residences and businesses, simultaneously reducing electric bills and greenhouse gas emissions in most cases. The geothermal ground-coupled heat pump credit in HB 252 will assist in defraying the purchase price of these building-decarbonization appliances. In addition to promoting the use of geothermal heat pumps, HB 252 actively supports the growth of the geothermal electricity generation industry in New Mexico. This support comes through the implementation of two key measures:

- Creating a tax credit on geothermal electricity production
- Providing a Gross Receipts Tax (GRT) deduction for equipment purchased to support that generation.

A similar electricity production credit kickstarted the utility-scale wind and solar industries in New Mexico in the 2010s. This credit is poised to do the same for geothermal, representing one of the final pieces of the puzzle in decarbonizing our electricity generation in this state.

Editor's Note: At press time, this bill was still awaiting the governor's signature, but she indicated that she would sign it.

How can the Inflation Reduction Act save you money and save our climate?

The Inflation Reduction Act (IRA) is a federal program to make efficient electrification affordable for everyone in the United States. It was passed into law in August 2022 and expires in 2032. The purpose is to help the U.S. reach the goal of reducing greenhouse gas emissions by 40 percent by 2030. Transitioning to clean and healthy, fossil fuel-free buildings plays a critical role in meeting climate goals and protecting public health.

IRA benefits are active now. Everyone can use the Rewiring America savings calculator to plan home improvements and electric vehicle purchases that qualify them for federal tax rebates and incentives. Or, the Sierra Club's shopper's guide explains tax credits for homeowners. Other provisions in the IRA focus on energy efficiencies in city planning, conservation actions taken by farmers and ranchers, and contractor training programs.

Household-level federal IRA tax credits and rebates often are based on income and your location. For example, electric vehicle purchase or lease tax credits and rebates stop for households with over \$300,000 income per year in New Mexico. These households are not eligible for EV rebates or many of the other IRA savings.

There is more to a clean, safe and healthy home than EVs and electric appliances. Many homes need health and safety repairs, energy-efficiency upgrades, and updated electrical systems to make the switch. Rebates for household electrification and weatherization are based on regional median income.

- Households with income over 150 percent of the area median are not eligible for IRA rebates
- Households with income between 80 and 150 percent of the area median income can get 50 percent of the rebate amount.
- Households with income below 80 percent of the area median can receive rebates up to \$14,000.

Efficient electric appliances like heat pumps for heating and cooling, hot water heaters and induction stoves require far less energy than fossil fuel-powered ones and produce zero direct pollution, while saving you money on energy bills. Homeowners can run the IRA savings calculator for an entire household list of possible rebates and incentives, or select one project that they are most interested in or that an energy audit recommends.

Typical retrofits and upgrades with IRA tax incentives and rebates include:

- Basic weatherization with up to \$1,600 in discounts and \$1,200 in tax credits
- Whole home rewiring with up to \$2,500 in discounts
- Heat pump water heater with up to \$1,700 in discounts and \$2,000 in tax credits

These are just a few examples. The IRA calculator lists all that are available and rates them according to income and location.

Running the Rewiring America calculator is a good way to begin to understand what options are available. The next best step is to have a professional perform an energy audit to determine what systems your household needs to become more energy efficient.

Be sure that you get multiple quotes from installers who are informed about IRA and local rebates and incentives. Keep all of the paperwork about the new systems for your taxes. And, as you plan your electrification and weatherization retrofits and upgrades, talk to your CPA or other tax professional about your situation to be sure you are taking advantage of the IRA benefits as effectively as possible. There are caps on how much you can save, and it is possible to maximize benefits by splitting upgrades (like new windows) over two or more years.

The Sierra Club Río Grande Chapter and 350NewMexico, along with partners and vendors, want to help people learn how to access their IRA benefits, as well as state and local savings. At the Earth Day Festival on April 21 at Balloon Fiesta Park, our Energy Guides will lead you to Energy Experts—the folks who know how to make all of this work for you. Sign up for free help and an electrification plan on the Earth Day Festival website or after you register for tickets. Tickets are free through March.

The Inflation Reduction Act will be in effect until 2032, but stackable New Mexico and local incentives will not. Also, if you act sooner rather than later, your energy cost savings add up.

DO YOU RENT?

Renters have a share in IRA tax rebates and incentives. If you rent, you can take actions to increase energy conservation and energy savings using tax rebates and incentives. The Rewiring America calculator can help you plan the purchase of heat pump air-conditioning, heat pump dryers, induction stoves and electric vehicles and chargers. The Rewiring America website also provides renters with information to take to landlords. For example, a renter in Albuquerque, living alone with an income of \$35,000 is potentially eligible for federal rebates:

- \$8,000 for a heat pump heating and cooling system
- \$840 for a heat pump clothes dryer
- \$840 for an induction stove/cooktop
- \$7,500 for a new electric vehicle (\$4,000 for a used one)
- \$1,000 for an electric vehicle charger

As with homeowners, these rebates are capped at \$14,000 total, but these rebates/incentives can be stacked with New Mexico state rebates and incentives.

TWO TYPES OF TAX CREDITS

Federal IRA tax credits are “non-refundable,” meaning you can only take the credit up to the amount you owe in federal taxes that year. For example, a 30-percent tax credit on a \$10,000 heat pump is \$3,333, but if you only owe \$1,000 in taxes, you will only get a credit of \$1,000. If you owe no taxes, your credit is \$0.

Some of the state tax credits are “refundable”; you will get the full credit even if you do not owe state taxes. The state's Clean Car Tax Credit is refundable, and the Sustainable Building Tax Credit is refundable for people with incomes less than 200 percent of the federal poverty level. The Federal EV tax credit is only refundable if you transfer it to the dealership at the time of sale.

Heat Pump? What Is It and Why Do I Need One?

An electric heat pump is a highly efficient heating and cooling system that works by moving heat between the indoors and outdoors. Unlike traditional heating systems that use energy to generate heat, a heat pump extracts warmth from the air (or ground) and moves it inside in the winter. In summer, the process reverses and the heat pump expels indoor heat outside to cool the residence. (Your refrigerator is a heat pump.)

Heat pumps operate either through a home's ductwork or they can be installed as "mini-splits" in individual rooms or zones. Hydronic heat pumps supply heat to radiant floors. Window units and portable heat pumps that plug into a regular 120-volt outlet are an attractive option for renters, but financial incentives are not quite here yet for those.

Heat pump technology, especially for cold climates, is constantly improving. While cold-climate heat pumps keep people toasty in Alaska, Maine, Colorado and northern Europe, they do cost more. Those looking to save money in the central and northern parts of New Mexico for the next few years might consider a less-expensive heat pump with natural gas as backup for only the coldest days. Using the electric backup strip found in many heat pumps will increase your electricity bill a lot.

Check out: [Rewiring America: How to Get and Evaluate Heat Pump Contractor Quotes](#).

HOW TO GET STARTED

The first step is to get an energy audit of your home. Hunting for and fixing energy leaks can not only reduce your energy consumption by up to 35 percent; it will also reduce the size and cost of a heat pump you later install. The IRA offers a 30 percent tax credit up to \$150 toward an energy audit, and some electricity providers provide basic audits for free. More in-depth audits can be performed by contractors certified through the Building Performance Institute (BPI) and the Residential Energy Services Network. Santa Fe Community College offers BPI training. Financial incentives for weatherizing your home's "envelope" are available from the IRA, the State of New Mexico and electricity providers. Free programs for low-income families are also offered. Check out https://350newmexico.org/super_pages/weatherization/ for more information.

The second step is to develop an electrification plan. Use Rewiring America's free electrification planner or come to the Earth Day Festival in Albuquerque for free advice. Some things to consider are how old your existing equipment is; you might want to replace a gas furnace if it's very efficient and fairly new. But if your swamp cooler isn't keeping up in the sweltering summers, you might invest in a heat pump anyway with heating as an added benefit.

Maybe you'd like to start small with a mini-split in one room that you have trouble keeping warm or cool. If you are concerned about fumes in your kitchen, maybe your first priority is replacing a gas or propane stove.

Think about all the equipment you want to replace over the next 10 years. Will you need to upgrade your electrical panel and/or wiring for the additional electric appliances? Are there alternatives that might help you avoid this expense? Are you depending on IRA rebates, which won't be available for a while?

When you do decide to start installing appliances, try to get at least three quotes. Be prepared for heat pump sticker shock in these early days. If you are

using propane, electric resistive heating or wood, switching to an electric heat pump (such as baseboard electric or plug-in heaters) will lower your fuel costs. Switching from natural gas (methane) has a longer payback time.

Does Your Electrical Panel Need an Upgrade?



Does your breaker box or electrical panel have enough capacity for adding more electric appliances? Many houses built before 2000 may have a total capacity of 100 Amps or less, which some electricians think is too little to fully electrify. Moreover, some appliances may require upgraded wiring for 240-V outlets. There are incentives for this work. However, alternatives, like circuit-sharing devices, are also available. Check out Redwood Energy's guide and explore

120-volt versions of equipment like heat-pump water heaters, induction cooktops and heat pump clothes dryers. If you do decide to upgrade your panel and are planning to also add solar, the Inflation Reduction Act panel upgrade tax credit is more generous for solar than heat pumps, so you might want to install solar first. The state's credit for EV chargers allows panel upgrades, but its heat pump credit does not.

ELECTRIFICATION RESOURCES

Rewiring America Free Online Electrification Plan

<https://homes.rewiringamerica.org/personal-electrification-planner>

Rewiring America: Electrification for Renters

<https://homes.rewiringamerica.org/electrify-your-home-renter>

Rewiring America Incentive Calculator

<https://homes.rewiringamerica.org/calculator>

350 New Mexico's Electrify New Mexico has New Mexico specific information <https://350newmexico.org/electrify-new-mexico/>

Electrify Now

<https://electrifynow.net/electrify-your-home>



SOLAR ENERGY

More Affordable and Accessible Than Ever

Whether you are a homeowner or a renter, you can access the benefits of solar energy in more affordable, convenient and reliable ways than ever before. Households and small-business customers of PNM have access to net metering of solar installed on their property to directly offset their energy consumption. For renters and those who can't or would just prefer to not have solar installed directly on their property, a new Community Solar program will be available soon. Community Solar projects are constructed by private developers who then offer typically monthly subscriptions to the solar produced at a discounted rate compared to the utility rate.

What Are the Benefits of Going Solar?

- Saving money on your electric bill: Solar panels can generate electricity that is lower than your utility rate, whether it is on your house or part of a Community Solar subscription.
- Supporting local businesses: When you go solar, you can support local businesses that install and maintain solar systems.
- Reducing your carbon footprint: Solar energy is a clean and renewable source of energy.
- Increasing the value of your home: Studies have shown that homes with solar panels sell for more money than homes without solar panels.

How Do I Get Started?

1. Get quotes: The first step is to get quotes from qualified solar installers or soon from Community Solar companies. This will give you an idea of how much a home solar system or monthly Community Solar subscription will cost.
2. Explore financing options: There are a number of financing options available for solar systems, including loans and leases. Community Solar is typically a monthly subscription, thus avoiding any need for financing. Credit Unions often have special lower-interest green-energy loans. Fannie Mae's HomeStyle Energy Program and FHA energy-efficient mortgages allow financing for green improvements.
3. Apply for incentives: If you decide to install a system on your property, there are a number of state and local incentives available for solar systems to reduce cost up to 40 percent. Community Solar subscriptions will have additional discounts for low-income participants.
4. Attend the Earth Day Festival: Visit the ElectrifyNM booth and one of the Energy Guides can help you with all of the above, right on the spot. Tickets are free in March.

Going solar is a great way to save money, reduce your carbon footprint and support local businesses. If you're a homeowner or renter in New Mexico, there's never been a better time to go solar.



Photo: DOE Office of Indian Energy

Additional Resources

Information on the Community Solar program:

[HTTPS://CSNEWMEXICO.COM/COMMUNITY-SOLAR-CUSTOMERS/](https://csnewmexico.com/community-solar-customers/)

Financing for solar from Nusenda with participating installers:

[HTTPS://WWW.NUSENDA.ORG/LOANS-CREDIT-CARDS/PERSONAL-LOANS/SOLAR-ENERGY-EFFICIENT-LOANS](https://www.nusenda.org/loans-credit-cards/personal-loans/solar-energy-efficient-loans)

A free and easy way to get multiple quotes for solar:

[HTTPS://WWW.ENERGYSAGE.COM/](https://www.energysage.com/)

350 New Mexico has information on current incentives:

[HTTPS://350NEWMEXICO.ORG/SOLAR-AND-BATTERY-STORAGE/](https://350newmexico.org/solar-and-battery-storage/)

Electrify Your Ride

If you must rely on a car, go electric for the greatest climate- and public-health impact. Electric Vehicles (EVs) are also much cheaper to operate than gas ones, with far less maintenance and fuel costs well below the equivalent of \$1/gallon if you charge at home overnight on a utility's time-of-use plan. According to a National Resources Defense Council report, New Mexicans can save up to \$17,000 over a lifetime by driving electric, and they'll have more fun doing it too.

With the new Clean Cars Tax Credit, New Mexico residents will enjoy refundable and transferable credits on EVs and plug-in hybrids (PHEV) when they buy or lease them until the end of 2029. Through 2026, the credits will be: \$3,000 for a new EV costing less than \$55,000 and \$2,500 for a used EV priced below \$25,000. PHEVs: \$2,500 new; \$2,000 used. After 2026 the state credit amounts taper down.

Combined with the federal tax credits (up to \$7,500 for new and \$4,000 for used EVs) that can also be transferred to the dealer for select EVs, New Mexicans below certain income levels could potentially get an immediate discount at the dealer of up to \$10,500 for specific new Bolts or Tesla 3s and up to \$6,500 off used EVs that are at least two years old. For example, based on a Feb. 14, 2024 internet search, a \$24,990 2016 Tesla S would cost \$18,490 and a \$10,990 2015 Nissan Leaf would be discounted to \$5,193.

The rules are complex, so visit [PLUGINAMERICA.ORG](https://pluginamerica.org) for the details and 350 New Mexico for additional incentives and buying guides. Important tips: make sure you transfer the tax credits to the dealer when you buy the car. If you wait to claim it with your taxes, you may not get the full amount, especially if you owe no or little federal taxes. Make sure you get a successfully submitted IRS seller report before you leave the dealership. You must submit it with your taxes.

Unless you have a very complex situation requiring lots of construction, tax credits and rebates should cover most or all of an EV charger installation. It's more difficult for renters and residents of multi-family housing, but there are incentives for apartment landlords to install chargers.

NEW MEXICO ADOPTS CLEAN CAR AND TRUCK RULES

New Mexico has taken a giant leap toward a cleaner, more sustainable future with the state Environmental Improvement Board (EIB) and Albuquerque-Bernalillo Air Quality Control Board's adoption of Clean Cars II, Clean Trucks and Heavy-Duty Omnibus standards. The standards will allow people to find the clean cars they want in New Mexico and support local businesses. However, for now, high demand and supply-chain issues are obstacles.

The new rules are expected to significantly reduce ground-level ozone and greenhouse gas emissions. They will encourage manufacturers to increase the number of zero-emission light-duty cars and trucks delivered, starting with model year 2027, and ensure that more than 80 percent of the state's new vehicles are electric by 2032. Similarly, the Advanced Clean Trucks rule guarantees that 40–75 percent of new medium- and heavy-duty trucks delivered for sale are zero-emission vehicles by 2035.

The new rules complement the Clean Cars rule adopted by the EIB and the Air Quality Control Board in 2022. More information on the rules can be found on the New Mexico Environment Department's website: [HTTPS://WWW.ENV.NM.GOV/TRANSPORTATION](https://www.env.nm.gov/transportation). Zero-emission vehicles don't emit exhaust gas or other pollutants from the onboard source of power. Experts project that this rule will save New Mexicans more than \$25 million cumulatively in health care costs, lost workdays and lost years of life through 2040.

New Mexico utilities offer special rates and rebates for overnight charging, and to buy and install home chargers. New Mexico is making progress in installing fast-charging ports. By the end of 2023, 720 had been installed around the state.

ELECTRIC VEHICLE CARSHARE PROGRAM PROVIDES AFFORDABLE OPTION FOR LOW-INCOME RESIDENTS

In February, the City of Albuquerque Sustainability Office and partners Forth, PNM and Sol Housing, launched the Affordable Mobility Platform (AMP) electric-vehicle carshare pilot project at PAH! Hiland Plaza apartment community. The launch represents the first site in the Southwest in a national community electric-vehicle (EV) carsharing program.

As the demand for clean emissions vehicles continues to grow, it is crucial that all communities have access to sustainable transportation options. While public transportation like buses plays a vital role in meeting transportation needs, it does not always address the individualized requirements of every resident. EV carsharing programs like AMP fill this gap by providing affordable, convenient and environmentally friendly solutions tailored to specific needs.



SHOW YOUR SUPPORT FOR ENVIRONMENTAL JUSTICE BY BECOMING AN EJ BUSINESS PARTNER

We invite you to highlight your business commitment to New Mexico's environment and communities through a sponsorship that works for your business.

Email us at nmelc@nmelc.org or (505) 989-9022 to learn how your business can show its support for environmental justice across New Mexico!

- EJ Business Partners are honored in the following ways:**
- Positive Brand Association
 - Community Engagement
 - Visibility and Exposure
 - Tax Benefits



“We’re keeping equity in the driver’s seat and providing our communities with access to sustainable transportation options,” said Mayor Tim Keller. “By ensuring everyone has access to the benefits of clean transportation, we’re paving the way for a more inclusive and environmentally conscious future that doesn’t leave our historic neighborhoods behind.”

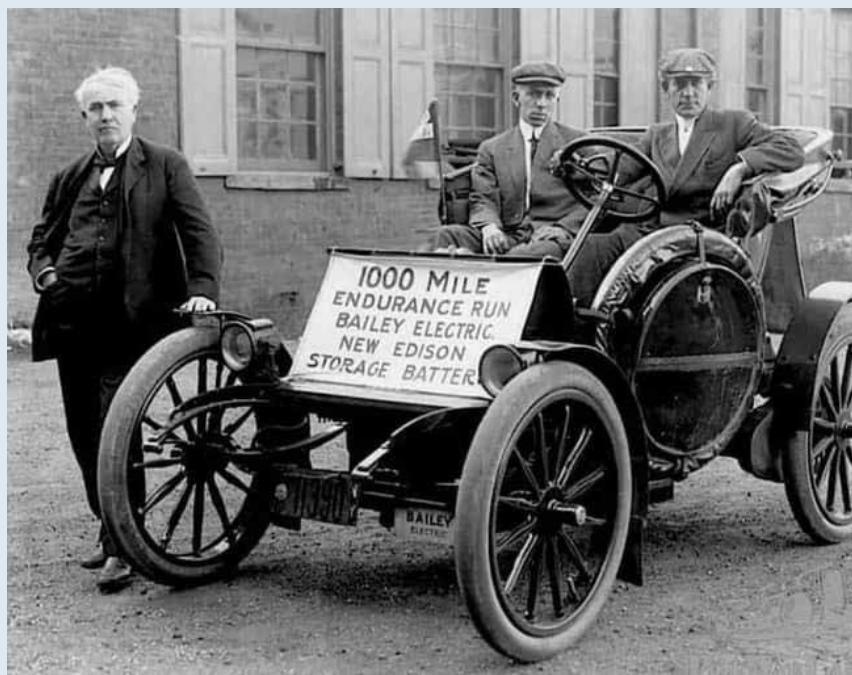
Using an online reservation system called MDO Carshare, residents, staff and community members can sign up and rent the two vehicles stationed at Hiland Plaza for trips for \$5/hour or \$50/day. Low-income users qualify for discounted rates. EV charging is available on site.

“This EV carshare program is an important win for our community,” said Albert Lee, Sustainable Transportation Specialist at the City of Albuquerque. “It advances our commitment to equitable climate action by reducing our carbon footprint, improving air quality and helping frontline communities access clean transportation.”

Carsharing is an efficient alternative to owning a vehicle. Drivers who use a carsharing system can access a car without having to pay the high costs of ownership including repairs and insurance. Electric carsharing benefits the environment and public health. EVs are oil-free, produce no smog and emit 85 percent less carbon than traditional cars. In Albuquerque, over 7 percent of households have no access to a personal vehicle, according to the U.S. Census American Community Survey.

PAH! Hiland Plaza—an affordable housing development designed for the Deaf, Deaf-Blind, and Hard of Hearing communities—will be joined by carshare communities launching in Santa Fe and Las Vegas. AMP is testing a model for offering affordable short-term use of EVs to increase access to clean transportation in rural and historically underserved communities. Additional AMP carshare communities will include affordable housing sites in eight states.

“Many PAH! Hiland Plaza residents have been excitedly inquiring about the GoForth CarShare community benefit,” said Felipe Rael, executive director of Sol Housing. “They are looking forward to trying an electric vehicle and the low cost is accessible for regular use. The convenient location on site provides an additional transportation option with flexibility and autonomy of use for our residents and supports sustainability, equity and accessibility for families.”



The journey of electric vehicles was started by Thomas Edison with his electric car in 1910. Equipped with Edison’s state-of-the-art battery, the Bailey Electric managed to make 100 miles on a full charge. In September 1910, the car competed with much larger gas-powered cars in a 1,000 mile endurance run.

SANTA FE COUNTY RECEIVES GRANT TO EXPAND EV CHARGING INFRASTRUCTURE

Santa Fe County has been selected as a recipient of the Federal Highway Administration’s Charging and Fueling Infrastructure Discretionary Grant (CFI) Program, funded through President Biden’s Bipartisan Infrastructure Law. An award of \$3.3 million will support the county’s commitment to sustainable transportation. It will result in the expansion of the county’s EV charging network, featuring 33 chargers across 13 sites, encompassing DC fast-chargers and level-2 charging stations.

The new EV charging infrastructure will play a key role in alleviating range anxiety for residents and visitors. Moreover, several of the installations are designed to accommodate the transition to EV fleet vehicles by Santa Fe County.

Jacqueline Beam, the county’s sustainability manager, said, “With nearly half of the county’s greenhouse gas emissions stemming from transportation, this project will initiate a substantial reduction in these pollutants. The locations of the charging stations were chosen to increase access for rural communities.” The plan includes key locations, including senior centers, community centers and public facilities with sites in various stages of development.

Standing with Gov. Michelle Lujan Grisham and NMDOT Cabinet Secretary Ricky Serna as she accepted the award from the nation’s top highway official, Shailen Bhatt, Commissioner Camilla Bustamante said, “Santa Fe County is committed to reducing emissions to net zero by 2050 in accordance with the Paris Agreement. We are thankful for the federal, state and local partnership that this grant represents.”



Earth Day New Mexico 2024 Festival

SUNDAY, APRIL 21, 10 AM TO 4 PM

Sid Cutter Pavilion, Balloon Fiesta Park, Albuquerque

[HTTPS://EARTHDAYFESTIVALNM.COM](https://earthdayfestivalnm.com)



2024 World Theme: Planet versus Plastics

For the sake of human and planetary health, International Earth Day 2024 (EARTHDAY.ORG) is demanding a 60 percent reduction of all plastics by 2040.

"You cannot get through a single day without having an impact on the world around you." —Jane Goodall

Our world needs change. That's where you come in as an individual. You yield real power and influence as a consumer, a voter, and a member of a community that can unite for change. Don't underestimate your power. With others around the world, we can create a movement that is inclusive and impactful.

tax credits? Want to install solar but not sure you can afford it? The festival can save you thousands of dollars in installation, fuel and maintenance costs while reducing your climate emissions and improving indoor air quality.

Whether you are a homeowner or a renter, energy experts at the festival will create a free individual Electrification Plan and point you to once-in-a-generation financial incentives to switch to highly efficient, clean-electric appliances and transportation. Then you can visit festival vendors to get quotes. There will be expert panels on saving energy through Weatherization and Electrification 101. And you will be able to talk with New Mexicans who have already electrified and/or drive EVs.

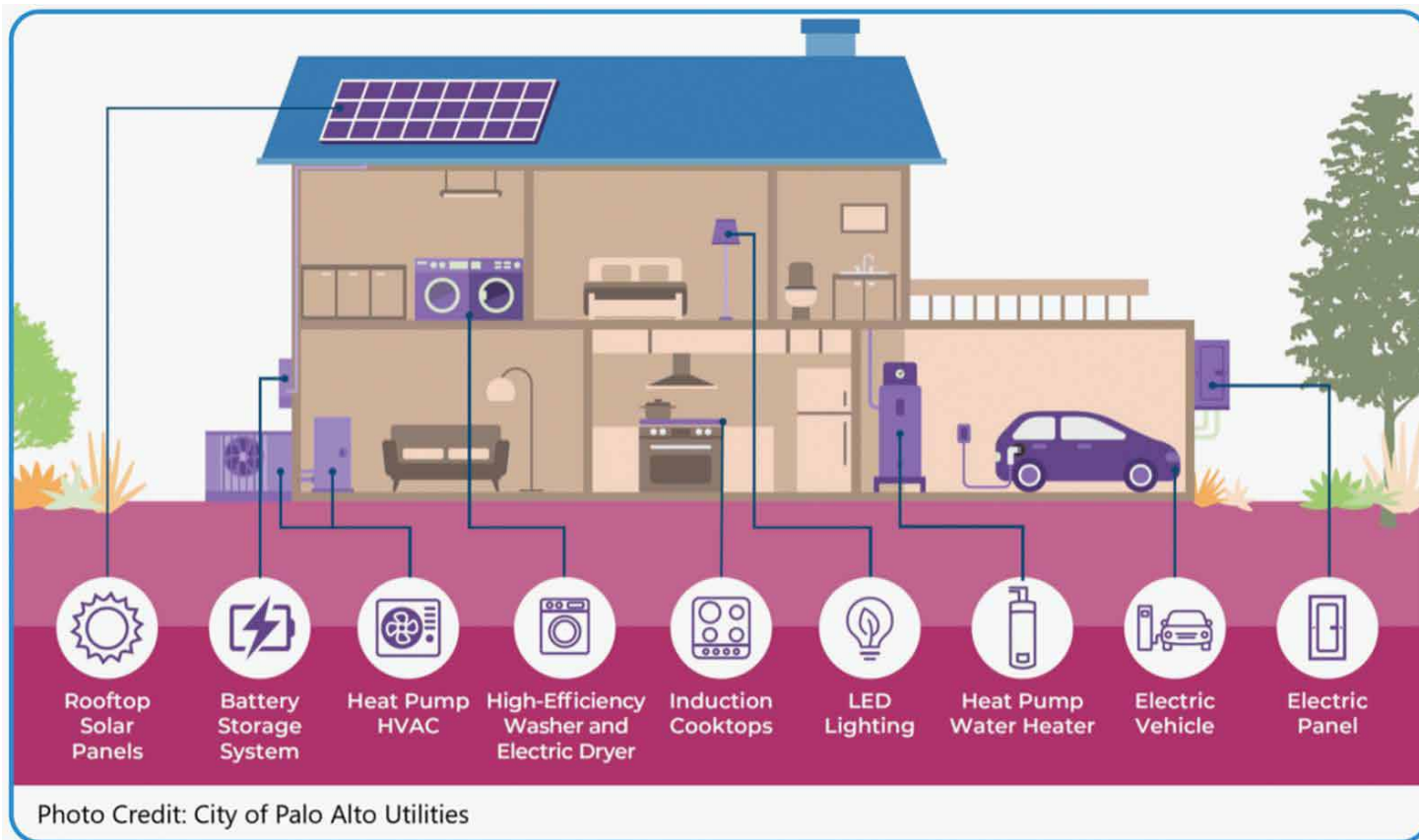
A Fun Day for the Whole Family

There will be live performing arts, demonstrations, exhibits, inspiring lectures and workshops. Learn how we work together as a community to lower climate pollution, adopt clean energy and enjoy healthier lives. The youth education program will engage kids and teens in environmental issues and motivate them to take action in their community to promote sustainability and help combat climate change.

The festival is a zero-waste event, meaning that it aims for zero landfill waste. So, only e-tickets are available (18 & under free; free to everyone through March; \$5 in April). Your ticket receipt will have a link for signing up for sustainability and electrification help at the festival. When you check in at the welcome area, Energy Guides will help you find booths and Energy Experts that are focused on your interests.

You can learn about:

- **Weatherizing and Insulating Your Home**—Information on upgrading windows, doors, window treatments and films, which can reduce both energy use by 35 percent, and the cost of a heat pump you can install later.
- **Electric Heat Pumps** that both heat and cool your home more than 3–5 times more efficiently. They come as mini-splits for individual rooms or whole-house ducted systems
- **Heat Pump Water Heater**—Replacing a gas or electric water heater with a heat pump water heater is 2–3 times more efficient.



2024 Local Focus: Cut Costs and Carbon with Electrification

In the U.S., 42 percent of our energy-related emissions come from our homes and the equipment we use every day: our transportation, building heating and cooling, hot water heating and cooking.

Now you can cut your emissions and your energy bills by going electric! Learn how at the Earth Day Festival. Do you have an old furnace you'd like to replace with a more efficient heat pump? Are you worried about hazardous fumes from your gas stove? Swamp cooler not keeping up? Confused by Electric Vehicle (EV)

efficient than gas dryers and they don't need vents—perfect for apartments and houses.

- **Induction Cooktops** that do not emit fumes hazardous to your family's health. Plus, they are faster, more precise and perform better than gas stoves. See an induction cooking demonstration.

- **Solar Energy and Storage** —Installing solar and/or battery storage at your house or subscribing to a Community Solar project can lower your energy bill up to 30 percent and increase your energy independence and resiliency.

- **Electric Vehicles and E-Bikes** can get you around town for less than \$1/gallon equivalent. Talk to EV owners, e-bike owners and dealers, and learn about tax credits and rebates that slash the price of installing EV chargers for cars and trucks.

- **Home and Garden**—Conserving water, planting water-wise species, and transitioning to electric landscaping tools are easy ways every household can reduce waste/emissions and increase sustainability.

- **Financing**—Learn how to optimize rebates, tax credits and loans to fund your projects, and save money from day one. These incentives come from the Inflation Reduction Act (IRA), the state and electricity providers.

EARTH DAY FESTIVAL ZONES

- **Welcome Area** with Energy Guides & Experts, and a Legislative Update where you can meet your Representative

- **Recycle Arts & Crafts Area** where artists and craftsmen will display and sell their art made of 75 percent recycled materials, demonstrating that discarded and unwanted items can be recycled into beautiful, valued art.

- **Clean Car Concourse** with Electric Bikes, Hybrid & Electric Cars & Trucks, and EV chargers.

- **Eco-Tourism**—Find out what the travel industry is doing to adapt to change. Learn how to travel the world and reduce your carbon footprint.

- **Electrification & Efficiency Upgrades**

- **Environmental Education**—Youth Activities Center, Art and Poetry Contest and Awards Ceremony

- **Home & Agriculture**—Growing Green, Xeriscaping, Rainwater Harvesting, Trees, Pollinator Gardens, Green Stormwater Management

- **The Outdoors**—Wildlife Preservation, Public Lands, Pet Adoptions

- **Food & Refreshments**—People from community gardens and farms will let you know where you can purchase organic food and show you techniques and the benefits organic gardening offers. Food trucks will provide meals and refreshments.

A FEW OF THE ORGANIZATIONS THAT WILL HAVE BOOTHS AT THE EARTH DAY NM FESTIVAL



350.org / 350NewMexico

350.org was founded in 2008 by a group of university friends, along with author Bill McKibben, to build a global climate mass movement. 350 parts per million is the safe concentration of carbon dioxide in the atmosphere. Global levels have risen to 421 PPM.

350 chapters work to build consensus on many forms of climate action. For 350NewMexico, this has meant supporting efforts to expand use of the state's abundant renewable energy resources while making a just transition away from fossil fuels. Activity has ranged from legislation to research and expand geothermal energy to engaging communities with the educational Climate Ribbon Project: "What do you love and hope never to lose to Climate Chaos?" 350NM rural advocacy has worked with allies in support of equitable water use and planning, and building regenerative local food systems. 350NM.ORG has added an extensive section on home electrification, providing information on everything from EVs and solar panels to mini-splits and induction stoves.

Interfaith Power & Light New Mexico and El Paso Region (WWW.NM-IPL.ORG)

Interfaith Power & Light—New Mexico & El Paso Region strives to inspire, educate and empower faith communities to work for climate justice, fortified by the belief that care of the natural world is integral to spiritual life. Our climate-changed reality invites us to embrace creativity, ever deepening spiritual contexts and community-building. We have a network of more than 100 covenant member congregations. Our work includes organizing people to advocate at the local, state and federal levels. We host regular gatherings for faith leaders and offer monthly online gatherings on ecological grief and hope.

At our Earth Day Festival booth, you can meet IPL's staff and volunteers. We will have information about IPL's Cool Congregations program, which offers free energy audits for houses of worship by expert retired volunteers, advice on solar projects, and a \$10,000 no-interest loan for renewable energy projects, like solar panels. Throughout the year we offer opportunities such as immersion retreats to the Permian Basin to witness the impacts of fossil fuel production and meet local grassroots leaders.

Moms Clean Air Force (WWW.MOMSCLEANAIRFORCE.ORG)

Moms Clean Air Force is a community with over 1.5 million parents and caregivers nationwide and has 20,000 members in New Mexico. We work on equitable climate change solutions that help clean up the air to protect children's health and futures. We are fighting for just and equitable implementation of federal and state climate investments, state implementation of federal clean air protections, and state legislative climate priorities.

Prosperity Works (PROSPERITYWORKS.NET)



Prosperity Works provides limited-income New Mexico households with social and financial assets to ensure sustainable, equitable solutions for building strong, thriving communities. Assets stabilize families, increase agency and bridge generations. Founded by Ona Porter in 1996, Prosperity Works has worked to build the capacity of organizations and advocated for policies that generate economic prosperity. The organization has four main programs: Matched Child Savings Accounts, Individual Development Accounts, Fair Lending Options, and Energy Savings Solutions. Prosperity Works collaborates with the New Mexico Assets Consortium to deliver programs. Partners include community-based organizations, banks, credit unions, counties, cities, legislators, mayors, business people and state leaders.



SIERRA CLUB RIO GRANDE CHAPTER

Sierra Club Río

Grande Chapter (WWW.RIOGRANDESIERRACLUB.ORG)

The Sierra Club Río Grande Chapter has a mission to explore, enjoy and protect our climate, air, water, wildlife and public lands

in New Mexico and West Texas. Visit our booth at the Earth Day Festival to learn how to reduce your plastic and food waste and lower your carbon footprint. The Zero Waste and Biking teams of the chapter will host the booth. Festival-goers can pledge to "Skip the Stuff NM" and give up plastic cutlery, straws, napkins and gobs of condiment packets when ordering takeout. If you take the pledge, you get a bamboo spork, and kids can design and make their own zero waste buttons. The biking team will share safe and interesting routes through Albuquerque.

FINDING CLIMATE AGENCY BY ELECTRIFYING YOUR LIFE

Fifty years ago, I came to New Mexico to study architecture and became fascinated with passive solar heating and adobe architecture. The New Mexico Solar Energy Association was two years old. Wars were being fought over oil.

Solar boosters knew humanity deserved better. What we couldn't know then was that the computer revolution would lead to cheap photovoltaic cells (PVs) and that we'd have a future where every home could produce and store the energy needed to power our homes and vehicles.

We now find ourselves in a crazy world where doomsayers who deny climate change are saying it's too late and spreading fear and apathy. Personal agency in the climate crisis must be regained to preserve our sanity and to help our friends and families see that a carbon-free world is not only possible—it's a great investment!

So, we all must, in whatever way possible, invest in the energy transition—the once-in-human-history opportunity, moving from fossil fuels to renewable energy. I promise, you'll feel better knowing you did what you could, and you'll also inspire your friends and family to make the transition.

I'm indebted to Dylan Connelly of Affordable Solar, who gave a talk on going from natural gas for heating, cooking and hot water to all-electric heat pumps, induction stoves and heat pump water heaters. I started making an electrification plan. The lowest hanging fruit was replacing all of our light bulbs with LEDs. It took us a week to get used to the slight delay between when you turn on the switch and when you see the light.

Energy efficiency is not as sexy as solar and batteries, but it's the most important first step and results in needing less solar. "Reduce before you produce!" There are funds available to help you replace drafty windows and doors and even insulate your attic. Moving away from natural gas plugs major holes in your roof! Each natural gas device requires fresh outdoor air intake and has triple-walled flues that go through the roof.

When it comes to choosing electric vehicles, consider if you need that big minivan now that the kids have fled the nest. Maybe you're ready to have just one family car and get some E-bikes for local travel.



Land & Water Summit – March 7–8, ABQ

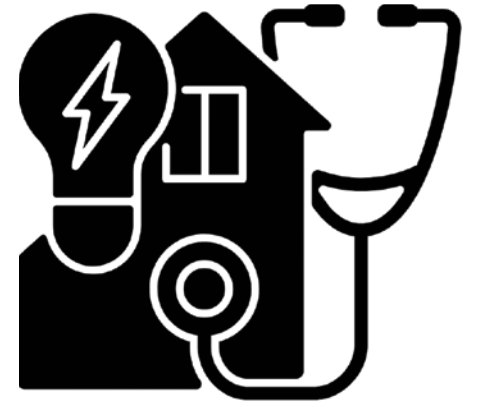
One bit of advice I give is, "Don't throw away infrastructure that already has embedded carbon if it's got years of use left." Think of the energy transition as more of a marathon than a sprint. Spread out your investment over several years to maximize the available grants, rebates and tax credits available to home and business

owners. EVs are getting cheaper, heat pumps are getting more efficient, and stoves and heat-pump water heaters are becoming mass market commodities, which also drive down prices.

Together we can bring about a fossil fuel-free world, and the reward of "our family did whatever it could to make it happen faster" is a powerful and wonderful feeling of *Yes We Can—The Return of Climate Agency*. Come to Earth Day Festival 2024 in Albuquerque on April 21 and make an electrification plan for your family! ■

Power Up Your Life

Electrifying Your Home and Transportation for a Brighter Future



BY ANDREW STONE

Ready to embrace a cleaner, more sustainable and cost-effective future? Consider making the switch to home electrification and electric vehicles (EVs). Here's why:

Home Electrification:

- **Save money:** Modern electric appliances are more energy-efficient, leading to lower electricity bills. Combine this with solar panels or other renewable energy sources, and you could virtually eliminate your electric bills.
- **Cleaner air, healthier you:** Ditching gas-powered appliances reduces harmful emissions inside your home and in the environment, improving air quality and contributing to a healthier planet.
- **Smart and convenient:** Smart home features seamlessly integrate with electric appliances, giving you greater control over your energy consumption and automating tasks for comfort and peace of mind.
- **Increased home value:** Studies show homes with electric upgrades attract more buyers and command higher prices, making your investment stand out.
- **Future-proof your home:** As the world transitions to cleaner energy sources, electric homes will be better prepared for an evolving energy landscape.

Electric Vehicles:

- **Save money on fuel:** Electricity costs significantly less than gasoline, translating to major fuel savings throughout the life of your EV.
- **Environmentally friendly:** EVs produce zero tailpipe emissions, significantly reducing your carbon footprint and contributing to a healthier planet.
- **Quieter ride:** Enjoy a smoother, quieter driving experience that's less disruptive to yourself and your community.
- **Lower maintenance:** EVs have fewer moving parts than gasoline cars, leading to lower maintenance costs and less time spent at the repair shop.
- **Performance perks:** Many EVs offer instant torque and exhilarating acceleration, making driving more fun and dynamic.
- **Government incentives:** Several government incentives and tax credits can make buying or leasing an EV more affordable.

Together, home electrification and EVs offer a winning combination:

- **Reduce your overall carbon footprint:** By cutting emissions from both your home and your transportation, you make a significant positive impact on the environment.
- **Gain energy independence:** With solar panels or other renewable energy sources, you can reduce reliance on traditional energy grids and potentially achieve energy independence.
- **Enjoy comfort, convenience, and savings:** Reap the benefits of cleaner air, lower costs and advanced technology that enhance your daily life.

Taking the first step towards electrification might seem daunting, but remember, there are numerous resources and programs available to help you navigate the process. From government incentives to community support groups, you're not alone in this journey toward a cleaner future. Consider conducting your own research, exploring available options and discussing your specific needs with experts. You might be surprised at how accessible and rewarding electrification can be. Remember, the decision to electrify is an investment in yourself, your family and the planet. Make the switch today and power up a brighter future! ■

ENERGY EFFICIENCY First and Foremost!

BY ONA PORTER

Prosperity Works, EnergyWorks, community service providers and activists developed the Community Energy Efficiency (CEE) program to help improve the health, safety, comfort and energy efficiency of low-income homes. These homes typically have extreme energy burdens, meaning that more than 10 percent of annual incomes are paid to maintain their home's energy. Among the first 300 residents we served, we found some paying up to **30 percent**, leaving families struggling to keep up with their energy bills and still be able to afford rent, food and medicine.

We learned from those 300 residents that we needed to do more... much more. Fortunately, we were awarded a \$100,000 contract by the City of Albuquerque. We paired our efforts with existing energy-efficiency programs offered by New Mexico Gas Company and PNM. And so, our model of capital stacking—combining multiple funding sources and social services to deliver comprehensive benefits—was born. We tested this collaborative model by providing critical services to 10 homes. This included EnergyStar roofs, high-efficiency water heaters, air-source heat pumps, EnergyStar doors, LED lighting, advanced power strips, EnergyStar refrigerators, high-efficiency showerheads and faucet aerators, water heater tank and pipe insulation, air sealing, duct sealing and attic insulation. Since our initial experience, we have added low-flush toilets to the mix of efficiency measures.

EnergyStar roofs reduce heat entering the home (and the neighborhood), while keeping new insulation and the home's interior dry. EnergyStar doors reduce air



transfer. We found water heaters in many homes in desperate need of replacement. New water heaters save money and energy and reduce the possibility of failure and flooding. New heating and cooling systems improve comfort and indoor air quality. One resident reported that it was the first summer that she had not gone to the hospital two or three times with heat-related illness. This was an example of research which shows that energy-efficiency retrofits in low-income households deliver **health improvements representing as much as 75 percent** of the total return on the investment for these interventions.

The CEE program has proven to be an innovative and effective model. The combination of energy efficiency, collaboration with neighborhood leaders and referrals to other social services provides a comprehensive resource. It helps low-income residents reduce their energy burden, their carbon footprint, and fight climate change. The services provided through the program improve homes' efficiency, lower utility bills and save electricity, natural gas and water. Our initial evaluation of the test projects shows an estimated savings of \$5,120 per year in utility costs. The work provided to these 10 homes

Above: Energy Works technicians Abel Nava and Fernando Flores conduct advanced diagnostic testing to assess the most beneficial energy efficiency retrofits. Below: Daniel Lanzilloti's Bernalillo home received upgrades through Prosperity Works' Community Energy Efficiency Program.

alone saves (per year) more than 27,000 kWh of electricity, 2,420 therms of natural gas, 37,000 gallons of water and 50 tons of CO₂. The value of the services provided is more than \$150,000 for each home.

The city has agreed to continue to provide annual contracts that will allow us to pursue this approach. We are seeking additional state and federal grants to make it possible to scale up this high-impact model of serving those most in need and hardest to reach. It is important to recognize that aggressive (and necessary) climate goals will not be met unless we address the needs of limited-income New Mexicans. ■

Ona Porter, MA, is the founder emerita of Prosperity Works and a clean-energy leader.
[HTTPS://WWW.PROSPERITYWORKS.NET](https://www.prosperityworks.net)



**BUILDING NEW MEXICO'S
SMALL SCALE FARMING
ECONOMY THROUGH
SUSTAINABLE
AND REGENERATIVE FOOD
JUSTICE.
EST 2009**

WORKING WITH OVER 70
FARMERS AND RANCHERS IN 13
COUNTIES IN NEW MEXICO



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SELLING THROUGH NMGROWN. LOCAL
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BUILDING INDUSTRY ACHIEVEMENTS AT THE UN COP28 CLIMATE CONFERENCE

BY **SETH ROFFMAN**

Good design and beautiful architecture don't need to come with a high carbon footprint.

Despite progress, overall embodied and operating emissions have continued to grow, according to the UN's 2022 Global Status Report on Buildings and Construction. While a Built Environment presence has been more visible within the UN for several years, national governments still underemphasize carbon mitigation opportunities in buildings, landscapes and infrastructure.

The Global Alliance for Buildings and Construction (GlobalABC), a coalition of governments, NGOs and businesses, is working to change that. Industry leaders have been discussing potential collaboration to accelerate the rapid reduction of embodied carbon in the built environment. They are creating tools and resources and building awareness about this critical issue. The Embodied Carbon

Harmonization and Optimization (ECHO) coalition was convened jointly by five leading nonprofit organizations: Architecture2030, Building Transparency, the Carbon Leadership Forum, the International Living Future Institute and the US Green Building Council. It also includes representatives from the American Institute of Architects (AIA), the Climate Change Positive Design Challenge, American Society of Landscape Architects, Institute for Sustainable Infrastructure, the Urban Land Institute (ULI) and others. ECHO will publish *The North American Project Embodied Carbon Reporting Framework* this year.

The Built Environment was a key focus at COP28.

Commitments were made to double renewable energy and triple efficiency.

COP28 Breakthroughs

COP28, the United Nations' climate change conference in Dubai, which took place from Nov. 20 to Dec. 13, 2023, achieved significant milestones in the building industry's fight against climate change. Two hundred countries, including oil-dependent nations, publicly stated that, yes, fossil fuels are causing the climate crisis, and committed to transition away from them.

Negotiated outcomes at COP28 included a critical climate-justice achievement: a Loss and Damage Fund to address harms caused to climate-vulnerable nations by big polluters such as the United States and Europe. There were also commitments to double renewable energy and triple efficiency.



The conference also introduced the Buildings Breakthrough, a global initiative that aims to make clean technologies and sustainable solutions in the built environment the most affordable, accessible and attractive option by 2030. Signed by 28 countries, including the U.S., the commitment provides a framework for international collaboration, accountability and reporting. It hopes to harness both the leadership of sponsoring nation-states and market forces to transform the construction industry. Making near-zero buildings the norm by 2030 is a familiar goal for leaders in architectural practice, but as a global rallying cry it is trailblazing.

The conversation at COP28 was not only about buildings; it was also about the built environment holistically: infrastructure, transportation, even entire cities. The building sector presents a critical opportunity to close the carbon loop and lead actionable change across industries. The built environment is responsible for 42 percent of global carbon emissions, yet the industry still relies heavily on systems and materials from the Industrial Revolution. Through a synthesis of low- and high-tech, a new generation of low-carbon materials and an adaptation of systems-level thinking, the industry is positioned to spearhead a green renaissance.

Architecture 2030 helps lead the way.

Architecture 2030, a Santa Fe, New Mexico-based nonprofit, helped the United Nations Environment Programme (UNEP) launch GlobalABC at COP21 in Paris and issued the 1.5° COP26 Communique on behalf of more than 70 firms and associations, urging more ambitious mitigation targets for the built environment. Architecture 2030 sent a delegation of 21 people



The COP28 Architecture 2030 delegation. Front, from left: Lori Ferriss (senior fellow), Vince Martínez (COO and president), Pamela Conrad (senior fellow), Yasemin Koglu (principal, SOM), Lindsay Baker (CEO, International Living Future Institute), Prem Sundharam (chief climate officer, DLR Group). Behind, from left: Lisa Richmond (senior fellow) and Kelly Alvarez Doran (senior fellow). Photo courtesy Architecture 2030



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SCAN ME



The City developed a program built around water conservation solutions & partnerships including Santa Fe Green Chamber & Santa Fe Community College.

The Buildings Breakthrough aims to make clean technologies and sustainable solutions the most affordable and accessible option by 2030.

mitigation and adaptation plans,” said Lisa Richmond, founder of Climate Strategy Works. Richmond is also a senior fellow with Architecture 2030 and was a COP28 delegate. “We set out an ambitious agenda with four core messages,” she said.

- Invest in nature-based solutions
- Reduce the carbon from building materials
- Prioritize building reuse
- Scale up low-carbon building traditions

Richmond also emphasized that it is equally critical that global attention is focused on the following principles:

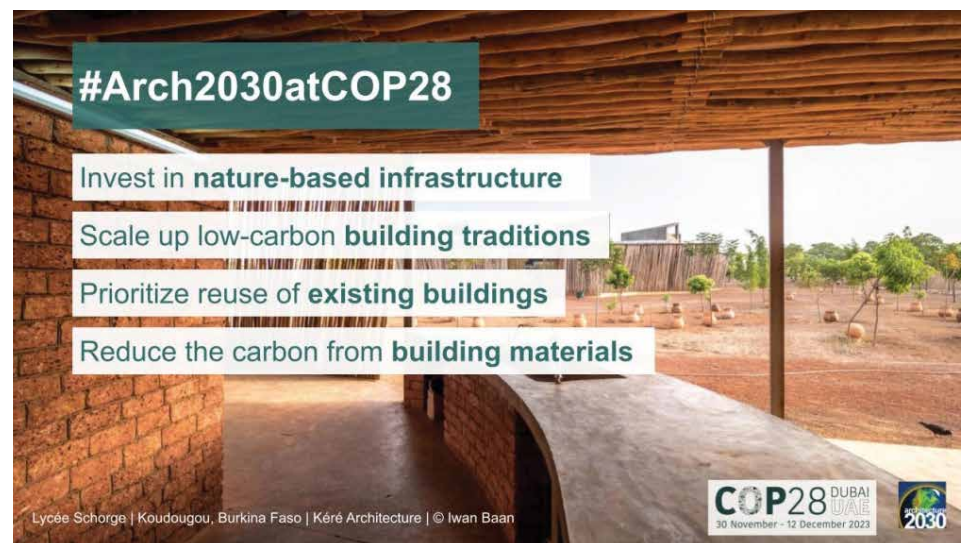
- Promoting behaviors and choices that decrease consumption
- Prioritizing passive solutions
- Leaning into nature
- Drawing on local knowledge



Leadership and market forces will transform the construction industry.

Articulation of the 2030 goal and alignment around specific actions is happening at an unprecedented scale. The Buildings and Climate Global Forum, convened in March by the French government and the U.N. Environment Programme (UNEP), with support from

GlobalABC, is a high-leverage opportunity to advance global decarbonization and resilience of buildings into national policies. The event is bringing together national ministers, city leaders, key NGOs and private businesses. Architecture 2030 was a planning partner for key sessions, including *Sufficiency* (systems and policies which avoid demand for energy, materials, land, water and resources), *Heritage* (learning from Indigenous and traditional building principles), *Circularity*, and *Bio-Based Materials*. The U.S. Green Building Council is hosting a pre-forum workshop, “Engaging Policy to Advance Low Carbon, Resilient Communities and Quality of Life.” ■



representing multiple disciplines and perspectives to COP28, including virtual delegates. “At COP28, in more than a dozen presentations, our delegates made the urgent case for built-environment solutions in national

UNEP REPORT ON THE BUILDING INDUSTRY

The United Nations Environment Program recently released its latest report on the future of the building industry. Among the most important recommendations are to adopt circular principles and biobased materials. The report recommends:

- Avoid waste through a circular approach: Building less by repurposing existing buildings is the most valuable option, generating 50-75 percent fewer emissions than new construction; initial planning using computer-aided design optimization can promote construction with fewer materials and with materials that have a lower carbon footprint.
- Shift to ethically and sustainably sourced renewable bio-based building materials, including timber, bamboo and biomass. The shift toward properly managed bio-based materials could lead to compounded emission savings of up to 40 per cent in the sector by 2050 in many regions. However, more policy and financial support is needed to ensure the widespread adoption of renewable bio-based building materials.
- Improve decarbonization of conventional materials that cannot be replaced. This mainly concerns the processing of concrete, steel and aluminum, three sectors responsible for 23 percent of overall global emissions today, as well as glass and bricks.
- Priorities should be placed on electrifying production with renewable-energy sources, increasing the use of reused and recycled materials and scaling innovative technologies.
- Transformation of regional markets and building cultures is critical, through building codes, certification, labeling and the education of architects, engineers and builders on circular practices.
- “Avoid-Shift-Improve” needs to be adopted throughout the building process to ensure emissions are slashed, while human health and biodiverse ecosystems are protected. The solution also requires being sensitive to local cultures and climates.

Sheila Aggarwal-Khan, director of the UNEP’s Industry and Economy Division said, “Until recently, most buildings were constructed using locally sourced earth, stone, timber and bamboo. Yet modern materials such as concrete and steel often only give the illusion of durability, usually ending up in landfills while contributing to a growing climate crisis. Net zero in the building and construction sector is achievable by 2050, as long as governments put in place the right policy, incentives and regulation to shift industry action.”

THE CARE TOOL: CARBON AVOIDED RETROFIT ESTIMATOR

Architecture 2030’s new software enables builders to reduce embodied carbon and find reuse solutions.

To meet climate targets, builders globally need to upgrade and reuse at least 10 percent of existing buildings, according to Erin McDade, senior program director at Architecture 2030.

The CARE Tool was built for measuring operational and embodied carbon data for the U.S. and other markets that employ similar building materials. The goal, according to its developers, is to compute regional data by country, be adjustable for commercial buildings as well as single-family homes, and be capable of quantifying reuse strategies that apply to entire campuses or neighborhoods.

The CARE Tool was developed by Larry Strain, founding principal at Siegel & Strain Architects; Architecture 2030’s Erin McDade, and Lois Ferriss, an architect specializing in preservation. Together they developed an algorithm that is now part of Architecture 2030’s online platform. It can be fed a vast range of datasets—from heating and cooling days to projected grid decarbonization timelines—depending on the location of a building. The tool is also designed to address scope 3 (indirect) emissions, such as that of purchased goods and services, fuel and energy-related activities, and waste generated.

The tool is free to use. It should ideally be employed early in a project’s pre-design or design phases to examine the impacts of reuse and explore ways of renovating.



REGENERATIVE BUILDING

As major contributors to global greenhouse gas emissions, buildings bear some responsibility for the harm those emissions cause. High-emitting materials and systems have an outsized impact. Concrete and steel alone account for 16 percent of global emissions, according to the Center on Global Energy Policy. Beyond emissions, many common construction materials negatively impact the health and wellbeing of the people who extract and manufacture them. Common building products have toxic life cycles—from the mining of raw ingredients to their refining, production and installation processes.

New projects often involve consumption of land, destruction of natural resources cleared from the site, consumption of resources from near and far in construction, and consumption of energy. There are not infinite resources on a finite planet. Governments

worldwide are starting to enact and enforce regulations that incentivize and mandate regenerative building practices. This includes setting standards for material sustainability and offering financial incentives for renovation instead of demolition and new construction. Although currently, almost nothing we buy is deconstructed, repaired or refurbished and then reused in buildings, the most effective initiative is to transform existing structures rather than demolish and build new. Other strategies include prioritizing reused and repurposed products, particularly direct reuse of structural elements.

A Circular Economy

If architects, builders and their clients collectively prioritize regenerative practices, they take responsibility for the environmental and human health impact of their projects. Built-environment designers have an opportunity to create a circular economy where deconstruction feeds into a repair and refurbishment economy and new designs call for repurposed or refurbished materials. A circular product may be reincorporated into many buildings over many years.

BOOK PROFILES

THE REGENERATIVE MATERIALS MOVEMENT DISPATCHES FROM PRACTITIONERS, RESEARCHERS, AND ADVOCATES

INTERNATIONAL LIVING FUTURE INSTITUTE
ECOTONE PUBLISHING, SEPT. 2023
[HTTPS://STORE.LIVING-FUTURE.ORG/](https://store.living-future.org/)

How can we minimize the ecological footprint and maximize the human handprint of our building materials? A building's impact extends well beyond its site boundaries to include where its materials are sourced and processed and the hands through which they pass. Consumption consumes over 40 percent of the world's materials annually, and this consumption—often extractive, emissive and exploitive—contributes significantly to climate change. By 2060, building material consumption is expected to double.

The Regenerative Materials Movement: Dispatches from Practitioners, Researchers, and Advocates," draws on the expertise of recognized industry leaders who share their experiences, research, revelations and insights, which together sketch a bold vision for overcoming the drawbacks of our current materials economy.

The International Living Future Institute believes regenerative buildings and materials can restore the healthy balance of ecosystems, economies, cultures and people. This book explores the building materials industry and its key relationships to climate, health, justice and equity. This book is a valuable resource for designers, manufacturers, educators and students, advocates and other people who are interested in a deeper understanding of regenerative materials for achieving health and wellness in the built environment.



PEOPLE PLANET DESIGN A PRACTICAL GUIDE TO REALIZING ARCHITECTURE'S POTENTIAL

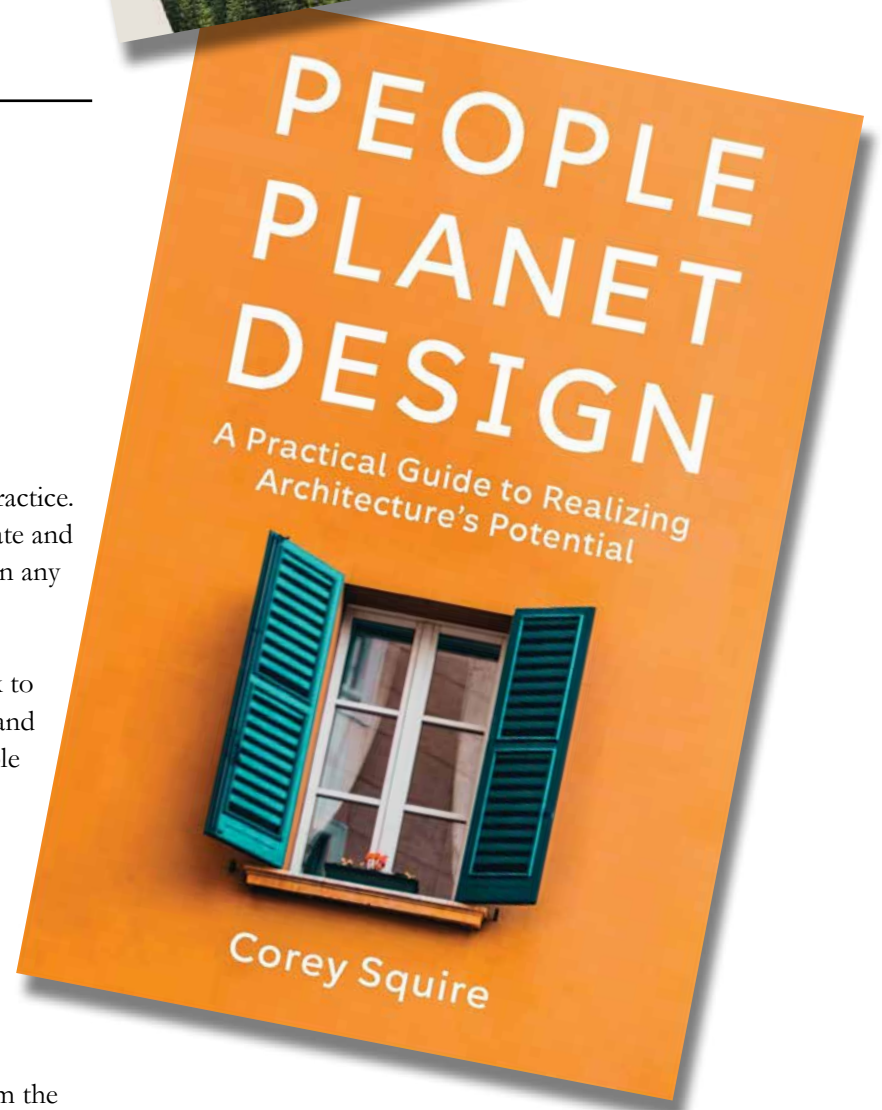
BY **COREY SQUIRE, AIA**
ISLAND PRESS, 2023 ([HTTPS://LNKD.IN/GHNBAS5](https://lnkd.in/g/hnzbas5))

This book grew out of a decade of thinking about how sustainability fits within architectural practice. It explores the reasons why buildings do not currently live up to their potential to address climate and equity and, based on these lessons, provides tools and resources to achieve high performance on any project.

Written for practitioners who want to achieve better outcomes, firms looking to take their work to the next level, students seeking a framework for how design can make the world a better place and owners who want to get the most value out of their investment, the book shows how sustainable and equitable design can be broadly desirable and easily accessible.

In *People, Planet, Design*, architect Corey Squire builds the case for a transformative human-centered architecture. This approach integrates beauty and delight with an awareness of how every design choice impacts the community, the planet and the people who will use the building. Outcome-focused, with a deep dive into practical design strategies, the book showcases 10 building systems that embody design excellence.

Squire centers the idea that by focusing on the desired outcomes—that buildings shelter us from the elements without disconnecting us from the world, and that buildings provide the quality of air, light and views we now know to be essential to health, productivity and joy. Essential reading for architects who want to transform what the profession means, *People, Planet, Design* pioneers a new vision and sets readers up with clear guidance on implementing it. Only when design prioritizes people, as it should, can architecture realize its full potential.



Edward Mazria's 10 Transformative Principles for a Sustainable World

In the February 2024 *Architect Magazine*, Architecture 2030's founder and CEO, Edward Mazria, again calls for the built environment community to step up to the climate crisis challenge. Mazria writes, "We now find ourselves at a pivotal moment, armed with the knowledge, resources and tools to envision and create sustainable, resilient and climate-responsive built environments at an unprecedented pace. By fully embracing this paradigm shift in architecture and planning, we will forge a path towards a collective and sustainable future that addresses the urgent challenges of our time and brings about a lasting positive change in the built environment." To read the full article, visit:

[HTTPS://LNKD.IN/GMCZF4U7](https://lnkd.in/g/MCZF4U7) .

"To usher in a new era of design and planning that mitigates carbon emissions, enhances biodiversity, promotes efficient transportation and fosters thriving communities," Mazria lists *10 Transformative Principles for a Sustainable World*.

PLANNING

1. Growth Boundaries, Compact & Resilient Development

Establish urban growth boundaries and develop plans for infill, compact development and strategies to effectively mitigate the impacts of extreme weather, control sprawl, reduce vulnerability and enhance climate resilience.

2. Natural Environments, Open Lands & Parks

Promote biodiversity, community well-being and traditional knowledge by creating and restoring habitat corridors, parks, landscape networks, forests, living shorelines and riparian buffers and protecting agrarian landscapes and cultural heritage sites.

3. Transit-Oriented Development (TOD) & Transit Mobility

Develop TODs that align density, integrate public transit, cycling and walkability, and locate residential, commercial and recreational areas near transit hubs to reduce auto use and enhance accessibility.

4. Mixed-Use Neighborhoods & Users

Create inclusive, mixed-use neighborhoods that combine residences, businesses, workplaces and civic services to ensure convenient access, reduced auto dependency and an improved quality of life for all residents. Integrate residential

options in commercial blocks, and locate schools, social services and civic facilities within neighborhoods to promote equitable access to education, healthcare and community resources.

5. Human-Scale Streets, Small Blocks, Walking & Biking

Increase the density of road networks with small blocks and human-scaled streets, and prioritize walking and biking, ensuring the availability of safe, direct and comfortable routes throughout neighborhoods.

ARCHITECTURE AND DESIGN

1. Electrification, Passive Systems & Renewable Energy

Electrify and incorporate passive solar heating, cooling, daylighting, natural ventilation and other passive and efficiency-design strategies, and integrate building and onsite and/or off-site renewable-energy for building operations (use no onsite fossil fuels).

2. Reuse, Adapt, Renovate & Restore Buildings

Prioritize reusing, adapting, renovating and restoring existing buildings instead of constructing new ones, thereby reducing embodied carbon and preserving valuable resources.

3. Carbon-Sequestering Landscapes & Infrastructure

Minimize hardscapes and structures, increase carbon-sequestering landscapes and promote resilience by enhancing and creating natural infrastructures—constructed wetlands, bioswales, urban forests, living shorelines, riparian buffers and green roofs—that address and mitigate the threats from climate change.

4. Building Disassembly, Optimized Structure & Nature-Based Materials

Design buildings with low-to-zero embodied carbon materials and prioritize sufficiency by considering building disassembly, optimizing structure and space utilization, incorporating recycled or reclaimed materials and locally sourced nature-based products. This approach decreases energy and resource consumption while effectively reducing emissions and environmental impacts.

5. Mapping & Designing for Climate Impacts

Map present and future climate and weather-related hazards to identify the current and potential impacts of climate change. Use mapping information to mitigate impacts and ensure resilience when planning developments and designing building structures, landscapes and infrastructure.



THE AMERICAN INSTITUTE OF ARCHITECTS' FRAMEWORK FOR DESIGN EXCELLENCE

A guide for designing change

The AIA framework represents the defining principles of design excellence in the 21st century. Comprised of 10 principles and accompanying questions, the framework informs progress toward a zero-carbon, healthy, just, resilient and equitable built environment. The framework challenges architects with a vision of what the profession strives to achieve. The 10 principles are relevant for every architect, client and project, regardless of size, typology or aspiration.

Design for Integration

Good design elevates any project, no matter how small, with a thoughtful process that delivers both beauty and function in balance. It is the element that binds all the principles together with a big idea.

Design for Equitable Communities

Design solutions affect more than the client and current occupants. Good design positively impacts the future by helping communities thrive—socially, economically and environmentally.

Design for Ecosystems

Good design mutually benefits human and nonhuman inhabitants. It considers the greater environment for opportunities to create harmony. What we design has a direct impact on the ecosystems in and around the site. Understanding the site dynamics will allow us to be more conscious of our impacts.

Design for Water

Good design conserves and improves the quality of water as a precious resource.

Design for Economy

Good design adds economic value for owners, occupants, the community and the planet—regardless of the project size and budget.

Design for Energy

Good design reduces energy use and eliminates dependence on fossil fuels while improving building performance, function, comfort and enjoyment.

Design for Wellbeing

Good design supports health and wellbeing for all people—considering physical, mental and emotional effects on building occupants and the surrounding community.

Design for Resources

Good design depends on informed material and resource selection—balancing priorities to achieve durable, safe and healthy projects with an equitable, sustainable supply chain to minimize possible negative impacts on the planet.

Design for Change

Good design is adaptable, resilient and flexible to change over time—reducing the building's risk and vulnerability and enhancing its usability, functionality and value.

Design for Discovery

Every design project presents a unique opportunity to apply lessons learned from previous projects and discover new information to refine the design and construction process.

USGBC Plan Addresses Critical Challenges of our Time

The U.S. Green Building Council® (USGBC) is a global community of members and volunteers committed to transforming the built environment to advance human and environmental wellbeing through advancing innovation and best practices through certification and leadership recognition, workforce education and credentialing, industry events and advocacy.

In 2023, USGBC celebrated its 30th anniversary and the legacy of its impact. During that time, the organization created LEED®, the first comprehensive green-building leadership framework, and established an international community of organizations and professionals that integrated green-building knowledge into industry practice at the global scale. Today, USGBC members and LEED® projects are present in more than 180 countries, and the economic, climate, environmental, and health and safety benefits of green buildings have been scientifically validated.

Strategic Plan

The USGBC 2024–2026 Strategic Plan begins a new era for USGBC and green building. Building on the legacy of its first 30 years, the plan—developed in collaboration with USGBC's board of directors, with input from staff, members, stakeholders and volunteers—positions the organization to redefine leadership within the green building industry and address the urgent challenges and opportunities.

Key strategies in the plan include:

- Rapidly decarbonizing the built environment in line with international targets
- Centering resilience, human health and social equity outcomes within communities
- Connecting USGBC programs to critical market drivers and systems transformation initiatives
- Increasing access to the benefits of green building for under-resourced communities and individuals
- Developing the next generation of green-building leaders and building inclusive pathways into the sector's global community

The implementation of these strategies is intended to enable USGBC to scale its mission-aligned impact, grow the green-building movement and enhance the value that the organization provides to members and stakeholders around the world.

To read USGBC's Strategic Plan, visit: [HTTPS://WWW.USGBC.ORG/SITES/DEFAULT/FILES/2024-01/USGBC-STRATEGIC-PLAN.PDF](https://www.usgbc.org/sites/default/files/2024-01/usgbc-strategic-plan.pdf) .

THE PROMISE OF PREFAB

B.PUBLIC Prefab Paving the Way for Local Homebuilders to Accelerate Green Building

BY **SETH ROFFMAN**

The adage “think globally—act locally” is at the heart of the New Mexico-based B.PUBLIC Prefab. The start-up is dedicated to enabling healthier, climate-friendly homes for more people by providing high-performance, prefabricated assemblies that simplify and speed the building process.

Creating a new building approach and shifting the practice of U.S. architects and builders is no simple task. Perhaps it was naive when they entered the market with high-performance building components that “build it and they will come” would be faster and simpler than they imagined. As with most start-ups, what begins as a simple idea quickly grows into a series of complexities. Fortunately, as a public benefit corporation, B.PUBLIC doubled down on market transformation and started creating programs to evolve its offering beyond products including builder training and workshops for architects.

Off-site construction is only 4 percent of U.S. construction and is mostly in commercial projects. Most small-to-midsize homebuilders have never worked with off-site construction, so they needed to be trained and empowered to add prefab into their practice. “We designed a product for contractors to build months faster and to the highest green performance, but realized we needed to support them well past providing estimates and panels, said Charlotte

Firms are shifting to sustainability as a core principle in design and they are looking for materials and technology to realize that mission.

Lagard, B.PUBLIC’s COO and co-founder. “So, we created the first-of-its-kind training program at our Las Vegas, New Mexico facility. We know that tradespeople have the power to take climate action every day by using carbon-

positive materials and building super energy-efficient buildings, and we can help them harness their skills for better. By adding to their expertise in a day we have made them ready.” The quarterly installer two-day training covers a lot quickly to jump-start teams into the future of construction. The training will be offered April 19-20 and July 19-20.

The Power of Local Homebuilders

Local homebuilders are the backbone of communities, possessing a unique understanding of regional needs and challenges. With the right tools and resources, these tradespeople can be instrumental in transforming the construction industry to become more sustainable. B.PUBLIC Prefab recognizes the potential of local expertise and is dedicated to providing them with the means to build greener homes. B.PUBLIC’s approach emphasizes the importance of individual

efforts in collectively addressing environmental challenges, with local builders playing a crucial role in this transformation.

Changing the Industry One Person at a Time:

The shift toward sustainable building practices begins with individuals passionate about making a difference. B.PUBLIC Prefab works directly with architects and designers across the county to specify prefab in their plans. “Many firms are shifting to sustainability as a core principle in design, and they are looking for materials and technology to realize that mission,” said Edie Dillman, CEO. “We offer workshops, design support and technical tools for design to get them there. To succeed, sustainability and performance goals should be considered from day one on a project. We are happy to share all we know and open our doors to all curious about learning new ways.”

Tradespeople have the power to take climate action every day by using carbon-positive materials and building super energy-efficient buildings.

Like many companies instigating change, B.PUBLIC believes that effective collaboration is essential among owners, designers, builders and manufacturers. Its Santa Fe design office is more of a classroom than a showroom, with a mini-building inside and space for public events and small workshops. At a retail space on San Mateo Road, the group hosts meet-ups, builder gatherings, charrettes and client meetings. “We are creating a place where homeowners and developers feel comfortable and free to explore what it’s like to be inside our ‘pod’ and see a wall of finished projects and home plans,” said Dillman.

The company works across the country, including Colorado, California and North Carolina. It is a small company on a big stage, and had a presence at the International Builders Show in Las Vegas, where 150,000 professionals had a chance to visit its booth. B.PUBLIC will bring that booth to the Santa Fe Area Home Builders Association’s 2024 Santa Fe Home Expo and Remodel Show March 16–17 at the Santa Fe Community Convention Center. ■



Co-founder Edie Dillman welcomed a tour from the Passive House Network’s annual conference.

Society of Architectural Historians International Conference

Founded in 1940, the Society of Architectural Historians is an international nonprofit membership organization that promotes the study, interpretation and conservation of architecture, design, landscapes and urbanism worldwide. SAH serves a network of local, national and international institutions and individuals who focus on the built environment and its role in shaping contemporary life.

77th Annual Conference

This immersive experience will include paper sessions, events at off-site venues and guided architecture tours in and around the city. Attendees will share new research, network with colleagues at receptions, and meet publishers in the exhibit area, where “Projects in Process” posters will be on display.

The local co-chairs of the conference are Robert Alexander González and Albert José Antonio-López, both of the School of Architecture and Planning at the University of New Mexico. Antonio-López and Francisco Uviña-Contreras, of UNM’s School of Architecture and Planning, will present an introductory address, “Albuquerque: Continuity and Construct at the Crossroads.”

Conference registration and SAH membership are required for access to all programs except the Albuquerque seminar, Eduard F. Sekler talk and the tours, which are open to the public. The SAH is an AIA Continuing Education Provider. Many of the conference’s events qualify for CES learning units. Register at: [SAH.ORG/2024/REGISTRATION](https://www.sah.org/2024/registration).

Some of the topics to be discussed are: “The Long Histories of Land, Value and Climate Change”; “Fiction, Poetry and Memoir as Architectural (Hi)story-Telling”; “Under Construction: Architectural Histories of the Building Site”; “Plants as Technological Objects—Plants as Technological Subjects”; “Lost Interiors: Interpreting the Ephemeral”; “Recent Historical Scholarship on Indigenous North American Architecture”; “Institutions of Life—Architecture and the Life Sciences”; “Colonial Entanglements”; “Approaches to Architecture and the Environment”; “The Politics of Landscape—J.B. Jackson in the Contemporary World”; “Indigenous Education—Spaces of Tradition, Resistance and Sovereignty”; “Nuclear Modernism and the Modern Southwest”; “Gender and the Architecture Exhibition”; “Learning from Mid-Century Passive Designs”; “Beyond Food—Uprooting the Architecture of Agriculture”; and “Architecture, Planning and the Law in the Early Modern Spanish World.”

SAH Indigenous Architecture Affiliate Group

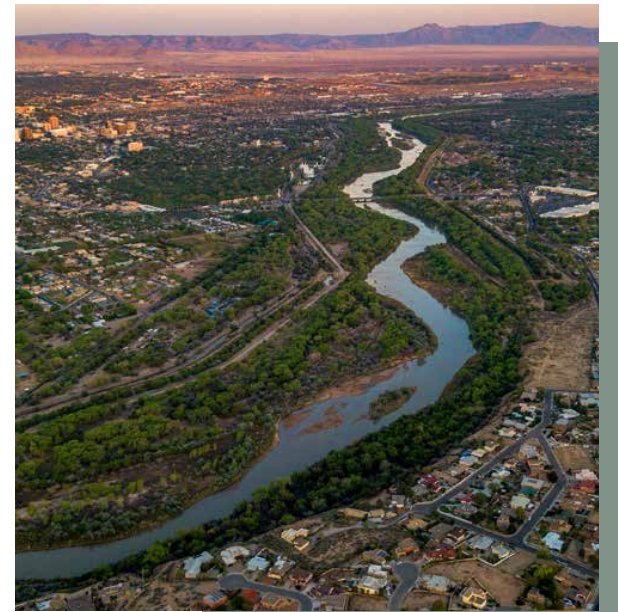
The Society of Architectural Historians’ *Archipedia* highlights the contributions of Native American architects. In July 2023, the SAH announced the formation of the Indigenous Architecture Affiliate Group, which aims to build a community of scholars whose work



Recently completed custom home designed by Needbased and built with B.PUBLIC Prefab in Santa Fe, NM; Salida, Colorado home by Mosaic Architects builder Hammerwell; Builder training quarterly event at B.PUBLIC facility in Las Vegas, NM. Bottom: The prefab shell went up quickly and safely with teams from across the country.

SOCIETY OF ARCHITECTURAL HISTORIANS

77TH ANNUAL INTERNATIONAL CONFERENCE



ALBUQUERQUE
2024 APRIL 17–21

Indigenous design centers sustainability, seeking to give back to the land, not take from.

focuses on Indigenous architecture. The group defines Indigenous architecture as “architecture designed by or for Indigenous people.” The group considers architecture in a broader sense to include not only buildings but how people define and use space on the land and how they create buildings in response to their worldviews and the interrelationship between humankind and the natural environment. This definition encompasses traditional forms of Indigenous architecture (pre-colonial to present), colonial architecture affiliated or concerned with Indigenous communities (such as BIA boarding

schools or HUD housing), and recent Indigenous architecture (designed in collaboration with Indigenous communities and/or by Indigenous architects.)”

SAH’s Affiliate Group will concern itself with the study of Indigenous architecture from all time periods. Geographically, the group is beginning in North America, but scholars whose work focuses on Indigenous architecture beyond North America are welcome to join. Members will collaborate on research, seek funding to support their work, organize paper sessions and roundtables, and support and mentor Indigenous students of architecture and architectural history. The group also intends to generate publications on Indigenous architecture, which is underrepresented in architectural discourse and education. ■

Theodore (Ted) S. Jojola, Ph.D., (Isleta Pueblo) is one of the elders who have joined the Affiliate Group as a founding member. Jojola is Distinguished Professor & Regents Professor at UNM’s Architecture & Planning Department. He also founded and directs UNM’s Indigenous Design and Planning Institute (iD+Pi).

CONFERENCE TOURS

For an additional fee, conference attendees and the public will be able to sign up for tours that include: “An Architectural Overview of Chaco Canyon Great and Small Houses”; “Los Poblanos Ranch—John Gaw Meem in Albuquerque”; “Historic Isleta Pueblo Tour—Mission Church and Cultural Center”; “The Cultural Landscape of Las Golondrinas Living History Museum”; “The Gallegos Acequia—Community Farms, Wildlife and Urban Irrigators”; “Albuquerque’s Modern Downtown”; “The KiMo Theater”; The History and Rehabilitation of the Gutiérrez-Hubbell House”; “Albuquerque Mid-Century Modern Homes Tour”; “Architecture on the East Mesa—Out of the Low Zone and Up to the Ozone”; “John Gaw Meem in Santa Fe: The Spirit of a Region”; “Santa Fe’s New Deal Legacy”; “Pueblo, Spanish and Neo-traditional Urbanism—Plaza-centered Communities”; “Antoine Predock, Bart Prince and Landscapes of Place”; “Albuquerque’s Historic Barelmas Neighborhood”; “Hotel Andaluz and the Occidental Life Insurance Building”; The Contemporary Route 66 Heritage in Albuquerque”; “Acoma and Laguna Pueblos, Stories of Resilience and Preservation.”



Left: Architect Bart Prince has attracted international attention for the “landscapes of place” he creates that reflect natural and cultural elements of New Mexico.

Below: This LEED Silver-certified elementary school, designed by Dekker Perich Sabatini, reflects the values and culture of Laguna Pueblo in creating a learning environment with ample daylight and healthy materials. The design team worked closely with community members and pueblo elders on siting, layout and key design details such as an outdoor gathering area and cultural classrooms with plastered walls, kiva fireplace and a traditional beamed ceiling.



INTERVIEW WITH JOSEPH KUNKEL

Sustainable Native Communities Design Lab

BY AUGUST WILLIAMS-EYNON

What is your organization's area of focus, and how does it relate to the built environment and land use?

MASS Design Group is a mission-driven organization founded to support partners in delivering innovative capital projects that fundamentally improve lives and act as enablers of shared prosperity. Our work focuses on leveraging architecture, as well as inclusive design and construction processes, to create better health, justice, equity and long-term sustainability. Within MASS, I direct the Sustainable Native Communities Design Lab, based in the Santa Fe, New

Mexico office. *O'ghe P'oghe*, the original Tewa name for Santa Fe, means White Shell Water Place.



The Southwest is home to the largest collective Indigenous population in what is now the United States, and this is where the Department of Housing & Urban Development's (HUD) Office of Native American Programs largest allocation of Native American Housing Assistance and Self Determination Act (NAHASDA) dollars are located. The

It is critical that we collaborate with partners who are integrated within communities they serve.

work coming out of our office, while regionally based, also influences MASS's larger portfolio of built work and land use. Through the Sustainable

Native Communities Design Lab, we seek to learn from Indian Country, lift up relationships around Native-non-Native partnership and expand MASS's work to address the inequality we see throughout the built environment.

How do you define environmental and climate justice in your work through an indigenous lens?

We have a unique approach to sustainability, and not just sustainability from a technical standpoint but also from a cultural perspective. We approach each of our projects by asking how we can invest design thinking into the cultural nuances of the communities we serve. How can we help to build the capacity of the organizations we work with?

The Sustainable Native Communities Design Lab emerged by trying to understand the gaps within the built environment—identifying the communities that were not being served by the profession and were being fundamentally harmed by the built environment. Adequate housing can provide more than just environmental and health benefits; when designed well, the process of constructing housing can also be a vehicle for economic development.

We as designers, architects, planners and engineers have an obligation to understand the impacts our buildings have on our environment and within our communities. The more resilient we design and build our communities to be, the better we can serve the families and individuals who live there. The better prepared they will be when the next natural or man-made disaster strikes due to the changing climate. The more we invest now in our rural and tribal communities, the more sustainable our buildings will be.

Close the wealth gap in Indian Country through culturally responsive housing development and Native homeownership.

What do you hope to see from the real estate sector, especially given current increased awareness of racial and environmental justice? How can the real estate community support work like yours?

There are over five million tribal members in the United States, belonging to one of 573 federally recognized tribes. Centuries of land dispossession, cultural genocide and violence toward Native populations have produced a striking wealth gap: One in three Native American people lives below the poverty line, compared to 11.8 percent of the American population overall. While home-ownership has provided an engine of wealth creation and upward mobility for millions of Americans, Native American communities have been largely denied this opportunity.

Indian Country is in a housing crisis, facing a deficit of 200,000 total units. This gross shortage in housing has resulted in poor living conditions and high rates of overcrowding. Under the current federal funding model, this shortage will take approximately 120 years to fill. There is an opportunity for private capital to proactively fill this funding gap; however, currently less than 0.03 percent of philanthropic dollars reach Indian Country, even though Native Americans make up 2 percent of the U.S. population. In order to advance equal opportunity, self-determination and sovereignty, a new model of practice is needed to catalyze housing development in Indian Country.

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A new model of practice is needed to catalyze housing development in Indian Country.

The mission of the Sustainable Native Communities Design Lab is to close the wealth gap in Indian Country through culturally responsive housing development and Native home ownership. Housing also needs to be a catalyst for community pride and economic growth. The financing of projects and of homeownership is key, and innovative “design thinking” about financing can reap dividends. If block grants can be used not just for building a home but for down-payment assistance, then it will give more families a chance to become financially stable and qualify for mortgages to build financial independence and create wealth for generations to come.

It's not just buildings that can be erected. If the right measures are adopted in projects, the result will be workforce development too. Skilled and unskilled Native artisans can be hired on construction teams. This can fuel both employment and business growth. That growing labor force will generate money and keep those dollars circulating within the community. MASS Design Group has experienced this in our work in Rwanda on community-development projects ranging from universities to conservation and health-care campuses. This is an argument for internally focused, regenerative capitalism and real estate. It's a sustainable model, and sustainability is a foundational value for many Indigenous peoples.

What does it mean to develop culturally responsive, climate-resilient housing and community infrastructure in Native communities? What lessons apply from this work to the broader spectrum of BIPOC communities?

Climate-resilient, culturally responsive housing is housing that is responding to our times, and the issues our tribal and rural communities are facing right now: hotter summers, colder winters, higher cooling costs and higher heating costs. The design and construction of homes and community infrastructure will need to respond to this crisis. We need to build homes that are lower in carbon footprint, that use less energy while keeping families warm in the coldest months and cool in the hottest months. We must explore low-carbon materials, which Indigenous peoples have used for millennia, prior to Western contact, including adobe bricks, hempcrete, strawbale and wood. We must use fewer concrete materials, which are high in embodied carbon. We have the technology, we have the knowledge, and we know how to use it—we just need to make a case for why we must pay for them.

At MASS, we approach each of our projects with a process that we call immersion. We recognize that because we aren't present in every community in which we work, it is critical that we identify and collaborate with partners who are integrated within communities they serve. Together, we can navigate the social-political dynamics of a space and address climate challenges in a way that is culturally responsive. This has been critical in working with Native communities, and I hope that we as a country can all do a better job of listening, not only to our Indigenous populations, but to all of our under-represented communities when we consider developing new infrastructure and architecture. This work can't be done by any one group of people. When thinking about reconciliation and healing, it needs to be a conversation between parties, a way for us all to work together to achieve a common goal.

Joseph Kunkel (Northern Cheyenne) is the Sustainable Native Communities Design Lab's principal and director. [HTTPS://MASSDESIGNGROUP.ORG/SUSTAINABLE-NATIVE-COMMUNITIES](https://massdesigngroup.org/sustainable-native-communities)

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FUNDING ANNOUNCED FOR TRIBAL AND RURAL CLEAN-ENERGY PROJECTS

On Feb. 27, at a clean-energy tribal summit in Southern California, U.S. Energy Secretary Jennifer Granholm announced that the federal government will expand access to renewable energy on 30 Native American reservations and other rural areas. Solar, battery storage and hydropower projects will be funded by \$366 million from the infrastructure law signed by President Biden in 2021. Granholm said the amount is the largest that has been awarded to tribes for energy projects.

Communities on Navajo and Hopi lands will receive \$8 million to install systems to provide electricity to 300 off-grid homes. About a fifth of homes in the Navajo Nation do not have access to electricity, and many homes on reservations in the U.S. report monthly outages, according to the Biden administration.

Taos Pueblo has already been awarded \$10 million for development of a solar power system. On its website, the Energy Department's Office of Clean Energy Demonstrations states: “As part of its Community Benefits Plan, this project plans to partner with Santa Fe Community College to aid in local workforce training, as well as to provide apprenticeship opportunities for Taos Pueblo community members.”

Federal regulators recently granted tribes more authority to block hydropower projects on their land. Funding for the 17 clean-energy projects across the U.S. will only be confirmed after negotiations with the projects' applicants.



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BUYING LOCALLY CRAFTED WOOD PRODUCTS SUPPORTS NM'S FORESTS, WATERSHED AND COMMUNITIES

BY MARIE RODRÍGUEZ

Unfortunately, New Mexicans know from firsthand experience that wildfires present a significant threat to forests, watersheds and communities. New Mexico forests frequently suffer from overcrowding due to an abundance of small-diameter trees. A crowded forest allows fire to spread easily as a fast-moving, dangerous and destructive crown fire.



Above: Crown Fire, 2011 Valles Caldera National Preserve. Credit: R. McDermott

Below: Overcrowded forest, Jémez Mountains, N.M. Credit: Marie Rodríguez



TC Company bringing logs to a landing, Jémez Mountains, N.M. Credit: Marie Rodríguez

Overcrowding also impacts the health and vigor of forests. When a forest becomes too dense, sunlight and water become scarce, leading to weakened trees that are vulnerable to insects and diseases.

Forest thinning involves the removal of smaller and/or less healthy trees, allowing the remaining trees to access adequate light and moisture for robust growth. Healthier trees exhibit greater resilience. This becomes crucial in light of our warming climate.

While wildfires can still spread through a thinned forest, they are less likely to escalate into crown fires when the trees are spaced farther apart. In an open forest, the fire tends to burn through grasses, shrubs, dead branches and litter, resulting in a less destructive surface fire. The intensity of a wildfire is influenced, in part, by the availability of fuel. Thinning significantly reduces the fuel load (provided the thinned material is removed), thereby mitigating the destructive impact of future fires.

Fire is both an inevitable and essential process in New Mexico's forests. Thinning plays a crucial role in enabling these ecosystems, as well as people and communities, to coexist with fire.

Why Don't We Thin More of Our Forests?

Forest thinning is a labor-intensive and costly process. First, each tree is carefully felled, its branches are trimmed, and



the resulting log is transported to a designated area known as a landing within the forest.

How Does Source Verified Good Wood Make a



Peeling a viga at Wholesale Timber & Viga in Bernalillo, NM. WT&V recently joined the GoodWood program. Photo © Esme Cadiente

Difference?

While there is little disagreement regarding the need for forest thinning, disposing of the residual biomass presents a challenging problem for which there are no simple solutions.

Adding value and boosting demand for wood products sourced from forest thinning in New Mexico is one piece of the puzzle. GoodWood's approach involves branding and marketing these products, allowing consumers to directly support the hard work of local producers and land managers. When consumers buy GoodWood products from member producers, they not only acquire quality crafted items; they also play a vital role in restoring and protecting our forests and watersheds. And their support also extends to local businesses, ensuring that their dollars remain within the state.

GoodWood's members produce an array of products including lumber, timber and beams. They specialize in crafting meticulously handcarved vigas, exquisite furniture, decorative corbels, inviting entries and sturdy gates. They also produce firewood, heating pellets, animal bedding and mulch. Nothing goes to waste. To learn more about the producers and their array of products, visit [HTTPS://WWW.GOODWOODVERIFIED.COM/MEET-THE-PRODUCERS](https://www.goodwoodverified.com/meet-the-producers).

Is It Working?

Source Verified Good Wood continues to operate under a federal grant, and while it may not yet be a profitable venture, its mission is far-reaching. Land managers continue to compensate producers for harvesting and removing small-diameter trees. The alternative approach, the controlled burning of biomass, has significant drawbacks. Not only is slash-burning time-consuming and costly, it poses inherent risks when applied to un-thinned forests or copious amounts of slash. And the resulting smoke emissions contribute to CO2 levels.

In contrast, wood products serve as a valuable solution. They act as carbon sinks, effectively storing CO2. Burning tons of usable wood constitutes unconscionable waste. The Source Verified Good Wood initiative ([WWW.GOODWOODVERIFIED.COM](http://www.goodwoodverified.com)) contributes to healthier forests, reduced wildfire risk and a more sustainable future for both our environment and economy.



For more information about the Source Verified Good Wood program, including membership information and where to purchase GoodWood products, visit www.goodwoodverified.com or email Rachel Wood: RACHEL@GOODWOODVERIFIED.COM.

Marie Rodríguez has 30 years of experience in public land management. She spent 12 years at the Valles Caldera National Preserve, where she oversaw stewardship of the preserve's natural resources.

Email: PROMISE.PCES@GMAIL.COM.

OPENING NEW MARKETS FOR GOODWOOD

A focus of the GoodWood program has been to open new markets to small-diameter timber products, including:

Build Green New Mexico—GoodWood products are now eligible to earn credit towards Gold- or Emerald-level certification under Build Green New Mexico. Builders and homeowners who achieve these levels of certification are eligible for New Mexico’s Sustainable Building Tax Credits.

Residential Building—Vigas, which are intrinsic to northern New Mexico’s traditional building style, have historically been relegated to a decorative role unless accompanied by an engineer’s certification. However, thanks to Source Verified GoodWood, a span chart has been incorporated into New Mexico’s Residential Building Codes. The chart allows for the use of vigas of varying sizes and species in load-bearing applications, such as roofs, without the need for additional certification.

Buy Local Study—Dovetail Partners, a member of the GoodWood planning team, has prepared a report ([HTTPS://DOVETAILINC.ORG/UPLOAD/TMP/1663594666.PDF](https://dovetailinc.org/upload/tmp/1663594666.pdf)) to highlight the measurable benefits of “Buy Local” programs.

Bringing an Affordable Lumber Grading Program to New Mexico—Grade-stamped lumber, beams and vigas command higher prices than rough-cut or ungraded products. However, lumber grading services are currently provided from out of state, making them inaccessible to many small producers. GoodWood has been collaborating with manufacturers, experts and educators to explore ways to bring grading services within reach for New Mexico’s producers.

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Rio Embudo, Northern New Mexico

THE EARTHBUILDERS' GUILD

The Earthbuilders' Guild. The name says exactly who we are and what we are focused on: building with earthen materials like adobe, rammed earth, cob and compressed blocks. But there is much more to our story, and we would like to tell it to those who are earthen-curious, those who believe that earthen construction is worth preserving, and those who wish to use it as a viable alternative for commercial buildings and a sustainable path to the future of human housing. We are one of the premier organizations in the U.S. focused on earthen materials as a means of livelihood and professional development.

Per Wikipedia, "A guild is an association of artisans and merchants who oversee the practice of their craft/trade in a particular territory." That's us! TEG is also a 501(c)6 corporation registered in New Mexico as a Businesspersons' League, representing those who earn their livings, either wholly or partly, through earthbuilding as contractors, manufacturers, suppliers, installers, architects, draftsfolk, etc. If that's you, please consider joining our organization! TEG was formally organized in 2011 and has grown every year since. We have members representing most facets of the earthen construction industry. We're involved in a wide range of efforts to keep the historical aspects secure while also working to increase earthen building's appeal and applicability.

We are often asked why we do this. Why devote our personal and professional lives to something that, unfortunately, is often viewed as either an outdated, anachronistic form of housing or an expensive and out-of-reach wonder home (that can provide an incredible living experience)? The answers are as varied as TEG's members, ranging from life-long involvement in adobe block production, to those wanting to build their own homes, to those starting out professionally as earthen builders, and more.

John Jordan, TEG member since 2014: "I was involved in sustainable technology development and came upon earthen construction materials and decided that



Adobe block making during the early morning hours. This is a view of the last production step of placing the dried adobes onto pallets before shipping to an eagerly awaiting construction site. This is New Mexico Earth Adobes, production yard in Albuquerque, one of the oldest adobe yards in the state.

chasing an entrepreneurial dream of producing exemplary earthen blocks was my destiny. After being a member for a short time, I realized that I had found a source of information and experience about my chosen field that was beyond my wildest imagination. And I had found a home with the sort of professionals that I hope to be someday."

Esther Fredrickson, TEG member since 2020:

"My partner Kenny and I had always dreamed of building our own house.



Retired contractor Pat Martínez Rutherford, of Soledad Canyon Earth Builders in Las Cruces, N.M., reveals a just-completed multi-colored rammed-earth wall. It is the focal point of an outdoor kitchen. Four different colored crusher fines were used to create the wave effect. Pictured on the far left is Soledad Canyon employee, Raul Muro.

Kenny DeLapp and Dave Fischer installing the built-up wood bond beam on DeLapp's owner-builder adobe home

Somehow, we always knew it was going to be out of adobe, and our belief in the material and the process was reaffirmed as we began to study the New Mexico Earthen Building Code, a document that felt approachable, sensible and relatively easy to wrap our (at that time, novice-builder) brains around. We spent the next 15 months building a 1,600- square-foot house in Albuquerque's South Valley. There was a lot of on-the-job learning and some difficulties but also many special memories. I was astounded by all the friends and friends of friends who would show up on weekends to help lay adobes. There's a special attraction people have to this material, along with a deep sense of accomplishment and pride from building something together. After we finished our home, we realized we could design and build adobe homes for other people, too. We started our business, Albuquerque Joinery, in 2020."

Few other industries can rival earthen products in terms of performance in all manner of ways.

One of the premier organizations in the U.S. focused on earthen materials as a means of livelihood and professional development.

know we can make a difference by providing the products, construction expertise, educational knowledge and the camaraderie of earthen aficionados.

Our website and quarterly newsletter are very useful sources of information related to earthen construction. As part of regularly scheduled TEG board meetings, held in many areas of New Mexico, we offer tours of interesting and inspiring earthen structures, including places like the stunning National Park Service building in Santa Fe, the awesome La Luz del Oeste townhomes in Albuquerque (designed by architect Antoine Predock), and the Hacienda de Los Martínez Museum in Taos, so rich in history. There have been tours of renovations and preservation projects such as St. Michael's Church in Santa Fe, as well as some of the earliest settlers' homes in Old Mesilla, outside of Las Cruces. We have also toured new construction such as the home being constructed by Albuquerque Joinery, one of our business members. Seeing such construction in real time gives one an eye-opening look into what it takes to bring an earthen home to life.

TEG has worked with the New Mexico Construction Industries Division to strengthen and enhance earthen construction codes with the goal of making them more useful and accessible to all levels of earthen construction people. We have worked successfully to enact code changes that allow a more realistic approach to preserving historical structures. We have members working at the national level to bring earthen codes up to the same level as codes that govern frame and concrete structure construction.

We have been working with Santa Fe Community College to help bring its Adobe Construction curriculum to life. Several of our members are adjunct professors there. We also offer TEG-managed testing and certification for those wanting to know more about adobe construction.

Family traditions, community heritage, meaningful work, environmental concerns and the joy of working with the earth.

TEG members as capable earthen industry leaders.

The appreciation and appetite for sustainable living has continued to grow as the cost of every

aspect of building, owning and maintaining a structure has increased. We think that earthen construction answers the call pointedly and deliberately; however, whether you're an aspiring owner/builder or a high-end commercial contractor, there are challenges that require a realistic look at the industry.

A couple of generations ago, you could have purchased adobes from five to eight manufacturers in central and northern New Mexico. Now, other than a few contractors who produce blocks for their own use, we are down to arguably one, and we fear that we may be down to none if this traditional form of manufacturing is not carried forward. From a business perspective, this is a curious phenomenon, mostly because there are few other industries that can rival earthen products in terms of performance in all manner of ways. It is a product whose manufacturing will never be exported. Adobe homes are some of the most sought-after homes that money can buy. They provide the owners a structure that can last for generations, while performing as a living space that is the envy of the built environment.

We strive to meet the challenge of keeping earthen construction affordable for as many people as possible through new research into earthen materials, through codes that allow for streamlining of construction, and through growth

of manufacturing operations. It is a worthy set of challenges to take on, and we hope you will join us in meeting and overcoming these challenges. We hope that you will join our band of earthen sisters and brothers in our ongoing pursuit of TEG's Mission Statement:

of manufacturing operations. It is a worthy set of challenges to take on, and we hope you will join us in meeting and overcoming these challenges. We hope that you will join our band of earthen sisters and brothers in our ongoing pursuit of TEG's Mission Statement:

TEG's mission is to promote, preserve and expand the building methods of adobe, rammed earth and compressed earth block construction. Our organization is dedicated to the betterment and advancement of earthen construction of homes and commercial buildings, including the preservation and restoration of existing buildings.

The commitment of people in this industry stretches across family traditions, community heritage, meaningful work, environmental concerns and the joy of working with the earth. We want to ensure that we continue to make history through our building processes while improving them to create safe, comfortable, long-lasting structures. ■



TEG tour at the National Park Service Office Building in Santa Fe. Members had the opportunity to get an up-close look at the 24,000-square-foot adobe building designed in 1937 by Cecil Doty. The adobe bricks were made on site.

RENEWABLE ENERGY INDUSTRIES ASSOCIATION of NEW MEXICO

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*International Conference on Architecture
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Earth USA 2024 is Adobe in Action's 12th International Conference on Architecture & Construction with Earthen Materials. The formal conference will take place at the Scottish Rite Center's Alhambra Theater in Santa Fe. The event will reflect a wider field of interest than previous conferences. It will focus on adobe, rammed earth, compressed earth block (CEB) and monolithic adobe (cob). Any material or method that uses clay as a binder will be considered.

Three days of podium presentations and poster sessions will focus on the current state of architecture and construction with earthen materials. On Friday evening, Sept. 13, the Earthbuilders' Guild will sponsor a speaker meet-&-greet session. During the weekend, there will be workshops and tours to local earthbuilding sites in and around Santa Fe. WWW.ADOBEINACTION.ORG .



The National Park Service Building in Santa Fe is the nation's largest adobe office building. Members of the Earthbuilders' Guild toured the building in January 2024.

Photos © Seth Roffman

NEW MEXICO ADOPTS MONEY-SAVING BUILDING CODES

Increased accessibility to EVs for New Mexicans living in Multi-unit Housing

On Jan. 17, the New Mexico Construction Industries Commission voted to adopt the most recent international building energy codes, requiring builders to design and construct new buildings with improved performance. Specifically, the state adopted the 2021 International Energy Conservation Code, with additional requirements that new buildings include infrastructure to support charging for electric vehicles (EVs) in some parking spaces.

The updated codes are an important tool to reduce air pollution and will help protect New Mexicans from climate change. The codes will help residents and businesses save energy and money on heating, cooling and lighting; improve construction quality and comfort, and require better ventilation and filtration systems, which means cleaner, fresher air and improved health outcomes.

The codes will also increase access to zero-emission EVs, which are more affordable to own and operate than gas cars and offer significant savings on fuel and maintenance. EV sales are increasing each year, so New Mexicans will increasingly be looking for apartment and condominium complexes where they can charge their vehicles. The new codes require most new construction to include EV chargers at 5 percent of parking spaces. Another 5-15 percent, depending on the type of building, must have the electrical infrastructure to accommodate future chargers.

New Mexico's major utilities already offer incentives that could cover most or all of the cost of these improvements: PNM, for example, offers up to \$5,000 per unit for charging and installation for multi-unit housing. Developers and building owners can also use incentives in the Inflation Reduction Act, including a federal tax credit for EV charging in rural or low- and moderate-income urban areas. These incentives can often cover the entire cost of installing EV chargers.

This is particularly important for low- and moderate-income residents of apartment buildings, who stand to benefit the most from access to affordable and convenient charging at home. These new requirements align with the state's Advanced Clean Cars policy, adopted in November 2023, which will gradually make EVs the norm for new car sales in New Mexico.

"The decision to adopt the 2021 IECC and include EV-readiness in the building code will redefine New Mexico's construction landscape," said Jim Meyers, director of the Southwest Energy Efficiency Project's (SWEET) Buildings Program. "It aligns the state with modern sustainability standards and positions New Mexico as a trailblazer in environmentally conscious building practices."

FEDERAL FUNDING PROVIDED FOR CLIMATE-FRIENDLY BUILDING CODES

The Biden administration has allocated \$400 million to help states and territories adopt energy-efficient building codes for new buildings and major renovations. Homes using modern energy codes are 40 percent more efficient than homes built 15 years ago, according to an Energy Department press release. "This funding will ensure that states and local communities have the tools necessary to lead the way in increasing the performance and overall health of buildings through energy codes," said Energy Secretary Jennifer Granholm in the press release.

The funding comes from the Inflation Reduction Act. It is a portion of \$1 billion that the climate, tax and health care law provides to help state and local governments institute building energy codes.

RESOURCES

PNM EV Charger Marketplace: [HTTPS://EV.PNM.COM](https://ev.pnm.com)

New Mexico's Advanced Clean Cars Standards: [WWW.SWENERGY.ORG/NEW-MEXICO-ADOPTS-ADVANCED-CLEAN-CARS-TRUCKS-STANDARDS/](http://www.swenergy.org/new-mexico-adopts-advanced-clean-cars-trucks-standards/)

U.S. DOE Alternative Fuel Infrastructure Tax Credit: [HTTPS://AFDC.ENERGY.GOV/LAWS/10513](https://afdc.energy.gov/laws/10513)

Mesa Prieta Petroglyph Project

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Mesa Prieta Petroglyph Project invites you to join in our anniversary events celebrating 25 years as a nonprofit protecting a place. Over the last 25 years our mission has focused on the protection and preservation of the cultural landscape of the Mesa Prieta region of the northern Rio Grande Valley.

We welcome summer youth alumni, recorders, scholars, tribal and community members who have been connected to the project over the last 25 years to share in a two-day symposium and other scheduled programming throughout the year.

Symposium information will be forthcoming on our website:
<https://www.mesaprietapetroglyphs.org/>



Photo: Norman Doggett

Water Scarcity in New Mexico

BY NELIA W. DUNBAR, PH.D.

New Mexico has experienced water scarcity in the past, is in the middle of an historic drought, and will struggle with increased aridity in the future due to ongoing global climate change. This is an “all-hands-on-deck” moment for our state, where we must plan for a hotter and drier future.

The Earth is warming in response to increasing atmospheric carbon dioxide levels. Although warming will be observed globally, other aspects of climate change, notably water availability, will vary across our planet. Many parts of the world will receive more precipitation than in the past, and precipitation will come in much heavier individual rain or snowfall events than have typically been experienced. This is already being observed in many places.

An “all-hands-on-deck” moment for our state

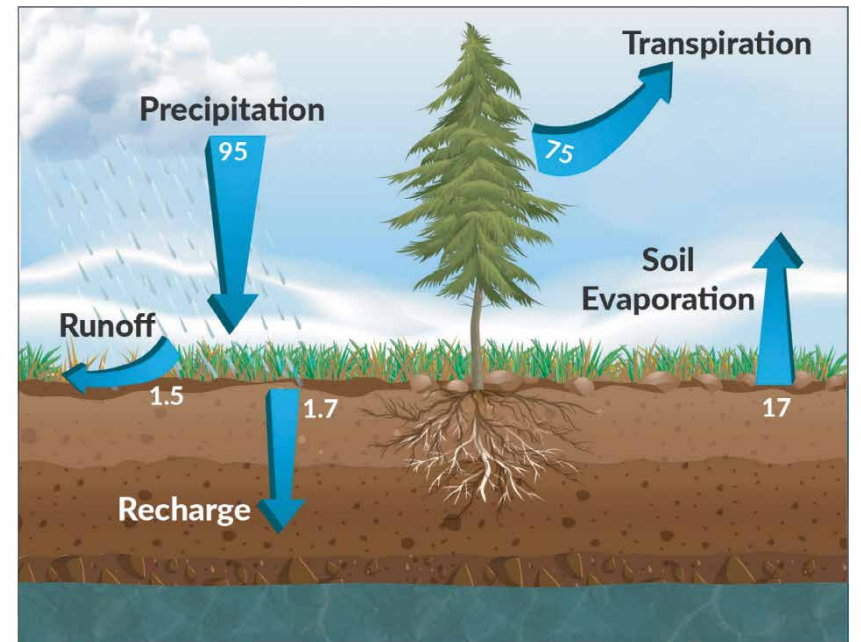
However, the arid Southwest of the United States, and many other parts of the world, will become more arid. The warmer temperatures and increased aridity will impact a number of aspects of our state’s ecosystems, including plant health, thickness and duration of snowpack, availability of surface water and effectiveness of aquifer recharge, soil health, wildfire frequency, increased sedimentation and increased competition and demand for limited water resources. Because New Mexico is a geographically, geologically and climatically diverse state, the impacts of increased aridity will vary by region, elevation and even hillslope orientation. The parts of New Mexico that will experience the greatest increase in aridity are the high mountain regions, which are critically important for providing the surface water that recharges our aquifers.

The key to understanding water scarcity in New Mexico in the future is to understand how our climate is changing, and in order to do that, we can look at climate in the recent past. Over the past 30 years, the average annual temperature in New Mexico has increased but average annual precipitation has not changed. Projecting into the future, temperatures in New Mexico are expected to increase by between 5 and 70 F over the next 50 years. However, as in the past 30 years, average precipitation is not expected to increase. The seasonality of precipitation may change, though. The northern mountains may receive more precipitation in the winter, whereas the southwest may receive more summer precipitation due to stronger monsoonal activity. The eastern part of the state may receive more extreme rainstorms.

If precipitation in New Mexico will not decrease markedly over the next 50 years, why do we expect our climate to become more arid? This is because warm air can absorb more moisture than cool air, leaving less water for plants, surface water and aquifer recharge. For each ~20F increase in air temperature, 7 percent more moisture will be held in the atmosphere and, therefore, will not fall as precipitation on the land surface, leading to lower levels of water runoff into surface waterways and also less water available to recharge aquifers. And as mentioned above, the degree of increased aridification will not be uniform across the state due to New Mexico’s complex geography. The parts of the state that will experience the greatest proportional changes in acidification are the high mountain regions of the state, which are also the most significant drivers of surface water runoff and aquifer recharge. Although all of our state will become more arid, the high mountain regions will experience the greatest relative increase in aridity.

To understand the impact of increasing aridification, it’s important to understand what happens to precipitation that falls across the state, either as rain or snow. The majority is either taken up and transpired by plants or directly evaporated off the land surface. These two effects together consume almost 97 percent of precipitation, leaving only around 3 percent for surface waterways or recharge to aquifers. The

New Mexico’s high mountain regions will experience the greatest relative increase in aridity.



Average Water Budget of New Mexico (2019)

NM Bureau of Geology and Mineral Resources Bulletin 164, Figure 3.1

amount of water in major surface waterways in New Mexico, including the San Juan, Chama, Río Grande, Pecos and Gila, is expected to decline by between 16 and 28 percent over the next 50 years.

Our hotter and drier future will impact many aspects of New Mexico’s natural landscape. One of the most noticeable impacts will be on vegetation. As our climate becomes hotter and drier, the distribution and abundance of plants will change. A given plant species will migrate to higher elevation or further north. This type of vegetation migration has happened in the past in response to natural climate change. Still, the current rate of climate change is outside what plant communities have experienced in the past, leading to adaptation challenges. Drought stress and associated insect outbreaks can also lead to plant mortality, as has already been observed in some parts of the state.

Stressed plant communities and hotter, drier weather conditions have, and will continue to, lead to more, and more severe wildfires. These wildfires are devastating in themselves but also allow widespread erosion and sedimentation to occur, which damages local infrastructure and can lead to lots of sediment coming into local surface waterways, which can then be transported to the state’s major rivers. Delicate soils can also be damaged by fire and take thousands of years to redevelop. Damage to soil, whether due to fire or increased temperature, can also lead to increased atmospheric dustiness and lower surface water infiltration into aquifers. The latter effect is because soils act like a sponge, holding precipitation and allowing it to percolate into underlying aquifers.

Finally, a less-studied but still important impact of climate change on water resources in New Mexico, which can increase water scarcity, is the negative impact of warming temperatures on water quality. Particularly when coupled with the loss of shade afforded by tree cover, surface waterways can become too hot for local aquatic life and can also experience much higher day-to-night temperature swings. Other negative water-quality effects that have been observed include increases in turbidity and E. coli bacteria and decreases in water oxygenation.

Despite the overwhelmingly negative impacts of climate change on New Mexico's water resources, our state is actively responding to the water scarcity that will be part of our climate future. Some examples include the development of a report on how climate change will impact water resources over the next 50 years, a task force on New Mexico's water and infrastructure, which developed a detailed set of funding recommendations, and the recent release of the state's 50-Year Water Plan. Much of the information

Tribes and pueblos in New Mexico have cultures of water conservation.

presented in this article comes from a detailed assessment of how climate change will impact water resources in our state. This report, titled "Climate Change in New Mexico Over the Next 50 Years: Impacts on Water Resources" (New Mexico Bureau of Geology and Mineral Resources Bulletin 164), is available as a free PDF download and provides much more detailed information than can be presented in this article.

The final chapter of this report identifies a number of data gaps and challenges that serve as a roadmap for future work that needs to be done. These include a better understanding of our future precipitation in terms of regional variation, seasonality, snowpack dynamics and extreme events. We also need better and more granular climate, hydrological and ecological models to allow projects into the future. Water levels in New Mexico's aquifers need to be more thoroughly monitored because we will need to turn more to groundwater as surface water availability diminishes. Finally, long-term ecological monitoring of ecology, landscape evolution, water quality and soil health would allow us to track the rate of change in these systems in our changing climate.

A given plant species will migrate to higher elevation or further north.

To put New Mexico's future water scarcity challenges into context, nowhere on Earth will be spared the impacts of climate change.

One perspective is that global climate change's

most societally and environmentally detrimental impacts will be water scarcity or excess. Many parts of the globe are already experiencing devastating extreme precipitation events of a magnitude rarely observed. And the rise in sea level, which has already begun and will continue to happen, further contributes to water excess in some regions. Extreme flooding and rising sea levels are devastating and difficult to plan for or respond to.

In contrast, water scarcity is nothing new to New Mexicans. Pre-Puebloan peoples living in our region were modifying the landscape to slow down water flow over the landscape and promote infiltration into shallow aquifers, allowing them to use that water when times were drier. Tribes and pueblos in New Mexico have cultures of water conservation. Dealing with water scarcity is deeply embedded into the consciousness of many New Mexicans. We have opportunities to conserve water, carefully manage our existing water resources, explore the possibility of developing new sources of water and match better or poorer quality waters to appropriate uses. Unlike the situation of water excess, we can and have started planning for future water scarcity. We must continue these efforts with a focus on working together to develop creative and innovative solutions to ensure that our state is able to have a water-secure future. ■

Nelia W. Dunbar, Ph.D. is emerita director and state geologist, based at the New Mexico Bureau of Geology and Mineral Resources, New Mexico Tech in Socorro.
[HTTP://GEOINFO.NMT/STAFF/DUNBAR](http://GEOINFO.NMT/STAFF/DUNBAR)

NOTES FROM THE NEW MEXICO WATER DIALOGUE'S ANNUAL MEETING, JANUARY 2024

Questions and Considerations

BY LUCY MOORE

A diverse cross-section of 150 New Mexicans participated in the dialogue's breakout sessions. In addition to focusing on the proposed Water Security Act (which did not make it through the February legislative session), they addressed the full range of water issues. Here are some highlights of those discussions:



Need for Action Now – The water situation is dire for New Mexico, both near- and long-term. Many spoke of the need for all—leaders and citizens—to pay attention and act for a secure water future.

- How can we leverage our collective and individual power?
- How can we support our leaders and decision-makers?
- How can we keep momentum going?
- "Let's not live in reaction mode – let's anticipate, prepare, get ready."
- "If everyone in this room does one thing, that's 150 good actions—more than we have now."

It is important to evaluate water uses and needs in more than just economic terms.

Education and Outreach—To mobilize citizens and leaders to join the effort all over the state, education and outreach are badly needed. This means significant funding and commitment from public and private sources, and contributions of time and energy from citizens.

- Focus on school children and young people.
- Talk to family and friends.
- Legislators need to grasp the problem and the urgency; too often they don't understand the bills they pass.
- Use a community-based approach, listen to what they need, tell stories from the field.
- "Reach people where they are now; we're all in different places, literally and figuratively,"
- "Others have gone through these catastrophes already—we can learn from them."
- "Always have food at events!"

Collaboration—There was a strong sense that bringing together diverse interests with water managers, policy makers, funders, etc. was critical to finding acceptable solutions. Stories from the regions supported this.

We need to get the right people in the room, representing all interests.

- We need to break down silos (cities, farmers, Tribes, government, industry, NGOs, etc.)

The water situation is dire for New Mexico, both near- and long-term.

- Who has credibility, neutrality to take a convening role?
- Collaboration takes serious funding.
- Conversations should be respectful and informative.
- Regions could hold annual dialogue meetings, like this state-wide one.
- “We can’t short-circuit this process, it takes time.”
- “People support what they co-create.”

Values-based Water Management—Participants urged that policy- and decision-makers take a values-based approach, considering cultural, environmental and community needs. It is important to evaluate water uses and needs in more than just economic terms.

- Indigenous cultures value water as a sacred part of life.
- We can incorporate Indigenous models and partner with Indigenous communities.
- We need to take an ecosystem perspective, prioritizing the health of all living things.
- Farming reforms need to include support for farmers, including data, funding, technology, and education.
- The state’s beneficial use definition should include non-human rights to water.
- “Who speaks for those who can’t speak? How can we put a value on wildlife, plants, landscapes and cultural resources?”
- “The words “equity” and “justice” should appear in the documents governing water.”

Government Role—In this time of uncertainty about what the future holds, federal, state and local governments can play a critical role, supporting local needs and efforts.

- Consistent, adequate funding is needed to meet impacts of climate change
- Agencies—federal, state, local—need to communicate at a regional level.
- Agencies need to be flexible, able to respond to crises.
- Could a Council of Governments or other government agency convene collaboration processes?
- “We need more help from the feds—money, programs, support.”

Water planning – Many were involved in their regional water plans and had ideas to make the plans more effective.

- The boundaries for current regional water plans need redrawing.
- Should the Río Grande be a single water planning region, not divided as it is now?
- The plan should be built on values, as well as on the best data and models.
- We need data from trusted community voices and citizen scientists.

- How can we monitor and evaluate data and planning processes?
- “Why is planning always dependent on ‘available’ funding, not on what is needed?”
- “Any water plan needs to be revised continually, as a living document.”
- “We need to keep planning while we implement. We can skip and chew gum at the same time.”

Dealing with Scarcity—Many communities and individuals are dealing with serious water shortages now, and more will face tough questions in the future. How can we get people to share when there’s a shortage? Should we limit growth to save water?

- How can we prioritize water uses?
- Administration of water rights should encourage conservation.
- We need to store water at higher elevations to reduce evaporation.
- “Beware of unintended consequences of water decisions on rural communities, small urban areas and tribes.”
- “If we run out of water it will boil down to money.” ■

Lucy Moore, mediator and facilitator, is co-founder of the NM Water Dialogue. She blogs at WWW.LUCYMOORE.COM



BE BOLD. Shape the Future.
College of Agricultural, Consumer
and Environmental Sciences



**NEW MEXICO
FARM & LIVESTOCK BUREAU**

2024 Annual Fruit Growers Workshop



Date: March 15, 2024
Time: 8:30-3:00
Location: Alcalde Community Center
26 State Hwy 389, Alcalde, NM 87566
Fee: \$20.00 meal and materials
(pay at event)

8:30 am-Registration
9:00 am-Welcome and Introduction
9:15 am-Profitable & Simple Tree Fruit & Berry Growing Tips
 Dr. Ron Walser-Fruit Specialist (retired) & Consultant
10:00 am-Testing for Nutrient Deficiencies-Leaf vs Sap Analysis
 Dr. Mary Lucero-End-o-Fite Enterprises LLC
10:45 am-5 years In-Lessons Learned Hosting U-Pick Cherry and Apple Festivals
 Brad and Bob Nichols-Nichols Ranch & Orchards, La Luz, NM
11:15 am-Saffron-A High Value Low Input Crop for Northern New Mexico
 Dr. Saeid Zehtab Salmasi, Alcalde Research Director

Lunch

1:00 pm-Fruit Pests, Pollinators & IPM Principles
 Dr. Joanie King, NMSU Extension Entomologist
2:00-Table Grape Variety for Northern New Mexico
 Dr. Kevin Lombard, Farmington Research Station

Panel of Speakers—"A walk and talk through the Farm"
 A walk through the Science Center orchards to view highlights of the respective projects and trials being conducted. Speakers and extension personnel will be on hand to talk and answer any questions pertaining to their respective areas of expertise.

For pre-registration please call: 505-471-4711 and speak with Tom or Andrea.
 Pre-registration ends March 8, 2024.
 Should you have more questions regarding the workshop please feel free to contact Tom Dominguez at t Dominguez@nmsu.edu or 505-471-4711; or Donald Martinez at donmart@nmsu.edu or 505-685-4523

If you are an individual with a disability who is in need of an auxiliary aid or service to participate in the meeting, please contact Tom Dominguez by March 8, 2024 at 505-471-4711 or via email at t Dominguez@nmsu.edu
 New Mexico State University is an equal opportunity/affirmation action employee/educator. All programs are available to everyone regardless of race, color, religion, sex, age, handicap, or national origin. NMSU and the U.S. Department of Agriculture cooperating.

WHAT'S GOING ON

ALBUQUERQUE / Online

MARCH 1-2

FOURTH ANNUAL EDUPRISING CONFERENCE

Albuquerque Convention Center

Students, educators and community come together to lead innovation. Presentations cover practices that engage and prepare students for college, career and community growth. [HTTPS://FUTUREFOCUSEDUCATION.ORG/EDUPRISING/](https://futurefocusededucation.org/eduprising/)

MARCH 7-8

LAND AND WATER SUMMIT

Indian Pueblo Cultural Center, 2401 12th St. NW / Online

“Catalyzing Change.” Speakers will share expertise on upgrading, retooling, adapting and innovating systems to safeguard land and water. Pre-conference field trip: March 6. [WWW.LANDANDWATERSUMMITNM.ORG](http://www.landandwatersummitnm.org)

MARCH 17 APPLICATION DEADLINE

MAYOR'S CREATIVE YOUTH CORPS MENTORSHIPS

Paid internships provide professional experience that builds pathways into the city's creative industry. Open to high school students entering their junior or senior year. Program takes place June 1–July 28. Applications: [HTTP://TINYURL.COM/BDZVBNK](http://tinyurl.com/bdzvbnk)



MARCH 23, 2-3 PM

NUCLEAR COMMUNITIES OF THE SOUTHWEST

Albuquerque Museum, 2000 Mountain Rd. NW

A panel discussion for the exhibit opening will explore long-term impacts of the 1945 Trinity Test on NM communities. Moderated by Alicia Inez Guzman, a writer on nuclear issues. The exhibition places historical objects in conversation with artist responses to NM's involvement in the development of nuclear technologies. 505-243-7255, [ALBUQUERQUEMUSEUM.ORG](http://albuquerquemuseum.org)

APRIL 4, 8 AM-5 PM

ELECTRIFY NEW MEXICO

Sid Cutter Pilots' Pavilion

Thought leaders, policy makers, business executives and elected officials will discuss policies that impact the transition to a clean-energy economy and how the \$369 billion Inflation Reduction Act and other federal and state funding can expedite the transition. General registration: \$100. Marketing opportunities, booths. [HTTPS://REIA-NM.ORG/EVENT-5480528](https://reia-nm.org/event-5480528)

APRIL 12, 5:30 PM

JEFF HARNER AWARDS

UMM School of Architecture + Planning, Garcia Honda Auditorium, George Pearl Hall

[HTTPS://SAAP.UNM.EDU/PROGRAMS-OF-NOTE/INDEX.HTML](https://saap.unm.edu/programs-of-note/index.html)

APRIL 17-21

77TH ANNUAL INTERNATIONAL CONFERENCE SOCIETY OF ARCHITECTURAL HISTORIANS

Albuquerque Convention Center

Architectural and art historians, architects, museum professionals, preservationists and those in allied fields will share research. Paper sessions, keynote talks, social reception. Tours of sites in the region are open to the public for a fee. [HTTPS://WWW.SAH.ORG/2024](https://www.sah.org/2024)

APRIL 21, 10 AM-4 PM

EARTH DAY FESTIVAL 2024

Balloon Fiesta Park, Sid Cutter Pavilion, 9401 Balloon Museum Dr. NE

2024 Theme: Planet versus Plastics. Family event with booths, workshops, lectures, cooking demos, hands-on fun activities. [HTTPS://EARTHDAYFESTIVALNM.COM](https://earthdayfestivalnm.com)

THROUGH APRIL 21, TUES.-SUN., 9 AM-5 PM

'COAST TO COAST TO COST' INDIGENOUS ART

Albuquerque Museum, 2000 Mountain Rd. NW

From the McMichael Canadian Art Collection. Admission: \$3-\$6. Free Sunday, 9 am-1 pm. [CABQ.GOV/ARTSCULTURE/ALBUQUERQUE-MUSEUM](http://cabq.gov/artsculture/albuquerque-museum)

MAY 4 OPENING, 3-5 PM

"NOTHING LEFT FOR ME"

Maxwell Museum of Anthropology

Federal Policy and the Photography of Milton Snow in Diné Bikéyah. Exhibition examines the impact of Navajo Livestock Reduction Program on Diné communities and homelands in the 1930s. [JAC123@UNM.EDU](mailto:jac123@unm.edu)

THROUGH MAY 18

"GEOHAPTICS: SENSING CLIMATE"

516 Arts, 516 Central Ave. SW

Artists working on major environmental issues activate the senses through the beauty of art. Free at [516ARTS.ORG](http://516arts.org)



JUNE 16-18

HEALTHY KIDS! HEALTHY FUTURES! CONFERENCE

Sandia Resort and Casino

“Hear me, Hear us: Engaging Youth Voice to Build Healthier Communities.” Presented by the Notah Begay Foundation. 505-867-0775, ext. 104, SACHA@NB3F.ORG

SEPT. 20-22

LATINX GAMES FESTIVAL

National Hispanic Cultural Center

Video game industry event for Latinx game



Join the Sierra Club Rio Grande Chapter

Whether it's fighting to replace dirty coal power with 100% renewable energy, ending cruel coyote-killing contests and trapping on New Mexico public lands, or giving you the tools and training to make a difference at the Roundhouse and PRC, people power is what makes the Sierra Club effective.

Join us as a member to make your voice heard for our water, land, wildlife and our children's future, from Aztec to Deming to Tucumcari to Zuni.

You can join the Rio Grande Sierra Club for only \$15!

Please visit riograndesierraclub.org/join (or scan the QR code at right on your cell phone) or send a \$15 check with your name, address and the code 1700 in the memo line to Sierra Club, Attn: Member Services, 2101 Webster St., #1300, Oakland, CA 94612



development. A platform for global opportunities within the industry. Panelists, breakout sessions.

THROUGH NOVEMBER

THE HEALING LAND:

FINDING SACRED CONNECTION THROUGH GARDENING

Agri-Nature Center, Los Ranchos, N.M.

Hands-on course for your home garden. WWW.SCHOOLOFTHEDESERTGARDEN.COM/THE-HEALING-LAND

ONGOING, TUES.–SUN. 9 AM–5 PM

‘ONLY IN ALBUQUERQUE’

Albuquerque Museum, 2000 Mountain Rd. NW

Permanent exhibit told through four galleries: Spirited, Courageous, Resourceful and Innovative. Hundreds of the city’s beloved artifacts are featured. \$3–\$6., Free Sun., 9 am–1 pm. CABO.GOV/ARTSCULTURE/ALBUQUERQUE-MUSEUM

TUESDAY–SUNDAY, 9 AM–4 PM

INDIAN PUEBLO CULTURAL CENTER

2401 12th St. NW

“Gateway to the 19 Pueblos of N.M.” Museum galleries, exhibits and restaurant. Cultural dance program Sat., Sun. 11 am, 2 pm. Tickets \$10/\$8/\$7. 505-843-7270, WWW.INDIANPUEBLO.ORG

NATIONAL HISPANIC CULTURAL CENTER VISUAL ARTS MUSEUM 1701 4TH ST. SW (BARELAS NEIGHBORHOOD)

Explore exhibitions like Hecho en Nuevo México: Recent Acquisitions by NM Artists. (Through Jan. 21.) First Sunday of every month free to NM residents. 505-383-4471, [HTTPS://WWW.NHCCNM.ORG/VISIT/](https://WWW.NHCCNM.ORG/VISIT/)

NM MUSEUM OF NATURAL HISTORY

1801 Mountain Rd. NW

505-841-2800. WWW.NMNATURALHISTORY.ORG

SANTA FE / Online

MARCH 5–7

2024 GREEN SCHOOLS CONFERENCE

Leaders from across the country will learn, network and collaborate on advancing sustainability education. Presented by the Center for Green Schools and the Green Schools National Network. [HTTPS://CENTERFORGREENSCHOOLS.ORG/GREEN-SCHOOLS-CONFERENCE](https://CENTERFORGREENSCHOOLS.ORG/GREEN-SCHOOLS-CONFERENCE)

MARCH 11–12

BANFF MOUNTAIN FILM FESTIVAL

The Lensic

Different award-winning mountain and adventure films each night. \$20 one night / \$38 both nights. Santa Fe Conservation Trust. [HTTPS://LENSIC.ORG/EVENTS/BANFF-CENTRE-MOUNTAIN-FILM-FESTIVAL-WORLD-TOUR/](https://LENSIC.ORG/EVENTS/BANFF-CENTRE-MOUNTAIN-FILM-FESTIVAL-WORLD-TOUR/)

MARCH 14, 6–8 PM

PFAS TOWN HALL

SF Community College Jemez Room

An effort to address concerns about Per- and Polyfluorinated Substances in La Ciénega and La Cieneguilla areas. 505-986-6328, BLOVATO@SANTAFECOUNTYNM.GOV

MARCH 16–17, 10 AM–5 PM

SANTA FE HOME EXPO & REMODEL SHOW

SF Community Convention Center

SANTAFEHOMESHOW.COM

MARCH 17 APPLICATION DEADLINE

RDC TECHNOLOGY AND MANUFACTURING FUND

The Regional Development Corp will provide interest loans to companies in northern NM to support growth-oriented businesses in diversifying the economy, adding jobs, boosting revenues and attracting additional funding or investment. CARLA@RDCNM.ORG

MARCH 26-MAY 21 (TUES. EVENINGS), 5:30–8 PM

CLIMATE MASTERS COURSE

Randall Davey Audubon Center

Includes three Sat. field trips. Focused on locally relevant interrelated connections among water, soil, food production, forest management, transportation, energy and the way we live our lives. JULIE@SANTAFEWATERSHED.ORG, [HTTPS://WWW.SANTAFEWATERSHED.ORG/EDUCATION-AND-OUTREACH/CLIMATEMASTERS/](https://WWW.SANTAFEWATERSHED.ORG/EDUCATION-AND-OUTREACH/CLIMATEMASTERS/)

MARCH 26, 6–7 PM

THE DIPLOMACY OF INDEPENDENCE: BENJAMIN FRANKLIN AND SPAIN

St. Francis Auditorium, 107 W. Palace Ave.

Lecture by historian Thomas Chávez. El Rancho de las Golondrinas Winter Lecture Series. \$10. 505-471-2261, GOLODRINAS.ORG

APRIL 18

EXPO 24 BUSINESS & CAREER RESOURCE FAIR

SF Convention Center, 201 W. Marcy

SANTAFECHAMBER.COM

APRIL 20, 10 AM–2 PM

EARTH DAY 2024

Railyard Park

The park’s partner organizations will participate to celebrate healthy soils. Graze day, live music, nature play, arts & crafts activities, art installations, seed ball making and more. [HTTPS://RAILYARDPARK.ORG/EVENTS/](https://RAILYARDPARK.ORG/EVENTS/)

APRIL 20

GRAND CELEBRATION

Palace of the Governors

The Palace of the Governors recently underwent multi-year renovations. There are new exhibitions and rehabilitated spaces. Tickets: WWW.MUSEUMFOUNDATION.ORG

APRIL 23, 7 PM; APRIL 24, 2 AND 7 PM

ARTSPRING 2024

The Lensic, 211 W. San Francisco St.

NM School for the Arts student showcase. \$15. 505-988-1234, LENSIC.ORG

APRIL 25

NM WRITERS ANNUAL DINNER

La Fonda on the Plaza

Keynote by author Hampton Sides. Tickets: \$105 support the grants program: NMWRITERS.ORG

MAY 2–5

NATIVE FASHION WEEK

Location TBA

Symposium, panel discussions, designer-focused fashion hub. Tickets: SWAIANATIVEFASHION.ORG



MAY 11, 9 AM–3 PM

SF EXTENSION MASTER GARDENERS GARDEN FAIR

SF County Fairgrounds, 3229 Rodeo Rd.

Back after a four-year pandemic hiatus. Learn about every aspect of gardening. Lectures, demos, exhibits, music, food trucks, garden-related vendors. Free. [HTTPS://SFEMG.ORG](https://SFEMG.ORG)

MAY 11

CANYON ROAD SPRING ART FESTIVAL

VISITCANYONROAD.COM/SPRINGARTFESTIVAL

MAY 19–21

SF INTERNATIONAL LITERARY FESTIVAL

SF Convention Center, 201 W. Marcy St.

30 events. Tickets start at \$27.50. SFINTERNATIONALLITFEST.ORG

MAY 24–26

NATIVE TREASURES ART MARKET

SF Community Convention Center

More than 150 Native American artists from across North America, selected by the Museum of Indian Arts and Culture. Tickets: MICA.EVENTBRITE.COM

JUNE 3–AUG. 16, 9 AM–3 PM

REUNITE FARM CAMP

1829 San Ysidro Crossing

Immersive outdoor experience for children. Hands-on activities based on the

growing season. Games, snacks, stories. Registration:
WWW.REUNITYRESOURCES.COM/FARM-CAMP-2024.HTML

JUNE 20–21

2024 NEXT GENERATION WATER SUMMIT

New Mexico State Capitol / Online

“Solutions for a Changing World.” NGWS focuses on both regional and national water challenges. Introductory and advanced educational sessions. Early bird pricing: \$199 in-person, \$79 virtual. WWW.NEXTGENERATIONWATERSUMMIT.COM

AUG. 16–18

TRANSFORMATION AND HEALING CONFERENCE

Southwestern College & New Earth Institute, 3960 San Felipe Rd.

“Community Building in Turbulent Times: Healing Collective Grief & Trauma”

Alternative and ancient pathways. Cutting-edge research and new evidence-based therapies. 505-795-0631, KATELATIMER@SWC.EDU, WWW.TANDH.ORG

MON.–FRI.

POEH CULTURAL CENTER AND MUSEUM

78 Cities of Gold Rd., Pueblo of Pojoaque

Di Wae Powa: They Came Back: Historical Pueblo pottery. The Why, group show of Native artists. Nah Poeh Meng: core installation highlighting Pueblo artists and history. 505-455-5041

MON.–SAT., 8 AM–4 PM

RANDALL DAVEY AUDUBON CENTER & SANCTUARY

1800 Upper Canyon Rd.

Free walks to see birds, Sat., 8:30 am. RSVP for Randall Davey House tours.

RANDALLDAVEY.AUDUBON.ORG

TUES., SAT., 8 AM–1 PM

SANTA FE FARMERS' MARKET

Market Pavilion, 1607 Paseo de Peralta

505-983-4098, SANTAFEFARMERSMARKET.COM

WEDS–FRI. THROUGH APRIL.

MUSEUM OF SPANISH COLONIAL ART

710 Camino Lejo, Museum Hill

Generations and Imagination: What Lies Behind the Vision of Chimayó Weavers, highlighting the shifting tradition through four generations of the Trujillo family's work. \$10 admission.

WEDS. THROUGH MAY 1

THE WRITING GENERATION SERIES

Many NM writers are participating in online reading and writing events from SF Community College and the Institute of American Indian Arts. Free. 505-428-1506, Register: SURVEYMONKEY.COM/R/WRITINGGENSPRING24

WEDS–SAT., 10 AM–6 PM; FRI.–SAT., 10 AM–6:30 PM

SANTA FE CHILDREN'S MUSEUM

Interactive exhibits, play areas, weekly programs. Masks required for ages 2 and older. \$10/\$8/\$7/\$3/1 & under free. 505-989-8359, SANTAFECHILDRENSMUSEUM.ORG

WEDS–SUN.

EL RANCHO DE LAS GOLONDRINAS

334 Los Pinos Rd., La Ciénega

Living History Museum dedicated to the heritage and culture of 18th- and 19th-century New Mexico. 505-471-2261, GOLONDRINAS.ORG

FRIDAYS, 7 PM THROUGH APRIL 26

SPRING LECTURES

Great Hall, St. John's College

Guest lectures followed by discussions on subjects ranging from film to climate change and technology to theater. Free. SJC.EDU/SANTA-FE/EVENTS/LECTURES

IAIA MUSEUM OF CONTEMPORARY NATIVE ARTS

108 Cathedral Place

888-922-4242, IAIA.EDU/MOCNA. Closed Tuesdays. Free admission on Fridays.

MUSEUM OF INTERNATIONAL FOLK ART

706 Cam. Lejo, Museum Hill

“Protection: Adaptation and Resistance.” More than 45 artists explore themes of climate crisis, struggles for social justice, strengthening communities through ancestral knowledge and imagining a thriving future. Through April 7.

NEW MEXICO HISTORY MUSEUM

113 Lincoln Ave.

The Lamy Branch of the Atchison, Topeka and Santa Fe Railroad model train; Palace Seen and Unseen: A Convergence of History and Archaeology, photos and artifacts; Telling NM: Stories from Then and Now. Closed Mondays. 505-476-5200, NMHISTORYMUSEUM.ORG

SANTA FE HABITAT FOR HUMANITY

Seeking land, donated or for sale, to build affordable housing. Low-income homeowners help build homes and make mortgage payments to the nonprofit HFH. Property owners can qualify for 50% Affordable Housing tax credit through the NM Mortgage Finance Authority. 505-986-5880, ext. 109

WHEELWRIGHT MUSEUM OF THE AMERICAN INDIAN

704 Cam. Lejo, Museum Hill

505-982-4636, WHEELWRIGHT.ORG. Closed Sundays and Mondays.

YOUTHBUILD / YOUTHWORKS!

Paid training for Youth 16–24. Construction, Culinary, GED. 505-989-1855, WWW.SANTAFEYOUTHWORKS.ORG/SANTA-FE-YOUTHBUILD/

TAOS / Online

THROUGH MAY 30

ART OF TIMELESS BEAUTY: THE NAVAJO CHILD'S BLANKET

Taos Art Museum, Fechin House, 227 Paseo del Pueblo Norte

26 examples follow the evolution. \$6–\$10, 575-758-2690, TAOSARTMUSEUM.ORG

LA HACIENDA DE LOS MARTÍNEZ

708 Hacienda Way

Northern NM-style Spanish colonial “great house” built in 1804 by Severino Martínez. Open daily. TAOSHISTORICMUSEUM.ORG

MILLICENT ROGERS MUSEUM

1504 Millicent Rogers Rd.

Tuah-Tah/Taos Pueblo: Home, highlighting the pueblo's culture and artistic achievements. Pop Chalee! Yippee Ki Yay! paintings. Open daily. MILLIF4N65OY45E.ORG

HERE & THERE / Online

MARCH 1–2

SLOW SEED SUMMIT

Online

This retreat into the world of seeds will feature discussions, presentations and opportunities to connect with others about soil, human and planetary health. \$60/\$30. students. [HTTPS://SLOWFOODUSA.ORG/2024-SLOW-SEED-SUMMIT/](https://SLOWFOODUSA.ORG/2024-SLOW-SEED-SUMMIT/)

MARCH 5, 10 AM–1:30 PM

REDI SUMMIT

Buffalo Thunder Resort, Pojoaque, N.M.

A review of the 2023 Regional Economic Development Initiative Plan and update and to provide input on strategies to fuel job creation, economic growth and improve standards of living in northern NM. REDINM.ORG

MARCH 6, 6–8 PM

ACEQUIAS 101 WEBINAR

Online

Miguel Santistevan will present this webinar about the history, culture, ecology and challenges of acequia irrigation structures and communities in northern NM and southern Colorado. Learn about sustainable water use and harvesting. Registration: [HTTPS://PY.PL/YNSQR](https://PY.PL/YNSQR)

MARCH 7-8

URANIUM FILM FESTIVAL

Window Rock, AZ.

Eye-opening films about risks and consequences of uranium mining, nuclear power, nuclear arms and nuclear weapons. WWW.URANIUMFILMFESTIVAL.ORG

MARCH 11-12

INDOOR AG-CON

Caesars Forum, Las Vegas, NV.

Vertical farming, greenhouse, controlled environment agriculture. Education, expo. Co-located with the National Grocers Association Show for independent grocers. [HTTPS://INDOOR.AG/](https://INDOOR.AG/)

MARCH 13 PUBLIC COMMENT DEADLINE

PROPOSED CLEANUP OF LANL TOXIC PLUME

U.S. DOE assessment of proposed chromium plume cleanup measures include possible impacts on environment, wildlife, water systems and cultural resources. EMLA-NEPA@EM.DOC.GOV. Subject line: Chromium Draft EA Comment

MARCH 16, 23

TRAIL WORKSHOPS

NM Volunteers for the Outdoors. For information on NMVFO projects, visit NMVFO.ORG

MARCH 20, 6-8 PM

Soils and Soil-Building Webinar

Learn fundamentals of building soils through composting, raising worms, biochar and the use of compost teas and ferments. Presented by Miguel Santistevan. Registration: [HTTPS://PY.PL/FDKIQ](https://PY.PL/FDKIQ)

MARCH 26, 6:30-8 PM

THE POLLUTION CONTROL CLAUSE OF THE NM CONSTITUTION

Río Grande Theater, Las Cruces, N.M.

Learn about state accountability for the oil & gas pollution crisis in NM with Gail Evans, Jonathan Juárez and Jozee Zuniga. Part of NMSU's Cambio Climate Change Speaker Series. Free. CAMBIOS@NMSU.EDU

MARCH 28-30

35TH ANNUAL BIONEERS CONFERENCE

Berkeley, Calif.

“Revolution from the Heart of Nature” [HTTPS://BUFF.LY/3RDTMRO](https://buff.ly/3RDTMRO)

APRIL 9, 7 PM

CLIMATE CHANGE: A “HOT” TOPIC FOR THE NWS

Río Grande Theater, Las Cruces, N.M.

Presentation by Jason Laney, warning coordination meteorologist, National Weather Service—El Paso/Santa Teresa. Learn what the NWS is doing to warn and educate the public of the extreme weather. Free. CAMBIOS@NMSU.EDU

APRIL 13, 3-8 PM

FARMINGTON JAZZ FESTIVAL

Orchard Park Plaza, 105 N. Orchard Ave.

Featuring Delbert Anderson Quartet and other Indigenous-led ensembles. 12-2 workshop at Inspired Moments Event Center, 310 W. Main St.

APRIL 12-14

LAS CRUCES PECAN FESTIVAL

LASCRUCESPECANFESTIVAL.COM

APRIL 26, NOON APPLICATION DEADLINE

HEALTHY SOIL PROGRAM GRANTS

Funding for on-the-ground projects in N.M., that focus on one of more of the five soil health principles: keeping the soil covered; minimizing soil disturbance on cropland and minimizing external inputs; maximizing biodiversity; maintaining a living root; and integrating animals into land management. [HTTPS://NMDEPTAG.NMSU.EDU/HEALTHY-SOIL-PROGRAM.HTML](https://NMDEPTAG.NMSU.EDU/HEALTHY-SOIL-PROGRAM.HTML)

MAY 11, 10 AM-4 PM

PUEBLO FIBER ARTS SHOW

Poeh Cultural Center, Pojoaque, N.M.

Weaving, embroidery, spinning, knitting, crochet, sewing, basketry and more. Presented by the NM Fiber Arts Guild, the Poeh Cultural Center and the School for Advanced Research. POEHCENTER.ORG/FIBERARTS

MAY 13-15

MOUNTAIN WEST TRAILS CONFERENCE

Uintab Conference Center, Vernal, Utah

Eight states partner for this inaugural conference.

#MWTrailsConference

MAY 24-28

RIVERFEST 2024

Farmington, N.M.

Music, food, activities and entertainment along Animas River trails, from Berg Park to Animas Park. Free. River Reach Foundation. 505-716-4405, [HTTPS://FARMINGTONNM.ORG/EVENTS/RIVERFEST](https://FARMINGTONNM.ORG/EVENTS/RIVERFEST)

JULY 21-28

NAFWS NATIONAL SUMMER YOUTH PRACTICUM

Northern Colorado

Focused on natural resource professions, Tribal fish and wildlife management, professional development and college preparedness. March 15, 6 pm: informational webinar. Native American Fish and Wildlife Society. 303-466-1725, ext. 4. NAFWS.ORG/YOUTH-EARLY-PROFESSIONAL/SUMMER-YOUTH-PRACTICUM/

OCT. 6-9

ASLA CONFERENCE ON LANDSCAPE ARCHITECTURE

Washington, D.C.

American Society of Landscape Architects. WWW.ASLACONFERENCE.COM/INDEX.ASP

THROUGH SUMMER 2024

ARCHAEOLOGISTS IN GLEN CANYON (EXHIBIT)

Museum of Northern Arizona, Flagstaff

THIRD THURS. MONTHLY, 6:30 PM

Online

AGUA ES VIDA: DO YOUR PART WORKSHOP AND SPEAKERS SERIES

Water experts and community leaders discuss issues and solutions that can be implemented to create a sustainable and resilient water future. Begins 1/18. Presented by Water Advocates for NM and the Middle Río Grande. WWW.WATERADVOCATES.ORG

THURS-SUN, 10 AM-4 PM

BOSQUE REDONDO MEMORIAL

Fort Sumner Historic Site, Fort Sumner, N.M.

Exhibit, 30 years in the making, tells the story of ‘The Long Walk’ and the Bosque Redondo. \$7, children 16 and younger, free. N.M. residents with ID free first Sun. each month.

NMHISTORICSITES.ORG/BOSQUE-REDONDO

2024 LEOPOLD CONSERVATION AWARD

Nominations and applications are now being accepted. The award, given in 27 states in honor of renowned conservationist Aldo Leopold, recognizes landowners who inspire others in their dedication to environmental improvement. Application deadlines vary by state: some are March 31st, some are May 1st. [HTTPS://ATTRA.NCAT.ORG/LEOPOLD-CONSERVATION-AWARD-OPEN-FOR-NOMINATIONS-IN-SEVERAL-STATES/](https://ATTRA.NCAT.ORG/LEOPOLD-CONSERVATION-AWARD-OPEN-FOR-NOMINATIONS-IN-SEVERAL-STATES/)

SUSTAINABLE BUILDING TAX CREDITS

NM residents can apply for tax credits to make homes and businesses more energy efficient. There are extra incentives for upgrades that reduce energy use and lower utility costs in affordable housing or homes occupied by low-income residents. [HTTPS://WWWAPPS.EMNRD.NM.GOV/ECMD/ECPSUBMISSIONS/](https://WWWAPPS.EMNRD.NM.GOV/ECMD/ECPSUBMISSIONS/)

Earth Day Festival *Join Us*

Sunday, April 21st

10 a.m. – 4 p.m.

Sid Cutter Pavilion

Balloon Fiesta Park

EarthDayFestivalNM.org



Together, we find a way.

Working with partners in New Mexico and beyond for people and nature.



The Nature
Conservancy



nature.org/newmexico